RIDOT Bridge Inspection Report

070001
Washington Bridge North

Inspected By COLLINS
Inspector: [redacted]
Inspection Date 07/24/2017

Bridge Condition Poor

IDENTIFICATION

Bridge ID:	070001
NBI Number	Washington Bridge North
Structure Name:	Washington Bridge North
Location (9):	0.2 Mi W of JCT US 6
Carries (7):	I-195 WB
Type of Service (42A):	1 Highway
Feature Crossed (6):	SEEKONK RIVER
Type of Service (42B):	8 Hwy-waterway-RR
Placecode (4):	East Providence
County (3):	Providence
State (1):	44 Rhode Island
Station:	NBI
Region (2):	District 3
Latitude (16):	41.8192660
Longitude (17):	-71.3865496
Owner (22):	01 State Highway Agency
Custodian (21):	01 State Highway Agency
Year Built (27):	1969
Year Recon (106):	1998
Historical (37):	5 Not eligible for NRHP

Border State: Not Applicable (P)
Border Number:
% Responsibility:

INSPECTION

Date of Routine Inspection (90): 7/24/2017
Frequency (91): 24
Next Inspection: 7/24/2019

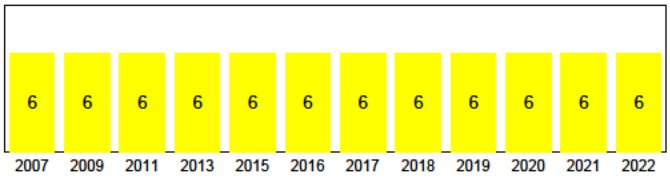
Inspection Type	Freq (92)	Last Insp (93)	Next Insp
Element	24	7/24/2017	7/24/2019
Fracture Critical (A)		1/1/1901	1/1/1901
Underwater (B)	48	7/24/2017	7/24/2021
Special Insp (C)	12	7/24/2017	7/24/2018

LOAD RATING AND POSTING

Posting Status (41)	P Posted for load
Posting % (70):	5 At/Above Legal Loads
Rating Date:	1/19/2018
Design Load (31):	6 MS18(HS20)+mod
Opr Method (63):	8 LRFR (HL93)
Opr Rating (64):	52.00 Tons
Inv Method (65):	8 LRFR (HL93)
Inv Rating (66):	40.00 Tons

DECK GEOMETRY

Deck Geometry (68):	4 Tolerable
Deck Area:	145,531.80
Deck Type (107):	1 Concrete-Cast-in-Place
Wearing Surface (108A):	6 Bituminous
Membrane (108B):	2 Preformed Fabric
Deck Protection (108C):	8 Unknown
O. to O. Width (52):	76.44
Curb / Sidewalk Width L (50A):	0.00
Curb / Sidewalk Width R (50B):	0.00
Median (33):	0 No median

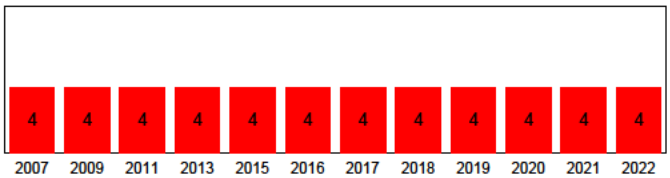


DECK CONDITION

Deck Rating (58):	6 Satisfactory
Bridge Rail (36A):	1 Meets Standards
Transition (36B):	0 Substandard
Approach Rail (36C):	0 Substandard
Approach Rail Ends (36D):	0 Substandard

SUPERSTRUCTURE GEOMETRY

# of Main Spans (45):	1
# of Approach Spans (46):	20
Main Material (43 A):	3 Steel
Main Design (43 B):	02 Stringer/Girder
Max Span Length (48):	130.60
Structure Length (49):	1,903.87
NBIS Length (112):	Long Enough
Temp Structure (103):	Not Applicable (P)
Skew (34):	0
Structure Flared (35):	1 Yes, flared
Parallel Structure (101):	Left of || bridge
Approach Alignment (72):	6 Equal Min Criteria



SUPERSTRUCTURE CONDITION

Superstructure Rating (59):	4 Poor
Structure Evaluation (67):	4 Minimum Tolerable

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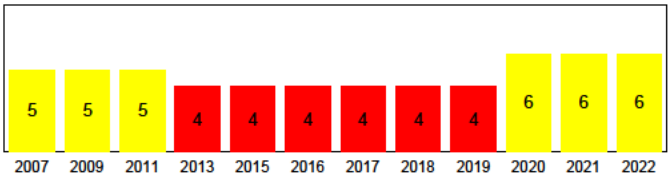
SUBSTRUCTURE GEOMETRY

Navigation Control (38):	Permit Not Required
Nav Vert Clearance (39):	137.78
Nav Horiz Clearance (40):	327.22
Pier Protection (111):	2 In-Place, Functioning
Lift Bridge Vertical Clearance (116):	
Scour Rating (113):	3 SC - Unstable
Waterway Adequacy (71):	7 Above Minimum



SUBSTRUCTURE CONDITION

Substructure Rating (60):	4 Poor
Channel Rating (61):	6 Bank Slumping

1ST ROUTE UNDER: Gano Street

ROADWAY LOCATION

Pos Prefix (5A):	1st Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	0
LRS Route (13A/B):	
Milepost (11):	
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	2
Detour Length (19):	1.00 mi (1.61 km)

ROADWAY CLASSIFICATION

Funct Class (26):	17 Urban Collector
Level Service (5C):	1 Mainline
NHS (104):	0 Not on NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	80,500 Cars/Day
Pct Trucks (109):	19.00%
ADT Year (30):	2021

CLEARANCES

Vertical (10):	14.83	
Min Vert Over (53):	18.33	14.17
Vert Ref (54A):	H Hwy beneath struct	
Horizontal (47):	82.50	
Min Lat Left (56):	0.00	
Min Lat Right (55B):	6.00	
Horiz Ref (55A):	H Hwy beneath struct	
Underclearance (69):	4 Tolerable	

2ND ROUTE UNDER: Water Street

ROADWAY LOCATION

Pos Prefix (5A):	2nd Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	0
LRS Route (13A/B):	
Milepost (11):	
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	2
Detour Length (19):	0.00 mi (0.00 km)

ROADWAY CLASSIFICATION

Funct Class (26):	19 Urban Local
Level Service (5C):	2 Alternate
NHS (104):	0 Not on NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	80,500 Cars/Day
Pct Trucks (109):	19.00%
ADT Year (30):	2021

CLEARANCES

Vertical (10):	25.00	
Min Vert Over (53):	18.33	14.17
Vert Ref (54A):	H Hwy beneath struct	
Horizontal (47):	40.60	
Min Lat Left (56):	0.00	
Min Lat Right (55B):	6.00	
Horiz Ref (55A):	H Hwy beneath struct	
Underclearance (69):	4 Tolerable	

3RD ROUTE UNDER: Waterfront Drive

ROADWAY LOCATION

Pos Prefix (5A):	3rd Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	0
LRS Route (13A/B):	
Milepost (11):	
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	2
Detour Length (19):	0.00 mi (0.00 km)

ROADWAY CLASSIFICATION

Funct Class (26):	19 Urban Local
Level Service (5C):	2 Alternate
NHS (104):	0 Not on NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	80,500 Cars/Day
Pct Trucks (109):	19.00%
ADT Year (30):	2021

CLEARANCES

Vertical (10):	21.00	
Min Vert Over (53):	18.33	14.17
Vert Ref (54A):	H Hwy beneath struct	
Horizontal (47):	43.30	
Min Lat Left (56):	0.00	
Min Lat Right (55B):	6.00	
Horiz Ref (55A):	H Hwy beneath struct	
Underclearance (69):	4 Tolerable	

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4TH ROUTE UNDER: Valley Street

ROADWAY LOCATION		ROADWAY CLASSIFICATION		CLEARANCES		
Pos Prefix (5A):	4th Route Under	**Funct Class (26):**	19 Urban Local	**Vertical (10):**	14.17	
Kind of Hwy (5B):	5 City Street	**Level Service (5C):**	2 Alternate	**Min Vert Over (53):**	18.33	14.17
Route Num (5D):	0	**NHS (104):**	0 Not on NHS	**Vert Ref (54A):**	H Hwy beneath struct	
LRS Route (13A/B):		**Defense Hwy (100):**	0 Not a STRAHNET hwy	**Horizontal (47):**	35.40	
Milepost (11):		**Toll Facility (20):**	3 On free road	**Min Lat Left (56):**	0.00	
Suffix (5E):	0 N/A (NBI)	**ADT (29):**	80,500 Cars/Day	**Min Lat Right (55B):**	6.00	
Lanes Under (28B):	2	**Pct Trucks (109):**	19.00%	**Horiz Ref (55A):**	H Hwy beneath struct	
Detour Length (19):	0.30 mi (0.48 km)	**ADT Year (30):**	2021	**Underclearance (69):**	4 Tolerable	

ROUTE ON STRUCTURE: I-195 WB

ROADWAY LOCATION		ROADWAY CLASSIFICATION		CLEARANCES		
Pos Prefix (5A):	Route On Structure	**Funct Class (26):**	11 Urban Interstate	**Vertical (10):**	99.99	
Kind of Hwy (5B):	1 Interstate Hwy	**Level Service (5C):**	1 Mainline	**Min Vert Over (53):**	18.33	14.17
Route Num (5D):	00195	**NHS (104):**	1 On the NHS	**Vert Ref (54A):**	H Hwy beneath struct	
LRS Route (13A/B):	6700-A/00	**Defense Hwy (100):**	1 On Interstate STRAHNET	**Horizontal (47):**	59.71	
Milepost (11):	2.60 mi (4.19 km)	**Toll Facility (20):**	3 On free road	**Min Lat Left (56):**	0.00	
Suffix (5E):	4 West	**ADT (29):**	80,500 Cars/Day	**Min Lat Right (55B):**	6.00	
Lanes On (28A):	5	**Pct Trucks (109):**	19.00%	**Horiz Ref (55A):**	H Hwy beneath struct	
Detour Length (19):	2.00 mi (3.22 km)	**ADT Year (30):**	2021	**Underclearance (69):**	4 Tolerable	

BRIDGE NOTES

Equipment Used: 60’ Manlift, 60’ Bucket Boat, 21’ Dive Boat
Dive Mode: Commercial SCUBA
Traffic Control Used: Yes
Crash Truck Used: Yes
State and Local Police Used: Yes
Access: Boats can be launched from public boat ramps located on the southeast channel embankment and on the northwest channel embankment. The utility room with two doors built into the Abutment #2 was not accessed during this inspection due to the doors being locked (Photo No. 243). The interior of the box girders was accessed through the hatches at Abutment #1R with a 24’ ladder. The key for the box girder hatches can be obtained from the RIDOT Bridge Inspection Section.
Scheduling Notifications –
1) The Coast Guard must be notified prior to the start of work

INSPECTION NOTES

RIDOT Bridge Inspection Report

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Inspection Dates: 06/19/17 – 07/24/17 (Above Water) – 17 Field Days
06/8/2017 – 06/12/2017 (Underwater) – 3 Field Days

Crew Chief / Dive Supervisor: [redacted] (Abovewater & Underwater)

Staff Inspectors: [redacted]

Divers: [redacted]

Weather: Varied, 55°F - 90°F

Deflection and Vibration – No unusual deflection or vibration was noted.

Underbridge Lights – There are underside lights at the following locations:

Span #1 Bay "B" anchored to deck underside east of mid-span at Girder "B" and Bay "D" anchored to deck underside at East Corbel over Gano Street.

Span #3 Bay "C" anchored to deck underside west of mid-span.

Span #7 mounted to Piers #6 and #7 with 2-1/2" diameter electrical conduits and junction boxes.

Span #15 Bays "C" and "I" anchored to deck underside east of mid-span over Water Street.

Span #16 Bays "B', "G" and "K" each have two lights anchored to deck underside, on either side of mid-span over Waterfront Street.

Span #18 Bays "A", "C", "D", "G", "I", "L", "O", "R" anchored to deck underside east of mid-span over Valley Street.

The lights in Span #18 were illuminated during the daytime inspection except for the lights in Bay "C" and Bay "O". All other under bridge lights were not on during the daytime inspection. The conduits and junction boxes anchored to the Abutment #2 stem exhibit light to heavy rust (Photo No. 214).

Light Standards – There are light standards attached to both bridge railings. The light pole on the north railing at Pier #9 has a 4" long x 3" high x 1" deep dent at the base and in Span #15 the light pole at the north railing has a 3" long x 2" high tear at the base (Photo No. 244). Random junction box covers are broken with exposed wires (Photo No. 214). The light standards were not illuminated during the daytime inspection.

Vertical Clearances – The minimum vertical clearances are as follows:

In Span #1 over Gano Street the minimum vertical clearance was measured at 14'-10" at the right (east) curb under the North Arch. There were no posted clearance signs for the span.

In Span #15 over Water Street the minimum vertical clearance was measured at >25'. There are no posted clearance signs for Water Street under Span #15.

In Span #16 over Waterfront Drive the minimum vertical clearance was measured at 21'-0" at the right (east) curb under Girder "N". There are no posted clearance signs for Waterfront Drive under Span #16.

In Span #18 over Valley Street the minimum vertical clearance was measured at 14'-2" at the left (east) curb under Girder "A". The posted clearance signs for Valley Street under Span #18 are 13'-9". (Photo Nos. 5 and 11)

Safety Walk – The concrete safety walks and granite curbs along both sides of the Gano Street Ramp exhibit heavy debris accumulation and vegetation growth, rust staining and minor chipping. There is one section that has settled at the east end of the Abutment #1R bridge joint.

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Curb Reveal – The average curb reveal was measured at 2-1/2" along the north side of the bridge and 9-1/2" along both sides of the ramp spans. Safe access to the south curb was not available as a result of lane closure restrictions.

Signs – There are overhead signs in Spans #6 and #13 that span the full width of the bridge and are anchored at each bridge railing. The base plate grout shows signs of deterioration with some minor voids up to 4" deep (Photo No. 215). There is minor impact damage on the lower right corner of a sign panel in Span #6 (Photo No. 246). There is a speed limit sign in Span #2R along the east parapet.

For additional inspection notes refer to the file entitled "070001_Additional_Inspection_Notes_BrM_Notes".

ELEMENT CONDITION SUMMARY

Elm/Env	Description	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4
12/3	Re Concrete Deck	142,889.0	94%	134,317.00	5%	7,144.00	1%	1,428.00	0%	0.00
510/3	Wearing Surfaces	142,889.00	94%	134,317.00	5%	7,144.00	1%	1,428.00	0%	0.00
3210/3	*Del/Spall/Patch/Pot(Wear Surf)*	*4,286.00*	0%	0.00	83%	3,572.00	17%	714.00	0%	0.00
3220/3	*Crack (Wearing Surface)*	*4,286.00*	0%	0.00	83%	3,572.00	17%	714.00	0%	0.00
1080/3	Delamination/Spall/Patched Area	2,143.00	0%	0.00	83%	1,786.00	17%	357.00	0%	0.00
1090/3	Exposed Rebar	2,143.00	0%	0.00	83%	1,786.00	17%	357.00	0%	0.00
1120/3	Efflorescence/Rust Staining	2,143.00	0%	0.00	83%	1,786.00	17%	357.00	0%	0.00
1130/3	Cracking (RC and Other)	2,143.00	0%	0.00	83%	1,786.00	17%	357.00	0%	0.00
16/3	Re Conc Top Flange	7,336.00	82%	5,986.00	14%	1,025.00	4%	325.00	0%	0.00
510/3	Wearing Surfaces	7,336.00	83%	6,086.00	14%	1,000.00	3%	250.00	0%	0.00
3220/3	*Crack (Wearing Surface)*	*1,000.00*	0%	0.00	75%	750.00	25%	250.00	0%	0.00
1080/3	Delamination/Spall/Patched Area	100.00	0%	0.00	50%	50.00	50%	50.00	0%	0.00
1090/3	Exposed Rebar	50.00	0%	0.00	50%	25.00	50%	25.00	0%	0.00
1120/3	Efflorescence/Rust Staining	1,000.00	0%	0.00	75%	750.00	25%	250.00	0%	0.00
1130/3	Cracking (RC and Other)	200.00	0%	0.00	100%	200.00	0%	0.00	0%	0.00
105/3	Re Clsd Box Girder	922.00	7%	65.00	50%	461.00	43%	396.00	0%	0.00
1080/3	Delamination/Spall/Patched Area	72.00	0%	0.00	0%	0.00	100%	72.00	0%	0.00
1090/3	Exposed Rebar	46.00	0%	0.00	78%	36.00	22%	10.00	0%	0.00
1120/3	Efflorescence/Rust Staining	244.00	0%	0.00	50%	122.00	50%	122.00	0%	0.00
1130/3	Cracking (RC and Other)	495.00	0%	0.00	61%	303.00	39%	192.00	0%	0.00
107/3	Steel Opn Girder/Beam	1,430.00	55%	782.00	35%	500.00	10%	148.00	0%	0.00
515/3	Steel Protective Coating	21,000.00	35%	7,350.00	30%	6,300.00	30%	6,350.00	5%	1,000.00
3410/3	*Chalk(Steel Protect Coatings)*	*6,300.00*	0%	0.00	100%	6,300.00	0%	0.00	0%	0.00
3420/3	*Peel/Bub/Crack(Stl Protect Coat)*	*7,350.00*	0%	0.00	0%	0.00	86%	6,350.00	14%	1,000.00
1000/3	Corrosion	500.00	0%	0.00	71%	353.00	29%	147.00	0%	0.00
1900/3	Distortion	143.00	0%	0.00	100%	143.00	0%	0.00	0%	0.00
109/3	Pre Opn Conc Girder/Beam	14,543.00	81%	11,721.00	4%	632.00	12%	1,673.00	4%	517.00
521/3	Conc Prot Coating	5,000.00	85%	4,250.00	0%	0.00	8%	375.00	8%	375.00
3510/3	*Wear (Concrete Protect Coat)*	*750.00*	0%	0.00	0%	0.00	50%	375.00	50%	375.00
1080/3	Delamination/Spall/Patched Area	728.00	0%	0.00	36%	264.00	36%	264.00	28%	200.00
1090/3	Exposed Rebar	584.00	0%	0.00	0%	0.00	50%	292.00	50%	292.00
1100/3	Exposed Prestressing	50.00	0%	0.00	0%	0.00	50%	25.00	50%	25.00
1110/3	Cracking (PSC)	727.00	0%	0.00	0%	0.00	100%	727.00	0%	0.00
1120/3	Efflorescence/Rust Staining	730.00	0%	0.00	50%	365.00	50%	365.00	0%	0.00
7000/3	Damage	3.00	0%	0.00	100%	3.00	0%	0.00	0%	0.00
110/3	Re Conc Opn Girder/Beam	2,880.00	21%	614.00	45%	1,298.00	30%	863.00	4%	105.00
1080/3	Delamination/Spall/Patched Area	790.00	0%	0.00	56%	440.00	32%	250.00	13%	100.00
1090/3	Exposed Rebar	450.00	0%	0.00	60%	270.00	39%	175.00	1%	5.00

Elm/Env	Description	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4
1120/3	Efflorescence/Rust Staining	450.00	0%	0.00	67%	300.00	33%	150.00	0%	0.00
1130/3	Cracking (RC and Other)	576.00	0%	0.00	50%	288.00	50%	288.00	0%	0.00
205/3	**Re Conc Column**	**92.00**	**35%**	**32.00**	**23%**	**21.00**	**42%**	**39.00**	**0%**	**0.00**
1080/3	Delamination/Spall/Patched Area	42.00	0%	0.00	48%	20.00	52%	22.00	0%	0.00
1090/3	Exposed Rebar	7.00	0%	0.00	0%	0.00	100%	7.00	0%	0.00
1120/3	Efflorescence/Rust Staining	5.00	0%	0.00	0%	0.00	100%	5.00	0%	0.00
1130/3	Cracking (RC and Other)	5.00	0%	0.00	0%	0.00	100%	5.00	0%	0.00
7000/3	Damage	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
8368/3	Graffiti	300.00	0%	0.00	100%	300.00	0%	0.00	0%	0.00
210/3	**Re Conc Pier Wall**	**1,151.00**	**48%**	**551.00**	**25%**	**290.00**	**21%**	**241.00**	**6%**	**69.00**
1080/3	Delamination/Spall/Patched Area	175.00	0%	0.00	43%	75.00	44%	77.00	13%	23.00
1090/3	Exposed Rebar	115.00	0%	0.00	0%	0.00	60%	69.00	40%	46.00
1120/3	Efflorescence/Rust Staining	80.00	0%	0.00	50%	40.00	50%	40.00	0%	0.00
1130/3	Cracking (RC and Other)	115.00	0%	0.00	52%	60.00	48%	55.00	0%	0.00
6000/3	Scour	115.00	0%	0.00	100%	115.00	0%	0.00	0%	0.00
8368/3	Graffiti	400.00	0%	0.00	100%	400.00	0%	0.00	0%	0.00
215/3	**Re Conc Abutment**	**230.00**	**34%**	**78.00**	**19%**	**44.00**	**47%**	**108.00**	**0%**	**0.00**
1080/3	Delamination/Spall/Patched Area	103.00	0%	0.00	28%	29.00	72%	74.00	0%	0.00
1120/3	Efflorescence/Rust Staining	30.00	0%	0.00	50%	15.00	50%	15.00	0%	0.00
1130/3	Cracking (RC and Other)	19.00	0%	0.00	0%	0.00	100%	19.00	0%	0.00
220/3	**Re Conc Pile Cap/Ftg**	**1,151.00**	**100%**	**1,150.00**	**0%**	**1.00**	**0%**	**0.00**	**0%**	**0.00**
1130/3	Cracking (RC and Other)	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
234/3	**Re Conc Pier Cap**	**388.00**	**0%**	**0.00**	**46%**	**178.00**	**49%**	**190.00**	**5%**	**20.00**
521/3	Conc Prot Coating	5,000.00	70%	3,500.00	0%	0.00	0%	0.00	30%	1,500.00
3510/3	*Wear (Concrete Protect Coat)*	*1,500.00*	0%	0.00	0%	0.00	0%	0.00	100%	1,500.00
1080/3	Delamination/Spall/Patched Area	308.00	0%	0.00	47%	144.00	47%	144.00	7%	20.00
1090/3	Exposed Rebar	53.00	0%	0.00	51%	27.00	49%	26.00	0%	0.00
1120/3	Efflorescence/Rust Staining	15.00	0%	0.00	47%	7.00	53%	8.00	0%	0.00
1130/3	Cracking (RC and Other)	12.00	0%	0.00	0%	0.00	100%	12.00	0%	0.00
300/3	**Strip Seal Exp Joint**	**93.00**	**0%**	**0.00**	**95%**	**88.00**	**5%**	**5.00**	**0%**	**0.00**
2310/3	Leakage	30.00	0%	0.00	100%	30.00	0%	0.00	0%	0.00
2350/3	Debris Impaction	58.00	0%	0.00	100%	58.00	0%	0.00	0%	0.00
2370/3	Metal Deterioration or Damage	5.00	0%	0.00	0%	0.00	100%	5.00	0%	0.00
301/3	**Pourable Joint Seal**	**1,151.00**	**44%**	**507.00**	**47%**	**544.00**	**7%**	**85.00**	**1%**	**15.00**
2310/3	Leakage	344.00	0%	0.00	100%	344.00	0%	0.00	0%	0.00
2320/3	Seal Adhesion	300.00	0%	0.00	67%	200.00	28%	85.00	5%	15.00
310/3	**Elastomeric Bearing**	**401.00**	**34%**	**136.00**	**47%**	**190.00**	**19%**	**75.00**	**0%**	**0.00**
2220/3	Alignment	4.00	0%	0.00	0%	0.00	100%	4.00	0%	0.00
2230/3	Bulging, Splitting or Tearing	200.00	0%	0.00	75%	150.00	25%	50.00	0%	0.00
2240/3	Loss of Bearing Area	61.00	0%	0.00	66%	40.00	34%	21.00	0%	0.00
311/3	**Moveable Bearing**	**11.00**	**0%**	**0.00**	**64%**	**7.00**	**36%**	**4.00**	**0%**	**0.00**
515/3	Steel Protective Coating	132.00	0%	0.00	0%	0.00	33%	44.00	67%	88.00
3420/3	*Peel/Bub/Crack(Stl Protect Coat)*	*132.00*	0%	0.00	0%	0.00	33%	44.00	67%	88.00
1000/3	Corrosion	11.00	0%	0.00	64%	7.00	36%	4.00	0%	0.00
313/3	**Fixed Bearing**	**11.00**	**0%**	**0.00**	**73%**	**8.00**	**27%**	**3.00**	**0%**	**0.00**
515/3	Steel Protective Coating	110.00	0%	0.00	0%	0.00	60%	66.00	40%	44.00
3420/3	*Peel/Bub/Crack(Stl Protect Coat)*	*110.00*	0%	0.00	0%	0.00	60%	66.00	40%	44.00
1000/3	Corrosion	10.00	0%	0.00	70%	7.00	30%	3.00	0%	0.00

RIDOT Bridge Inspection Report

070001
Washington Bridge North

Inspected By COLLINS
Inspector: ROBERT SNELGROVE
Inspection Date 07/24/2017

Bridge Condition Poor

Elm/Env	Description	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4
2240/3	Loss of Bearing Area	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
321/3	**Re Conc Approach Slab**	**2,352.00**	**0%**	**0.00**	**100%**	**2,352.00**	**0%**	**0.00**	**0%**	**0.00**
510/3	Wearing Surfaces	2,352.00	58%	1,352.00	21%	500.00	21%	500.00	0%	0.00
3220/3	*Crack (Wearing Surface)*	*2,352.00*	58%	1,352.00	21%	500.00	21%	500.00	0%	0.00
331/3	**Re Conc Bridge Railing**	**3,808.00**	**90%**	**3,407.00**	**11%**	**401.00**	**0%**	**0.00**	**0%**	**0.00**
1130/3	Cracking (RC and Other)	351.00	0%	0.00	100%	351.00	0%	0.00	0%	0.00
7000/3	Damage	50.00	0%	0.00	100%	50.00	0%	0.00	0%	0.00
8060/3	**Scupper**	**27.00**	**0%**	**0.00**	**11%**	**3.00**	**74%**	**20.00**	**15%**	**4.00**
1000/3	Corrosion	4.00	0%	0.00	0%	0.00	0%	0.00	100%	4.00
8213/3	**R/C Return Wall**	**175.00**	**0%**	**0.00**	**86%**	**150.00**	**14%**	**25.00**	**0%**	**0.00**
1080/3	Delamination/Spall/Patched Area	44.00	0%	0.00	100%	44.00	0%	0.00	0%	0.00
1120/3	Efflorescence/Rust Staining	110.00	0%	0.00	77%	85.00	23%	25.00	0%	0.00
1130/3	Cracking (RC and Other)	21.00	0%	0.00	100%	21.00	0%	0.00	0%	0.00
8218/3	**Backwall, All Types**	**230.00**	**45%**	**104.00**	**35%**	**80.00**	**20%**	**46.00**	**0%**	**0.00**
1080/3	Delamination/Spall/Patched Area	80.00	0%	0.00	88%	70.00	13%	10.00	0%	0.00
1120/3	Efflorescence/Rust Staining	23.00	0%	0.00	44%	10.00	57%	13.00	0%	0.00
1130/3	Cracking (RC and Other)	23.00	0%	0.00	0%	0.00	100%	23.00	0%	0.00
8305/3	**Asphaltic Joint Material**	**1,438.00**	**69%**	**987.00**	**31%**	**451.00**	**0%**	**0.00**	**0%**	**0.00**
2310/3	Leakage	430.00	0%	0.00	100%	430.00	0%	0.00	0%	0.00
2340/3	Seal Cracking	21.00	0%	0.00	100%	21.00	0%	0.00	0%	0.00
8335/3	**Guardrail, Vehicular**	**700.00**	**76%**	**530.00**	**20%**	**140.00**	**4%**	**30.00**	**0%**	**0.00**
515/3	Steel Protective Coating	3,150.00	57%	1,800.00	0%	0.00	43%	1,350.00	0%	0.00
1000/3	Corrosion	100.00	0%	0.00	100%	100.00	0%	0.00	0%	0.00
7000/3	Damage	70.00	0%	0.00	57%	40.00	43%	30.00	0%	0.00
8336/3	**Conc Bridge Parapet**	**700.00**	**50%**	**350.00**	**46%**	**320.00**	**4%**	**30.00**	**0%**	**0.00**
1080/3	Delamination/Spall/Patched Area	100.00	0%	0.00	100%	100.00	0%	0.00	0%	0.00
1090/3	Exposed Rebar	100.00	0%	0.00	70%	70.00	30%	30.00	0%	0.00
1130/3	Cracking (RC and Other)	150.00	0%	0.00	100%	150.00	0%	0.00	0%	0.00
8366/3	**Rip Rap**	**1,000.00**	**94%**	**940.00**	**3%**	**30.00**	**3%**	**30.00**	**0%**	**0.00**
8367/3	**Slope Blocks**	**700.00**	**85%**	**595.00**	**0%**	**0.00**	**15%**	**105.00**	**0%**	**0.00**
8370/3	**Steel Diaphragms**	**70.00**	**19%**	**13.00**	**51%**	**36.00**	**24%**	**17.00**	**6%**	**4.00**
515/3	Steel Protective Coating	1,800.00	21%	378.00	63%	1,125.00	12%	207.00	5%	90.00
3410/3	*Chalk(Steel Protect Coatings)*	*900.00*	0%	0.00	100%	900.00	0%	0.00	0%	0.00
3420/3	*Peel/Bub/Crack(Stl Protect Coat)*	*522.00*	0%	0.00	43%	225.00	40%	207.00	17%	90.00
1000/3	Corrosion	55.00	0%	0.00	64%	35.00	29%	16.00	7%	4.00
1020/3	Connection	2.00	0%	0.00	50%	1.00	50%	1.00	0%	0.00
8371/3	**Conc Diaphragms**	**221.00**	**16%**	**35.00**	**33%**	**73.00**	**51%**	**113.00**	**0%**	**0.00**
1080/3	Delamination/Spall/Patched Area	52.00	0%	0.00	0%	0.00	100%	52.00	0%	0.00
1090/3	Exposed Rebar	12.00	0%	0.00	92%	11.00	8%	1.00	0%	0.00
1120/3	Efflorescence/Rust Staining	11.00	0%	0.00	55%	6.00	46%	5.00	0%	0.00
1130/3	Cracking (RC and Other)	111.00	0%	0.00	51%	56.00	50%	55.00	0%	0.00

ELEMENT NOTES

STRUCTURE UNIT: 0

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4

12	Re Concrete Deck	3	142,889.00	sq.ft	134,317.00	7,144.00	1,428.00	0.00

The top of the reinforced concrete deck is concealed from view by a bituminous concrete wearing surface/overlay (Photo Nos. 12 - 21). The underside of the deck in Spans #1 through #18 has areas of exposed rebar chairs throughout, areas of rust staining and efflorescence, random hairline cracking, random hollow areas and isolated spalls. The areas immediately surrounding drain pipes have heavy rust staining and efflorescence with intermittent hollow areas. The overhangs exhibit typical hairline transverse cracks with efflorescence and stalactites. The underside of deck is concealed from view by timber formwork left in place in the following locations: Spans #3 and #4: North Overhang – 20' long x 4' wide between Girder "A" and the North Fascia Arch at Pier #3. Span #4: South Overhang – Between Girder "F" and the South Fascia Arch at Pier #3. Span #5: North Overhang – Two areas up to 20' long x 3' wide between Girder "A1" and the North Fascia Arch at Pier #5. Span #6 and #7 South Fascia – 30' long x 6' wide in the area over Pier #6. This formwork is hanging down and is a potential hazard to inspectors (Photo No. 22). Span #15: All Bays – The east half in all bays are concealed from view by timber shielding. There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

510	Wearing Surfaces	3	142,889.00	sq.ft	134,317.00	7,144.00	1,428.00	0.00

The bituminous concrete wearing surface/overlay on the bridge exhibits minor to moderate wheel line rutting, random sealed and unsealed longitudinal and transverse cracks, several potholes and patches, and random locations of raveling along deck joint edges (Photo Nos. 12 – 21).

The raised concrete median at the gore in Spans #16 through #18 between I-195 Westbound and the I-195 On-Ramp has minor spalling along curb edges.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3210	*Del/Spall/Patch/Pot(We*	*3*	*4,286.00*	*sq.ft*	*0.00*	*3,572.00*	*714.00*	*0.00*

There are isolated potholes and patches in the wearing surface. There is raveling or depressed areas up to 6" wide in the pavement along the joints.

Span #4 –
There is a pothole 8" long x 18" wide x 3" deep in the right middle lane adjacent to the east Pier #4 deck joint.

Span# 7 –
The west joint at Pier #7 has a 9' long x up to 8" wide x 2" deep pothole at the north end of the joint.

Span #9 –
There is a 3' long x 2' wide depressed area with a 12" diameter x 2" deep pothole in the right middle lane located 13' east of the east Pier #8 deck joint (Photo No. 19).

Span #10 –
There is a 2' long x 3' wide patch in the left middle lane over Pier #9.

Span #11 –
There is a 2' long x 1' wide x 1" deep depressed and cracked area between the right middle and right lanes located 20' east of the Pier #10 deck joint. There is a 2' long x 2' wide x 1" deep depressed area around the scupper in the north shoulder and a 7"diameter x 2" deep pothole along the north shoulder line located 21' and 3' east of the east Pier #10 deck joint, respectively (Photo No. 20).

Span #13 –
The previously noted 4' long x 2' wide x 2" deep pothole along the north shoulder line located 7' east of the Pier #13 west deck joint has been patched and there is a 26" long x 10" wide patch located 2' east of the Pier #13 west deck joint. The Pier #13 East deck joint has a 3' long x 4' wide cracked and settled patch in the right middle lane (Photo No. 21).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4

3220	*Crack (Wearing Surfac 3*	*4,286.00*	*sq.ft*	*0.00*	*3,572.00*	*714.00*	*0.00*
	There are isolated locations of sealed longitudinal cracks along the lane lines, in the shoulders and in the gore area in Spans #15 through #18 (Photo Nos. 17 and 18). There are sealed transverse cracks adjacent to the joints.						
1080	Delamination/Spall/Patched Are3	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

There are random hollow areas and spalls on the underside of the reinforced concrete deck.

Span #1:
Bay “D” –
Located 5’ from Pier #1 there is a 2’ long x 2’ wide x 1-1/2” deep spall.

Span #2:
Bay “E” –
Located east of the East Corbel there is a 16” diameter hollow area with rust staining.

Span #3:
Bay “A” –
There is an 8” diameter x 3” deep spall east of the West Corbel.

Bay “E” –
There is a 2’ long x 1’ wide hollow area with rust staining and a 10” diameter x 1” deep spall at the drain pipe over Pier #3.

Span #4:
Bay “B” –
There is a 2’ diameter hollow area west of the West Corbel.

Bay “C” –
There is an 18” diameter hollow area with rust stains and cracking near the East Corbel.

Bay “E” –
There is a 12” long x 6” wide hollow area 10’ east of mid-span.

Span #5:
South Overhang –
Between Girder “F” and South Fascia Arch located east of mid-span has multiple spalls up to 3’ long x 1’ wide x 2” deep.

Bay “E” –
There is a 10’ long x 5’ wide hollow area with efflorescence and rust staining over Pier #5 (Photo No. 23).

Span #6:
Bay “A”¬ –
There is a 5’ long x 4’ wide hollow area with rust staining around the drain pipe.

Bay “E” –
There is a 3’ long x 2’ wide hollow area with efflorescence and rust staining around the drain pipe at mid-span and a 10’ long x 5’ wide hollow area with efflorescence and rust staining over Pier #5.

Span #7:
There are intermittent hollow areas at the deck ends above the haunches at Pier #6 and Pier #7 up to 1’ long x 4’ wide.

Bay “A” –
There is a 12” diameter cracked patch between the third interior and fourth intermediate diaphragms from Pier #6 and a 12” diameter cracked patch between the fifth intermediate diaphragm and Pier #7. At the longitudinal construction joint there are intermittent hollow areas up to 12” long x 6” wide.

Bay “J” –
At the longitudinal construction joint there are intermittent hollow areas up to 12” long x 6” wide. There are 3’ long x 2-1/2’ wide and 18” long x 12” wide hollow areas with rust staining between the first and second intermediate diaphragms and an 18” diameter hollow area

above the fifth intermediate diaphragm from Pier #6 (Photo No. 25).

Span #8:
Bay "A" –
Located 9' from West Cantilever there is a 15" long x 26" wide x 2" deep spall.

Bay "E" –
East of the West Corbel there is an 18" diameter x 1" deep spall and an 18" long x 18" wide hollow area with heavy rust stains and efflorescence near the drain pipe.

Span #9:
Bay "A"–
There is a 6' long x 3' wide hollow area at the mid-span near Girder "A". There is a 1' diameter hollow area west of the mid-span (Repair in Progress) (Photo No. 236).

Bay "B"–
There are 12" diameter hollow areas with some areas up to 24" long x 20" wide.

Span #10:
Bay "A" –
There is a 12" long x 12" wide hollow area near the drain pipe.

Bay "E"–
There is a 2' long x 12" wide x 1" deep spall along Girder "F" located above the mid-span diaphragm. There is a 2'diameter hollow area at the diaphragm at the East Corbel.

Span #11:
Bay "A" –
There is a 3' long x 18" wide hollow area near the drain pipe.

Bay "E" –
There is a 2' long x 1' wide hollow area near the drain pipe.

Span #13:
North Overhang –
There is a 53" long x 24" wide hollow area near the West Corbel.

Span #14:
North Overhang –
There is a 3' long x 2' wide hollow area at the drain hole at Pier #13 east joint.

Span #17:
Bay "E" –
There is a 5' long x 20" wide hollow area with cracking, rust staining, and efflorescence near Pier #17.

Bay "G" –
There is a patch with hollow edges near Pier #17.

1090	Exposed Rebar	3	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

There are random and spalls with exposed rebar on the underside of the reinforced concrete deck.

Span #4:
Bay “A” –
There is a 12” long x 9” wide x 1-1/2” deep spall with exposed rebar along Girder “A” near Pier #3.

Span #6:
Bay “A” –
There is a 4’ long x 3’ wide x up to 1-1/2” deep spall with exposed rebar at mid-span.

Span #7:
Bay “A” –
There is a 16” long x 12” wide x 1-1/2” deep spall with exposed rebar and a 16” diameter x 2” deep spall with exposed rebar with up to 10% section loss near Pier #7.

Bay “E” –
There is an 8” long x 18” wide x 1” deep spall with exposed rebar at Pier #7.

Bay “J” –
There is a 44” long x 23” wide x 2-1/4” deep spall/hollow area with exposed and debonded rebar with up to 10% section loss at mid-span over diaphragm. There is a 12” diameter x 1” deep spall with exposed rebar near Pier #7.

Span #8:
Bay “A” –
There is a 2’ long x 3’ wide x 3” deep spall with exposed rebar at the drain pipe near the West Corbel.

Bay “E” –
There is a 6” diameter x 1” deep spall with exposed rebar at the drain pipe near the West Corbel.

Span #9:
Bay “E” –
There is a 16” long x 14” wide x 2” deep spall with exposed rebar and a 4’ long x 3’ wide x 3” deep spall with exposed rebar between the mid-span and the East Corbel (Repair in Progress).

Span #10:
Bay “E” –
There is a 2’ long x 16” wide x 1-1/2” deep spall/hollow area with exposed and rusted rebar near the drain pipe.

Span #17:
Bay “N” –
There is a 4’ long x 3-1/2’ wide hollow area with a 20” long x 12” wide spall with exposed rebar near Pier #17.

Span #18:
Bay “G” –
There is a 4’ long x 2’ wide x 1-1/2” deep spall with loose concrete at mid-span over the southbound roadway, and a 7’ long x 2’ wide spall with exposed rebar over the northbound roadway.

Bay “Q” –
There is a 42” long x full width x 3” deep spall with exposed and rebar with loose concrete beyond the rebar located near Abutment #2.

1120	Efflorescence/Rust Staining	3	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

There are areas with efflorescence and rust staining on the underside of the reinforced concrete deck.

Span #5:
Bay “A1” –
There is a 3’ long x 5’ wide area of hairline map cracks with efflorescence and rust staining around the deck drain near the East Corbel (Photo No. 74).

Bay “A” –
There is a 4’ long x 3’ wide area of hairline map cracks with efflorescence and rust staining near the West Corbel.

Span #7:
North Fascia –
The underside of the deck at the fascia has full width x hairline transverse cracks spaced 3’ on center with efflorescence.

Bay “A” –
There is a 1’ long x 4’ wide area of hairline map cracking with heavy rust staining between Pier #6 and the first interior diaphragm.

Bay “J” –
There are 1’ long x 2’ wide and 4’ long x 4’ wide areas of hairline map cracking with rust staining between Pier #6 and the first intermediate diaphragm.

South Fascia –
The underside of the deck at the fascia has full width x hairline transverse cracks spaced 3’ on center with efflorescence.

Span #8:
Bay “E” –
There is a 4’ long x 3’ wide area of hairline map cracks with rust around the drain pipe near the West Corbel.

Span #10:
Bay “A” –
There are random transverse hairline cracks with efflorescence.

Bay “E” –
There is a 4’ long x 3’ wide area of hairline map cracks with efflorescence and rust staining east of the drain pipe.

South Overhang–
There is heavy efflorescence and signs of leakage along Girder “F” at mid-span.

1130	Cracking (RC and Other)	3	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

There are areas of cracking on the underside of the reinforced concrete deck.

Span #9:
Bay “B”–
There is an 8’ long x 5’ wide area of map cracking near the East Corbel.

Span #16:
Bay “F” –
There is a 1’ long x 8” wide area of hairline map cracking near Pier #16.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
16	Re Conc Top Flange	3	7,336.00	sq.ft	5,986.00	1,025.00	325.00	0.00

The top flanges of the reinforced concrete closed box girders in Spans #1R through #3R exhibit areas of efflorescence, rust staining, cracking, hollow areas, and spalls with and without exposed rebar. There is a bituminous concrete pavement / wearing surface on the top flange of the girders. The pavement / wearing surface has minor wheel line rutting and random areas of map cracking.

510	Wearing Surfaces	3	7,336.00	sq.ft	6,086.00	1,000.00	250.00	0.00

The pavement / wearing surface has minor wheel line rutting and random areas of map cracking (Photo No. 27).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3220	*Crack (Wearing Surfac*	*3*	*1,000.00*	*sq.ft*	*0.00*	*750.00*	*250.00*	*0.00*

The pavement / wearing surface has random areas of map cracking (Photo No. 27).

1080	Delamination/Spall/Patched Are	3	100.00	sq.ft	0.00	50.00	50.00	0.00

There are isolated hollow areas, patched areas and spalls on the underside of the girder top flanges.

For specific defect notes refer to the file entitled "070001_Element 16_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	50.00	sq.ft	0.00	25.00	25.00	0.00

The underside of the girder top flanges exhibits isolated spalls with exposed rebar.

For specific defect notes refer to the file entitled "070001_Element 16_Element 1090_BrM_Notes".

1120	Efflorescence/Rust Staining	3	1,000.00	sq.ft	0.00	750.00	250.00	0.00

The underside of the girder top flanges exhibits cracks with efflorescence and rust staining. There are areas of heavy dusting (accumulation of powdery concrete material dust) extending the full length of cells x up to full width.

For specific defect notes refer to the file entitled "070001_Element 16_Element 1120_BrM_Notes".

1130	Cracking (RC and Other)	3	200.00	sq.ft	0.00	200.00	0.00	0.00

The underside of the girder top flanges exhibits isolated full-width hairline transverse cracks and hairline map cracks.

For specific defect notes refer to the file entitled "070001_Element 16_Element 1130_BrM_Notes".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
105	**Re Clsd Box Girder**	**3**	**922.00**	**ft**	**65.00**	**461.00**	**396.00**	**0.00**

The reinforced concrete three-cell box girder superstructure in Spans #1R through #3R and Span #5 carries the Gano Street Off-Ramp. The box girders exhibit areas of efflorescence, rust staining, cracking, hollow areas, and spalls with and without exposed rebar. There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

1080	Delamination/Spall/Patched Are	3	72.00	ft	0.00	0.00	72.00	0.00

Box Girder Webs:
There are isolated edge spalls along cracks.

Box Girder Bottom Flange:
The top of the bottom flange (floor) exhibits isolated hollow areas and spalls up to 30' long x full width. The most severe conditions exist at drain pipes and near the piers at the deepest box girder sections.

The underside of the bottom flange in Spans #1R through #3R exhibit scattered hollow areas with rust staining. The underside of the bottom flange in the cantilever section in Span #5 has random hollow areas.

For specific defect notes refer to the file entitled "070001_Element 105_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	46.00	ft	0.00	36.00	10.00	0.00

Box Girder Bottom Flange:
The top of the bottom flange (floor) spalls up to 11' long x full width x full depth (hole) with exposed/debonded rebar showing up to 100% section loss. The most severe conditions exists at the drain pipes and near the piers at the deepest box girder sections.

For specific defect notes refer to the file entitled "070001_Element 105_Element 1090_BrM_Notes".

1120	Efflorescence/Rust Staining	3	244.00	ft	0.00	122.00	122.00	0.00

Box Girder Webs:
The webs (cell walls) have a few vertical and diagonal hairline cracks, up to full-height with efflorescence and rust staining.

Box Girder Bottom Flange:
The top of the bottom flange (floor) exhibits random hairline to full width transverse cracks with efflorescence and rust staining. The most severe conditions exist at the drain pipes and near the piers at the deepest box girder sections. The floor has locations with powdery concrete build up from the heavy dusting of the top slab over full length x up to 4' wide (Photo No. 36).

The underside of the bottom flange in Spans #1R through #3R exhibit typical hairline diagonal and transverse cracks with efflorescence and rust staining. The underside of the bottom flange in the cantilever section in Span #5 has random hairline cracks with efflorescence and rust staining.

For specific defect notes refer to the file entitled "070001_Element 105_Element 1120_BrM_Notes".

1130	Cracking (RC and Other)	3	495.00	ft	0.00	303.00	192.00	0.00

Box Girder Webs:
The webs (cell walls) have numerous vertical and diagonal hairline cracks, up to full-height. Along the west wall, interior face of Cells #1W, #2W and #3W in Spans #1R and #2R, cracks have been epoxy coated. Many of the web cracks have strain gauges installed and all strain gauges read "0,0".

Box Girder Bottom Flange:
The top of the bottom flange (floor) exhibits random hairline to full width transverse cracks.

The underside of the bottom flange in Spans #1R through #3R exhibit typical hairline diagonal and transverse cracks. The underside of the bottom flange in the cantilever section in Span #5 has random hairline cracks.

For specific defect notes refer to the file entitled "070001_Element 105_Element 1130_BrM_Notes".

STRUCTURE UNIT: 0

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
107	Steel Opn Girder/Beam	3	1,430.00	ft	782.00	500.00	148.00	0.00

There are steel girders in Span #7 that span between the east pier wall of Pier #6 and the west pier wall of Pier #7 (Photo No. 45). The steel girders in Span #7 exhibit moderate to heavy rust at the supports and isolated light to moderate rust on the remaining girder areas. There are bolted repair plates and angles with varying dimensions at the girder ends on the web and bottom flange, at both sides of the girder up to 25' long with moderate to heavy rust (Photo Nos. 46 and 50-53).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
515	Steel Protective Coating	3	21,000.00	sq.ft	7,350.00	6,300.00	6,350.00	1,000.00

The girder ends have peeling paint and the remainder of the girder lengths have isolated peeling paint and chalking of paint (Photo Nos. 45-54).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3410	*Chalk(Steel Protect Co*	*3*	*6,300.00*	*sq.ft*	*0.00*	*6,300.00*	*0.00*	*0.00*

There is chalking of paint on the girders (Photo Nos. 45-54).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3420	*Peel/Bub/Crack(Stl Prc*	*3*	*7,350.00*	*sq.ft*	*0.00*	*0.00*	*6,350.00*	*1,000.00*

There is peeling paint at the girder ends (Photo Nos. 45-54).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
1000	Corrosion	3	500.00	ft	0.00	353.00	147.00	0.00

The steel girders exhibit moderate to heavy rust at supports up to 6' long and isolated light to moderate rust on the remaining girder areas (Photo Nos. 46, 47 and 50-53). The bolted repair plates and angles at the girder ends on the web and bottom flange, exhibit rust ranging from moderate to heavy on plates/angles and bolts/nuts (Photo Nos. 46 and 50-53).

There is up to 1/8" loss of thickness in the bottom flanges at the welded transitions which appears construction related (Photo No. 54). There is up to 1/4" thick pack rust between the bearing stiffener plates and cross frame connection plates (Photo No. 232). Bearing stiffeners have scattered section loss up to full width x 3" high x 1/8" deep at the base with random 1/8" deep pitting on the remaining stiffener height. Isolated stiffeners near the supports have section loss to a knife edge g at the bottom, at the bolted repair areas.

For additional section loss defect notes refer to the file entitled "070001_Element 107_Element 1000_BrM_Notes".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
1900	Distortion	3	143.00	ft	0.00	143.00	0.00	0.00

There is isolated waviness of the bottom flanges up to 1/4"± (Photo No. 47). The webs of Girders "A" through "E" are leaning to the north up to 1/4" over the web height at the bearing, up to 1-1/2" over the web height at 15' from the bearing, and up to 2-1/4" over the web height at the mid-span. The webs of Girders "G" through "K" are plumb at the bearings and leaning to the South at the top up to 3/4" over the height of the web at 15' from the bearing and up to 1-1/2" over the height of the web at the mid-span. Bottom flanges of leaning girders are also leaning. Girder "F" is plumb and the interior girders are all leaning incrementally less than the fascia girders (Photo Nos. 48 and 49).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
109	Pre Opn Conc Girder/Beam	3	14,543.00	ft	11,721.00	632.00	1,673.00	517.00

The prestressed concrete girders in Spans #1 through #6 and #8 through #14 consist of variable depth post-tensioned cantilevered girder sections over the piers with corbels at the end. The cantilevered girder sections support prestressed concrete drop-in sections over the spans (Photo Nos. 55 and 56). The prestressed concrete I-girders in Spans #15 through #18 are simply supported between the substructure units (Photo No. 119). The girders exhibit hollow areas, spalls with exposed rebar with section loss (Photo Nos. 58 – 146). The ends of the prestressed concrete drop-in girders are coated with a protective sealant that exhibits random cracking and peeling on approximately 30% of coated areas (Photo Nos. 58 – 146). There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

521	Conc Prot Coating	3	5,000.00	sq.ft	4,250.00	0.00	375.00	375.00

The ends of the prestressed concrete drop-in girders are coated with a protective sealant that exhibits random cracking and peeling on approximately 30% of coated areas.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3510	*Wear (Concrete Protec*	*3*	*750.00*	*sq.ft*	*0.00*	*0.00*	*375.00*	*375.00*

The protective sealant exhibits random cracking and peeling on approximately 30% of coated areas.

1080	Delamination/Spall/Patched Are	3	728.00	ft	0.00	264.00	264.00	200.00

Prestressed Concrete Drop-In Girders:
The drop-in girder ends exhibit the most severe deterioration. The upper web portions over the bearings exhibit scattered hollow areas and spalls. The top flanges of the drop-in girders near mid-span have isolated hollow areas and spalls.

Post-Tensioned Concrete Corbels:
The corbels exhibit honeycombing of lower faces up to 2” deep, and hollow areas. In multiple locations the hollow areas extend to the corbel undersides with spalling. The lower end faces of the corbels exhibit intermittent hollow areas and spalls at the corners up to 3-1/2” deep with some undermining of the elastomeric bearings.
The upper end faces of the corbels beyond the drop-in beam bearings exhibit scattered spalls up to 2” deep.

Post-Tensioned Concrete Cantilever Girders:
Isolated girder webs over the pier columns exhibit hollow areas along the built-out web sections over the bearing. Isolated cantilever girders have hollow areas and shallow spalling along web cracks or cracked and hollow grout pocket patches.

The post tension anchorage blocks on the underside of the bottom flanges of the cantilever girders are hollow with cracking.

Prestressed Concrete I-girders:
The prestressed concrete I-girders exhibit random girder ends with hollow areas and spalls up to full height x full width x 3” deep. The girder bottom flanges and webs at the end of the girder (beyond the bearing pad/pedestal) exhibit spalled concrete up to 4” deep with and hollow areas up to full height. There are isolated hollow areas and spalls at the bearings. Isolated girder webs near the supports exhibit hollow areas up to full height x 10” long. Isolated top flange faces exhibit hollow areas and minor spalling. There are random concrete patches along the girders.

For specific defect notes refer to the file entitled “070001_Element 109_Element 1080_BrM_Notes”.

1090	Exposed Rebar	3	584.00	ft	0.00	0.00	292.00	292.00

Prestressed Concrete Drop-In Girders:
The upper web portions of the drop-in girders over the bearings exhibit scattered spalls up to 7” deep with isolated locations exhibiting fully exposed / rusted / debonded rebar, and isolated areas of up to 25% section loss. Severe deterioration is more common on the exterior faces of the fascia girders. The top flanges of the drop-in girders near mid-span have isolated spalls with exposed rebar up to 3” deep. The bottom flange undersides of the drop-in girders near mid-span exhibit isolated shallow spalling with exposed rebar up to 1” deep.

Post-Tensioned Concrete Corbels:
The post-tensioned concrete corbels exhibit isolated spalls up to 2” deep with exposed rebar along the lower corbel edges and underside.

Post-Tensioned Concrete Cantilever Girders:
The post-tensioned concrete cantilever girders exhibit shallow rebar pop-outs at random locations up to 3’ high x 2” wide x 1/2”. Scattered girder bottom flanges exhibit corner spalls up to 3” deep with exposed rebar. In Span #7 at the interior of Piers #6 and #7, the ends of the cantilever girders exhibit spalling up to full height x up to 8” deep over the bearings with multiple fully exposed, debonded, and broken rebars.

Prestressed Concrete I-girders:
The prestressed concrete I-girders exhibit spalled concrete up to 4” deep with exposed rebar ends at the bottom flanges and webs. There are isolated spalls with exposed rebar at the bearings. Deteriorated locations show exposed rebar with section loss up to 25% and isolated rebar with up to 100% section loss. Scattered girder bottom flange faces exhibit spalls near the front face of pedestal/pier supports up to 2-1/2” deep with exposed steel plates. Isolated girder webs near the supports exhibit shallow spalls with exposed reinforcing steel up to full height x 10” long. Fascia girder ends exhibit up to full height x 12” wide x 4” deep spalling with multiple exposed stirrups. Scattered bottom flanges in the mid-span region exhibit spalls up to 2-1/2” deep with exposed rebar.

For specific defect notes refer to the file entitled “070001_Element 109_Element 1090_BrM_Notes”.

1100	Exposed Prestressing	3	50.00	ft	0.00	0.00	25.00	25.00

Prestressed Concrete Drop-In Girders:
The webs at the L-shaped dapped end transition exhibit L-shaped hollow areas and spalls with isolated strand ends. The bottom flange faces and undersides of the drop-in girder ends exhibit scattered spalling up to 3-1/2" deep and multiple exposed/rusted prestressing strand ends. Isolated bottom flange undersides of the drop-in girders near mid-span exhibit spalls up to 1-1/2" deep with exposed prestressing strands.

Post-Tensioned Concrete Corbels:
The lower end faces of the corbels exhibit intermittent spalls at the corners up to 3-1/2" deep with exposed rusted post-tension anchors and some undermining of elastomeric bearings. The upper end faces of the corbels beyond the drop-in beam bearings exhibit scattered spalls up to 2" deep with exposed/rusted post-tension reinforcing plates.

Post-Tensioned Concrete Cantilever Girders:
Numerous post-tensioned anchorage blocks are spalled up to 3" deep with exposed steel anchorage plates.

Prestressed Concrete I-girders:
The prestressed concrete I-girders exhibit spalled concrete up to 4" deep with exposed strands at the girder bottom flanges and webs at the end of the girder (beyond the bearing pad/pedestal). There are isolated spalls with exposed strands at the bearings. Scattered girder bottom flange faces exhibit spalls near the front face of pedestal/pier supports up to 2-1/2" deep with exposed, rusted strands and isolated locations with exposed strands showing broken wires. Scattered bottom flanges in the mid-span region exhibit spalls up to 2-1/2" deep with exposed strands showing isolated broken wires.

For specific defect notes refer to the file entitled
"070001_Element 109_Element 1100_BrM_Notes".

1110	Cracking (PSC)	3	727.00	ft	0.00	0.00	727.00	0.00

Prestressed Concrete Drop-In Girders:
Several drop-in girders exhibit diagonal/shear hairline cracks at the ends up to 16" long with isolated locations with cracks open up to 1/8" wide.

Post-Tensioned Concrete Corbels:
The post-tensioned concrete corbels in exhibit scattered hairline cracking with few locations showing wider cracks.

Post-Tensioned Concrete Cantilever Girders:
Numerous cantilever girders exhibit hairline diagonal web cracks that follow the path of post tension cables. These cracks generally start at the free end of the cantilever near the post tension anchorage blocks and extend up to 10'± to the top of the webs; there are isolated hairline cracks. Isolated cantilever girder webs over the columns exhibit vertical cracks up to full height x 1/16" wide.

Prestressed Concrete I-girders:
The prestressed concrete I-girders exhibit isolated diagonal shear cracks at the girder ends.

For specific defect notes refer to the file entitled
"070001_Element 109_Element 1110_BrM_Notes".

1120	Efflorescence/Rust Staining	3	730.00	ft	0.00	365.00	365.00	0.00

Post-Tensioned Concrete Corbels:
The outside faces of the corbels at Girder "A" and "F" have hairline diagonal cracking up to 2' long originating at the bearing seat with heavy efflorescence and rust staining.

For specific defect notes refer to the file entitled
"070001_Element 109_Element 1120_BrM_Notes".

7000	Damage	3	3.00	ft	0.00	3.00	0.00	0.00

The prestressed concrete I-girders have isolated areas of scrapes on the bottom flanges over travel lanes in spans #16 and #18.

Span #16:
Girder "E" – There is a 3' long x up to 1/4" deep scrape on the bottom flange east of the mid-span.

Span #18:
All girders have isolated minor impact scrapes on the bottom flanges (approximately 15' total).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
110	Re Conc Opn Girder/Beam	3	2,880.00	ft	614.00	1,298.00	863.00	105.00

There are reinforced concrete fascia arch girders in Spans #1 through #6, #8 through #13 and #1R through #3R. The girders consist of cantilevered sections at the piers and drop-in sections in the spans. The cantilever section supports the drop-in section with concrete keys that bear on elastomeric bearing pads. In Span #5, the north girder does not have a bearing beneath the concrete key at the west keyed joint and has a full height x 1/2" wide concrete cut through the key (Photo No. 151). The joint sealant along each joint is cracked or missing in all joints up to full height. The girders exhibit hollow areas, cracking with heavy efflorescence and rust staining and spalling with exposed rusted rebar (Photo Nos. 147 - 161). Misalignment between girder sections was noted at the following locations along the girders and should be monitored in future inspections: Span #6: South Arch – The drop-in section of the girder is 1-1/2" lower than the cantilevered section at the west keyed joint. The parapet above the joint has a 3/8" vertical misalignment (Photo Nos. 155 and 156). Span #9: North Arch – There drop-in section of the girder is 1/2" lower than the cantilevered section at the west keyed joint. South Arch – There drop-in section of the girder is 1" lower than the cantilevered section at the east keyed joint and the joint is open up to 3/4" wide. There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

1080	Delamination/Spall/Patched Are3		790.00	ft	0.00	440.00	250.00	100.00

The bottom flange undersides, particularly between the piers and the quarter point joints exhibit up to full length x full width hollow areas and spalling extending to bottom flange faces.

Keyed Joints at Quarter Points:
The exterior webs of the joints exhibit scattered minor edge spalling of the joint key and spalls up to 4" deep of the arch below the joint key which undermines the elastomeric bearing pads. The built-out web on the interior face at the keyed joints is hollow and/or spalled up to full depth. The girder is spalled above the joint key.

The girder bottom flanges at the quarter point joints exhibit hollow areas and spalls.

Near Piers:
The girder bottom flanges exhibit honeycombing and soft concrete with scattered hollow areas and isolated spalled areas up to 2" deep.

For specific defect notes refer to the file entitled "070001_Element 110_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	450.00	ft	0.00	270.00	175.00	5.00

The bottom flange undersides, particularly between the piers and the end quarter point joints exhibit up to full length x full width spalling up to 8" deep extending to bottom flange faces with exposed and rusted rebar. Multiple spalls have fully exposed, debonded and/or rusted rebar with up to 100% section loss and soft concrete beyond the spalls.

Keyed Joints at Quarter Points:
The exterior webs of the joints exhibit isolated spalls up to 12" deep with exposed and rusted rebar. The built-out web on the interior face at the keyed joints has spalls up to full depth with exposed rebar, and the girder is spalled above the joint key up to full depth with exposed rebar.

The girder bottom flanges at the quarter point joints exhibit spalls with exposed rebar up to 4" deep along joints.

For specific defect notes refer to the file entitled "070001_Element 1110_Element 1090_BrM_Notes".

1120	Efflorescence/Rust Staining	3	450.00	ft	0.00	300.00	150.00	0.00

In Mid-Span Regions:
The girder bottom flanges exhibit transverse hairline cracking that extends up both faces. Some cracks have efflorescence and rust.

The arch webs near the quarter point joints at approximately 15' above the piers have up to full length horizontal hairline cracks on the interior and/or exterior faces (possible full depth cracks) with efflorescence.

In Cantilever Sections:
There is diagonal cracking at the top of the girder web adjacent to the pier noses up to 8' long x 1/16" wide with efflorescence and rust staining (See Photo No. 152).

1130	Cracking (RC and Other)	3	576.00	ft	0.00	288.00	288.00	0.00

In Mid-Span Regions
The girder bottom flanges exhibit transverse hairline cracking that extends up both faces.

Keyed Joints at Quarter Points
The girder webs exhibit horizontal and diagonal cracking and seal deterioration along the webs.

The girder webs near the quarter point joints at approximately 15' above the piers have full length horizontal hairline cracks on the interior and/or exterior faces.

For specific defect notes refer to the file entitled "070001_Element 110_Element 1130_BrM_Notes".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
205	Re Conc Column	3	92.00	each	32.00	21.00	39.00	0.00

There are reinforced concrete columns that support the cantilever girders at Piers #1 through #13 and reinforced concrete columns that support the reinforced concrete caps at Piers #14 through #17. The pier columns exhibit scattered hairline horizontal cracks, random concrete patches, damage and vertical and map cracks without and with efflorescence and rust staining. Isolated columns exhibit hollow areas and spalls without and with exposed rebar. There are isolated open core holes up to 3" diameter x 5" deep at the top of the columns (Photo Nos. 162 – 172). The pedestals between the cantilever girders and the top of the pier columns exhibit hollow areas and spalling on all faces without and with exposed rebar and exposed steel plates (Photo Nos. 166 - 169). There are several defects which have been repaired or in the process of being repaired during the inspection as indicated. The columns at Pier #3 are covered in graffiti up to 7' high.

1080	Delamination/Spall/Patched Are	3	42.00	each	0.00	20.00	22.00	0.00

Isolated columns supporting the cantilever girders exhibit hollow areas and spalls up to 2-1/2" deep. The girder pedestals at the top of the pier columns exhibit spalling on all faces up to full height x full width x 2" deep, pedestals are hollow at scattered locations.

The reinforced concrete columns supporting the pier caps exhibit hollow areas and random patches.

For specific defect notes refer to the file entitled "070001_Element 205_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	7.00	each	0.00	0.00	7.00	0.00

Isolated columns supporting the cantilever girders exhibit spalls up to 2-1/2" deep with exposed rebar.

The girder pedestals at the top of the pier columns exhibit spalling on all faces with exposed rebar and exposed steel plates.

The reinforced concrete columns supporting the pier caps exhibit spalls with exposed rebar.

For specific defect notes refer to the file entitled "070001_Element 205_Element 1090_BrM_Notes".

1120	Efflorescence/Rust Staining	3	5.00	each	0.00	0.00	5.00	0.00

There are a few columns that have cracking with efflorescence and rust staining.

Span #11:
Column "C" –
There is a full width x 4' high area of hairline map cracking with efflorescence at the bottom of the west face.

Span #15:
Column "F" –
There is a 3' long x 1/16" wide vertical crack with rust staining at the top of the east face.

Span #17:
Column "A" –
There is a 5' long x 1/8" wide vertical crack with efflorescence at the top of the northeast corner.

1130	Cracking (RC and Other)	3	5.00	each	0.00	0.00	5.00	0.00

Isolated columns supporting the cantilever girders exhibit scattered hairline horizontal cracks and map cracks.

The reinforced concrete columns supporting the pier caps exhibit cracks and map cracking.

For specific defect notes refer to the file entitled "070001_Element 205_Element 1130_BrM_Notes".

7000	Damage	3	1.00	each	0.00	1.00	0.00	0.00

There are two impact scrapes up to 18" long x 2" wide x 1/2" deep at the bottom west face of Column "C" at Pier #14.

8368	Graffiti	3	300.00	each	0.00	300.00	0.00	0.00

The columns at Pier #3 have graffiti on all faces up to 7' high (Photo No. 162).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
210	Re Conc Pier Wall	3	1,151.00	ft	551.00	290.00	241.00	69.00

There are reinforced concrete pier walls at Piers #1 through #13 and #1R through #3R. The pier walls at Piers #1 through #5, the west pier wall at Pier #6, the east pier wall at Pier #7, and pier walls at Piers #8 through #13 are non-structural and act as curtain walls providing architectural and protective effects to the pier columns. There are reinforced concrete pylons/walls at the north and south ends of the piers that extend from the cope at the base to the bridge railings. The east pier wall at Pier #6 and the west pier wall at Pier #7 support the cantilever girders in Spans #6 and #8, respectively, through cantilever support pedestals and also support the steel girders in Span #7. The pier walls have cracking without and with efflorescence and rust staining, hollow areas, and spalls without and with exposed rebar with section loss. Some of the cracking in the pier walls in the water spans extends down into the stone masonry facade. Some of the pier interiors are hollow with intermediate cellular walls at the base where water and ice accumulate (Photo Nos. 173 – 186). There is graffiti on several pier walls (Photo No. 162). The cantilever support pedestals on the interior walls of Piers #6 east wall and Pier# 7 west wall (behind the steel girder seats) exhibit random hairline cracks, isolated hollow areas and spalls without and with exposed rebar which undermine the masonry plates. The spalling on the cantilever support pedestals has exposed and debonded rebar, section loss on exposed rebar, and isolated broken rebar. The cantilever support pedestals exhibit uneven bearing pedestals and missing/deteriorated grout pads resulting in gaps under the masonry plates and loss of bearing area at random bearings. There are steel catwalks with railings anchored to the interior faces of the Pier #6 east wall and the Pier #7 west wall (Photo Nos. 179 - 180). The catwalks can be accessed through hatches located north of the north bridge rail. The catwalk railing on the interior of Pier #7 has a railing connection not attached at the south end which is a safety issue (Photo No. 180). There are several defects which have been repaired or in the process of being repaired during the inspection as indicated. 2017 Underwater Inspection: Piers #4 through #10 and Gano Street Ramp Piers #1R through #3R were included in the underwater inspection from the top of the stone masonry facade (bottom of the cope) to the channel bottom. The pier walls have a stone masonry facades that have scattered areas of missing mortar, up to 15% with penetrations up to 1' deep between the stones and random cracked stones (See UW Photo Nos. 6 thru 22).

1080	Delamination/Spall/Patched Are	3	175.00	ft	0.00	75.00	77.00	23.00

The non-structural pier walls at Piers #1 through #13 have hollow areas and spalls.

The Gano Street Ramp pier walls at Piers #1R, #2R, and #3R have hollow areas and spalls.

The east pier wall at Pier #6 and the west pier wall at Pier #7 exhibit hollow areas and spalls. The cantilever support pedestals on the interior walls of Pier #6 east wall and Pier #7 west wall exhibit hollow areas. The cantilever support pedestals exhibit uneven bearing pedestals and missing/deteriorated grout pads resulting in gaps under the masonry plates.

For specific defect notes refer to the file entitled "070001_Element 210_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	115.00	ft	0.00	0.00	69.00	46.00

The non-structural pier walls at Piers #1 through #13 have spalls with exposed rebar.

The Gano Street Ramp pier walls at Piers #1R, #2R, and #3R have spalls with exposed rebar with section loss.

The east pier wall at Pier #6 and the west pier wall at Pier #7 exhibit spalls with exposed and debonded rebar with section loss. The cantilever support pedestals on the interior walls of Piers #6 east wall and Pier #7 west wall exhibit spalls with exposed rebar. The spalling on the cantilever support pedestals have exposed and debonded rebar, section loss on exposed rebar, and isolated broken stirrups.

For specific defect notes refer to the file entitled "070001_Element 210_Element 1090_BrM_Notes".

1120	Efflorescence/Rust Staining	3	80.00	ft	0.00	40.00	40.00	0.00

The non-structural pier walls at Piers #1 through #13 have cracking with efflorescence and rust staining. Some of the efflorescence and rust staining on the pier walls in the water spans extends down into the stone masonry facade. The reinforced concrete pylons/walls at the north and south ends of the piers exhibit hairline map cracking with rust staining and efflorescence.

The Gano Street Ramp pier walls at Pier #1R, #2R, and #3R have cracking with efflorescence and rust staining.

The east pier wall at Pier #6 and the west pier wall at Pier #7 exhibit areas of random hairline cracking with efflorescence and rust. The cantilever support pedestals on the interior walls of Piers #6 east wall and Pier #7 west wall (behind the steel girder seats) exhibit random hairline cracks.

For specific defect notes refer to the file entitled "070001_Element 210_Element 1120_BrM_Notes".

1130	Cracking (RC and Other)	3	115.00	ft	0.00	60.00	55.00	0.00

The non-structural pier walls at Piers #1 through #13 have areas of cracking. Some of the cracking on the pier walls in the water spans extends down into the stone masonry facade. The reinforced concrete pylons/walls at the north and south ends of the piers exhibit hairline map cracking.

The Gano Street Ramp pier walls at Pier #1R, #2R, and #3R have areas of cracking.

The east pier wall at Pier #6 and the west pier wall at Pier #7 exhibit areas of random hairline cracking. The cantilever support pedestals on the interior walls of Piers #6 east wall and Pier #7 west wall (behind the steel girder seats) exhibit random hairline cracks.

For specific defect notes refer to the file entitled "070001_Element 210_Element 1130_BrM_Notes".

2017 Underwater Inspection:
The stone masonry facade on the reinforced concrete pier walls have scattered vertical hairline cracked stones. Wider and more extensive cracking is present at the following piers:

Pier #4 – There is a cracked granite stone full height x 1/8" wide in the third course from the pier cope, located below Column "B" on the west face (See UW Photo Nos. 10).

Pier #6 – There is a cracked stone full height x 1/8" wide in the third course from the concrete pier cope, located at the southwest corner (See UW Photo Nos. 14).

6000	Scour	3	115.00	ft	0.00	115.00	0.00	0.00

2017 Underwater Inspection:
Since the 2013 Underwater Inspection, there is evidence of scour at most piers up to 3.4' deep (Pier #8) and areas of aggradation up to 4.6' high (Pier #6).

8368	Graffiti	3	400.00	ft	0.00	400.00	0.00	0.00

The pier walls on land exhibit areas of graffiti (Photo No. 162).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	Re Conc Abutment	3	230.00	ft	78.00	44.00	108.00	0.00

The reinforced concrete abutment at Abutment #1 is a stub abutment with a retaining wall and fill in front of it. Abutment #2 is a full height reinforced concrete abutment with an electrical utility room with two locked doors built into the abutment under Bays "H" and "I". The Gano Street Abutment #1R is a semi-stub reinforced concrete abutment that sits atop the river embankment with slope protection blocks (Photo Nos. 187 – 191). Abutment #1: The abutment is hidden by backfill beyond a retaining wall and is inaccessible for inspection due to a severe accumulation of nesting pigeons and pigeon waste. Debris should be removed to facilitate inspection access (Photo Nos. 187). The retaining wall has concrete patches and hairline map cracks. Abutment #2: The abutment stem exhibits scattered hairline cracking, efflorescence, rust staining, patches, hollow areas and spalls. There is a moderate to heavy accumulation of pigeon debris on the abutment seat. Most pedestals have steel plates on three sides and horizontal through bolts in the transverse direction. The plates and bolts show random light to moderate rust. Pedestal "G" has moderate rust on steel plates and the through bolts are missing (Photo No. 143). Abutment #1R: The Gano Street Abutment #1R exhibits scattered hairline cracking, efflorescence and rust staining, hollow areas and spalling. The stem has anti-graffiti paint on the full length and light graffiti. There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

1080	Delamination/Spall/Patched Are	3	103.00	ft	0.00	29.00	74.00	0.00

The retaining wall in front of the Abutment #1 has cracked concrete patches.

The Abutment #2 stem exhibits scattered patches, hollow areas and spalls.

The Gano Street Abutment #1R exhibits scattered hollow areas and spalling.

For specific defect notes refer to the file entitled "070001_Element 215_Element 1080_BrM_Notes".

1120	Efflorescence/Rust Staining	3	30.00	ft	0.00	15.00	15.00	0.00

The Abutment #2 stem exhibits scattered hairline cracking, with efflorescence and rust staining.

The Gano Street Abutment #1R exhibits scattered hairline cracking with efflorescence and rust staining.

For specific defect notes refer to the file entitled "070001_Element 215_Element 1120_BrM_Notes".

1130	Cracking (RC and Other)	3	19.00	ft	0.00	0.00	19.00	0.00

The retaining wall in front of Abutment #1 has areas of hairline cracks.

The Abutment #2 stem exhibits scattered hairline cracking.

For specific defect notes refer to the file entitled "070001_Element 215_Element 1130_BrM_Notes".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
220	Re Conc Pile Cap/Ftg	3	1,151.00	ft	1,150.00	1.00	0.00	0.00

2017 Underwater Inspection: The exposed pile caps step out from the face of the pier stems at varying widths from 10" wide to 18" wide and are exposed up to full-height with varying measurements from 2' (full-height) at Pier #5 to 9.0' (full-height) at Pier #3R (Gano Street Ramp). Piers #3R, #5 and #9 exhibit exposed concrete tremie seals up to a maximum vertical exposure of 3.5' high. There is no observed undermining at any of the piers.

1130	Cracking (RC and Other)	3	1.00	ft	0.00	1.00	0.00	0.00

2017 Underwater Inspection:
Pier #3R pile cap has a crack 6' high x 3/16" wide extending from the top of the pile cap.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	Re Conc Pier Cap	3	388.00	ft	0.00	178.00	190.00	20.00

There are reinforced concrete caps at Piers #14 through #17 that have patches, hollow areas, cracking without and with efflorescence and rust staining and spalls without and with exposed rebar with section loss. There is a concrete protective coating on the caps (Photo Nos. 192 – 198). The majority of the pedestals on Piers #14 through #17 have steel side plates on the front and both longitudinal sides, three plates total. The plates exhibit moderate to heavy rust and are held in place by transverse (horizontal) anchor bolts. Isolated locations have missing horizontal anchor bolts (Photo No. 143). There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

521	Conc Prot Coating	3	5,000.00	sq.ft	3,500.00	0.00	0.00	1,500.00

There is a concrete protective coating on the caps that is missing in locations with spalls and hollow areas.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3510	*Wear (Concrete Protec*	*3*	*1,500.00*	*sq.ft*	*0.00*	*0.00*	*0.00*	*1,500.00*

The coating is missing in locations with hollow areas and spalls.

1080	Delamination/Spall/Patched Are	3	308.00	ft	0.00	144.00	144.00	20.00

The reinforced concrete caps have patches, hollow areas, and spalls. There are random unsound or failed patches with perimeter hairline cracks.

For specific defect notes refer to the file entitled "070001_Element 234_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	53.00	ft	0.00	27.00	26.00	0.00

The reinforced concrete caps have spalls with exposed rebar with section loss.

For specific defect notes refer to the file entitled "070001_Element 234_Element 1090_BrM_Notes".

1120	Efflorescence/Rust Staining	3	15.00	ft	0.00	7.00	8.00	0.00

The reinforced concrete cap vertical faces and underside surfaces have cracks with random areas of rust staining and/or efflorescence.

For specific defect notes refer to the file entitled "070001_Element 234_Element 1120_BrM_Notes".

1130	Cracking (RC and Other)	3	12.00	ft	0.00	0.00	12.00	0.00

The reinforced concrete cap vertical faces and underside surfaces have random horizontal, vertical and map cracks open up to 1/2" wide.

For specific defect notes refer to the file entitled "070001_Element 234_Element 1130_BrM_Notes".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
300	Strip Seal Exp Joint	3	93.00	ft	0.00	88.00	5.00	0.00

There is a strip seal joint in Span #5 at the East side of Pier #4 and Pier #3R. The strip seal joint is full of sand/debris over the full length of the joint with signs of leakage along the underside of the joint. The steel extrusions have light rust and there is a section that is broken (Photo Nos. 199 – 200).

2310	Leakage	3	30.00	ft	0.00	30.00	0.00	0.00

There is evidence of leakage through the joint at the north and south fascia girders and in Bay "C".

2350	Debris Impaction	3	58.00	ft	0.00	58.00	0.00	0.00

The strip seal joint has full length partial debris impaction that still allows free movement of the joint (Photo Nos. 199 – 200).

2370	Metal Deterioration or Damage	3	5.00	ft	0.00	0.00	5.00	0.00

The steel extrusion on the east side of the joint in the wheel line of the right middle lane has 3' long missing section and a 2' long loose section. Vehicles passing over the joint create an audible thumping noise that was previously noted (Photo No. 199).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
301	Pourable Joint Seal	3	1,151.00	ft	507.00	544.00	85.00	15.00

There are pourable joint seals on the west side of Abutment #1 and Piers #1 through #7, on the east side of Piers #7 through #13, and at Abutment #2. There are also transverse and longitudinal pourable joint seals in the gore median in Spans #16 and #17. The pourable joint seals exhibit leakage and loss of seal adhesion (Photo Nos. 201 – 202).

2310	Leakage	3	344.00	ft	0.00	344.00	0.00	0.00

There are areas below the joints with evidence of leakage. Leakage beneath the joints was noted on the Girder "F" corbel at Pier #4, Bay "J" at Pier #6, Bay "A" at Pier #7, and in Bay "J" along the longitudinal deck joint in Spans #16 and #17.

2320	Seal Adhesion	3	300.00	ft	0.00	200.00	85.00	15.00

The pourable joint seals exhibit loss of seal adhesion with isolated locations of full depth loss of adhesion (Photo Nos. 201 – 202). The longitudinal deck joint in Bay "J" in Span #18 has loose joint material.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
310	Elastomeric Bearing	3	401.00	each	136.00	190.00	75.00	0.00

There are elastomeric bearing pads under the prestressed concrete drop-in girders that rest on the cantilever girder corbels in Spans #1 through #6 and #8 through #14, under the post-tensioned concrete cantilever girders at the east wall of Pier #6 and the west wall of Pier #7, under the prestressed concrete I-girders in Spans #15 through #18, and under the fascia arch girders in Spans #1 through #6, Spans #8 through #13, and Spans #1R through #3R. The bearings exhibit longitudinal displacement, isolated bulging and tearing, and scattered loss of bearing area due to concrete spalls (Photo Nos. 203 – 207). There are several defects on the girders and bearing seats which have been repaired or in the process of being repaired during the inspection as indicated.

2220	Alignment	3	4.00	each	0.00	0.00	4.00	0.00

Prestressed Concrete Drop-In Girder Bearings (Spans #1 through #6 and #8 through #14):
The elastomeric bearing pads at the drop-in span corbels exhibit leaning up to 3/4" in the expanded and contracted directions at a temperature range of 70°F to 90°F.

Prestressed Concrete Bulb-Tee Girder Bearings (Spans #15 through #18):
The elastomeric bearing pads in Spans #15 through #18 exhibit leaning up to 1/2" at a temperature range of 70°F to 90°F.

2230	Bulging, Splitting or Tearing	3	200.00	each	0.00	150.00	50.00	0.00

Prestressed Concrete Drop-In Girder Bearings (Spans #1 through #6 and #8 through #14):
The elastomeric bearing pads at the drop-in span corbels exhibit minor to moderate bulging up to 1/2" and isolated heavy bulging up to 3/4". The bearing pad for Girder "D" in Span #14 at Pier #14 is bulging to the east up to 3/4".

Prestressed Concrete Bulb-Tee Girder Bearings (Spans #15 through #18):
The elastomeric bearing pads in Spans #15 through #18 have random minor vertical and diagonal splits, with random moderate distortion and bulging and isolated heavy bulging/crushing (Photo No. 205). The bearing pad for Girder "A" in Span #17 at Pier #17 is crushed and displaced 2" past the west edge of the pedestal resulting in 14% loss of bearing area (Photo Nos. 125).

Fascia Arch Bearings (Spans 1R – 3R):
The fascia arch elastomeric bearing pads have random moderate bulging and tears/splits (Photo Nos. 206).

2240	Loss of Bearing Area	3	61.00	each	0.00	40.00	21.00	0.00

Prestressed Concrete Drop-In Girder Bearings (Spans #1 through #6 and #8 through #14):
The elastomeric bearing pads at the drop-in span corbels exhibit scattered bearing pads with undermining due to corbel spalling resulting in loss of bearing area. Random bearings are undermined due to spalls on the drop-in I-girder ends.

Post-Tensioned Concrete Cantilever Girders (Pier #6 East Wall, Pier #7 West Wall):
The elastomeric bearing pads between the cantilever girders and the cantilever support pedestals on the pier walls exhibit scattered bearing pads with undermining due to spalling resulting in loss of bearing area.

Prestressed Concrete Bulb-Tee Girder Bearings (Spans #15 through #18):
The elastomeric bearing pads in Spans #15 through #18 exhibit random loss of bearing due to the spalled bottom flange ends of girders. Isolated pedestal spalls undermine the bearing pads.

Fascia Arch Bearings (Spans 1R – 3R):
The fascia arch elastomeric bearing pads have isolated arch bearings with undermining due to spalls at the shear keyed joints and at the pier stems.

For specific defect notes refer to the file entitled "070001_Element 310_Element 2240_BrM_Notes".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
311	Moveable Bearing	3	11.00	each	0.00	7.00	4.00	0.00

There are steel rocker bearings at Pier #6 under the steel girders in Span #7. The bearings and anchor bolts exhibit areas of peeling paint and light to moderate rust. The bearings at Girders "A", "B", "J" and "K" exhibit peeling paint with laminated rust on the bearings and anchor bolts with up to 3/8" thick pack rust between bearing plates. The rocker bearings were in a neutral to slightly expanded position at 75°F. There is accumulation of sand and debris on a few bearings (Photo No. 208 - 210). The previously noted gaps under the bearing masonry plates were found to be beneath the bearing restraints which was confirmed by field investigation and the bridge rehabilitation plans. The bearing restraints are located in front of and around the north and south sides of the bearing masonry plates which limits the access for full inspection of the masonry plates, however, no evidence of loss of bearing was noted during this inspection (Photo Nos. 208 – 209).

515	Steel Protective Coating	3	132.00	sq.ft	0.00	0.00	44.00	88.00

The bearings and anchor bolts exhibit areas of peeling paint (Photo Nos. 208 – 209).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3420	*Peel/Bub/Crack(Stl Prc*	*3*	*132.00*	*sq.ft*	*0.00*	*0.00*	*44.00*	*88.00*
	The bearings and anchor bolts exhibit areas of peeling paint with no paint remaining on the bearings at Girders "A", "B", "J" and "K" (Photo Nos. 208 – 209).							
1000	Corrosion	3	11.00	each	0.00	7.00	4.00	0.00
	The bearings and anchor bolts exhibit areas light to moderate rust with the bearings at Girders "A", "B", "J" and "K" having laminated rust on the bearing plates and anchor bolts with up to 3/8" thick pack rust between the bearing plates (Photo Nos. 208 – 209).							

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
313	**Fixed Bearing**	**3**	**11.00**	**each**	**0.00**	**8.00**	**3.00**	**0.00**
	There are fixed steel bearings at Pier #7 under the steel girders in Span #7. The bearings and anchor bolts exhibit areas of peeling paint and light to moderate rust. The bearings at Girders "A", "B", "J" and "K" exhibit peeling paint with laminated rust on bearing plates and anchor bolts with up to 3/8" thick pack rust on the bearing. There is a spall in the pedestal under Girder "K" that undermines the bearing. There is accumulation of sand and debris on few bearings (Photo Nos. 211 - 212). The previously noted gaps under the bearing masonry plates were found to be beneath the bearing restraints which was confirmed by field investigation and the bridge rehabilitation plans. The bearing restraints are located in front of and around the north and south sides of the bearing masonry plates which limits the access for full inspection of the masonry plates (Photo Nos. 211 - 212).							
515	Steel Protective Coating	3	110.00	sq.ft	0.00	0.00	66.00	44.00
	The bearings and anchor bolts exhibit areas of peeling paint (Photo Nos. 211 - 212).							

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3420	*Peel/Bub/Crack(Stl Prc*	*3*	*110.00*	*sq.ft*	*0.00*	*0.00*	*66.00*	*44.00*
	The bearings and anchor bolts exhibit areas of peeling paint with no paint remaining on the bearings at Girders "A", "B", "J" and "K" (Photo Nos. 211 - 212).							
1000	Corrosion	3	10.00	each	0.00	7.00	3.00	0.00
	The bearings and anchor bolts exhibit areas light to moderate rust with the bearings at Girders "A", "B", "J" and "K" having heavy laminated rust on bearing plates and anchor bolts with up to 3/8" thick pack rust between bearing plates (Photo Nos. 211 - 212).							
2240	Loss of Bearing Area	3	1.00	each	0.00	1.00	0.00	0.00
	There is a spall along the east side of the pedestal under Girder "K" that undermines the masonry plate up to 1" long x 16" wide (Photo No. 178).							

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
321	**Re Conc Approach Slab**	**3**	**2,352.00**	**sq.ft**	**0.00**	**2,352.00**	**0.00**	**0.00**
	The reinforced concrete approach slabs are concealed from view by a bituminous concrete pavement / wearing surface. The pavement / wearing surface exhibits minor wheel line rutting and several longitudinal and transverse cracks (Photo Nos. 12 - 16).							
510	Wearing Surfaces	3	2,352.00	sq.ft	1,352.00	500.00	500.00	0.00

The bituminous concrete pavement / wearing surfaces on the approaches have moderate wheel line rutting, map cracking and several sealed and unsealed cracks. (Photo Nos. 12 - 16).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3220	*Crack (Wearing Surfac*	*3*	*2,352.00*	*sq.ft*	*1,352.00*	*500.00*	*500.00*	*0.00*

The bituminous concrete pavement / wearing surfaces on the East and West approach roadways along Interstate-195 Westbound have sealed and unsealed longitudinal and longitudinal and transverse cracks. The East approach roadway along the Interstate-195 On-Ramp has minor map cracking. The North approach roadway along the Gano Street Off-Ramp has random longitudinal and transverse cracking (Photo Nos. 12 - 16).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	**Re Conc Bridge Railing**	**3**	**3,808.00**	**ft**	**3,407.00**	**401.00**	**0.00**	**0.00**

There are reinforced concrete bridge railings on both sides of the bridge in Spans #1 through #18. The railings exhibit minor impact scrapes, hairline vertical cracks, and isolated joint seal deterioration with separation up to 1/4" wide. There are scattered electrical box covers along the interior faces of the bridge railings (Photo Nos. 213 – 215). There are pylons along the pier wall tops beyond the bridge railings with light to moderate scaling, scattered random cracking without and with efflorescence and rust staining, minor hollow areas, patches, and spalls without and with exposed rebar (Photo No. 213).

1130	Cracking (RC and Other)	3	351.00	ft	0.00	351.00	0.00	0.00

The railings exhibit hairline vertical cracks (Photo Nos. 213 – 214).

7000	Damage	3	50.00	ft	0.00	50.00	0.00	0.00

The railings exhibit minor scrapes (Photo No. 213).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8060	**Scupper**	**3**	**27.00**	**each**	**0.00**	**3.00**	**20.00**	**4.00**

The scupper drainage grates along both shoulders of Interstate-195 Westbound and along the east shoulder of the Gano Street Off-Ramp are fully clogged with sand and debris. Only isolated grates remain partially open with clean drain pipe openings (Photo Nos. 216 – 218). The scupper drain pipes exhibit rust and localized section loss.

1000	Corrosion	3	4.00	each	0.00	0.00	0.00	4.00

The scupper drain pipes on the underside of deck and on the interior of the box girders exhibit light to heavy rust. The Piers #3 and #4 drain pipes on the south face of Column "A" and on the north face of Column "F" have rust holes and leak onto members below.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8213	**R/C Return Wall**	**3**	**175.00**	**ft**	**0.00**	**150.00**	**25.00**	**0.00**

The reinforced concrete return walls at the north ends Abutments #1 and #2 and at both ends of the Gano Street Ramp Abutment #1R have random hairline map cracking up to full height, efflorescence, rust staining, and edge spalling at upper copes (Photo Nos. 219 – 222). The Gano Street Ramp return walls have anti-graffiti paint on them. There is moderate to heavy vegetation growth along the wingwalls (Photo Nos. 221 – 222).

1080	Delamination/Spall/Patched Are	3	44.00	ft	0.00	44.00	0.00	0.00

There are minor edge spalls along the cope at the top of the return walls.

1120	Efflorescence/Rust Staining	3	110.00	ft	0.00	85.00	25.00	0.00

There are areas of hairline map cracking with efflorescence and rust staining up to full height x full length.

1130	Cracking (RC and Other)	3	21.00	ft	0.00	21.00	0.00	0.00

There are areas of hairline map cracking up to full height (Photo Nos. 219 – 220).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8218	Backwall, All Types	3	230.00	ft	104.00	80.00	46.00	0.00

There are reinforced concrete backwalls at Abutments #1, #2 and #1R. The majority of the Abutment #1 backwall is inaccessible due to an accumulation of nesting pigeons and pigeon waste (Photo Nos. 174, 211). The Abutment #2 backwall exhibits hairline vertical cracking, efflorescence and rust staining and a moderate to heavy accumulation of debris on the seat. The Gano Street Ramp Abutment #1R backwall exhibits random hollow areas and spalling (Photo Nos. 143, 223). There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

1080	Delamination/Spall/Patched Are	3	80.00	ft	0.00	70.00	10.00	0.00

There is a 3' long x 2' high hollow area at the top of the backwall in Bay "J" at Abutment #1.

There are random hollow areas up to 2' long x 2' high and a spall 3' long x 2' high x 2" deep on the backwall at Abutment #1R (Photo No. 223).

1120	Efflorescence/Rust Staining	3	23.00	ft	0.00	10.00	13.00	0.00

There is an area of heavy efflorescence and rust staining at the north end of the Abutment #2 backwall.

1130	Cracking (RC and Other)	3	23.00	ft	0.00	0.00	23.00	0.00

There are full height x 1/16" wide vertical cracks in the backwall at Abutment #2 in Bays "B", "E" and "G".

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8305	Asphaltic Joint Material	3	1,438.00	ft	987.00	451.00	0.00	0.00

There are asphaltic plug joints on the east side of Abutment #1 and Piers #1 through #3, #5 and #6 and on the west side of Piers #8 through #13. There are also asphaltic plug joints at Piers #14 through #17. The asphaltic plug joints exhibit partial separations, minor depressed areas in the shoulders and evidence of leakage below the joints (Photo Nos. 224 – 225).

2310	Leakage	3	430.00	ft	0.00	430.00	0.00	0.00

There are signs of leakage beneath the joints in scattered areas with more evident signs of leakage near the fascia girders.

2340	Seal Cracking	3	21.00	ft	0.00	21.00	0.00	0.00

Isolated joints exhibit cracks along the joints up to 4" long at the joint ends and the Pier #5 west deck joint in Bay "D" has loose joint material hanging on underside (Photo Nos. 224 – 225).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8335	Guardrail, Vehicular	3	700.00	ft	530.00	140.00	30.00	0.00

There is W-beam steel guardrail at the north side of the approaches for Interstate-195 Westbound. The Gano Street Off-Ramp has W-beam steel guardrails attached to the interior faces of the reinforced concrete bridge parapet that continue along the ramp beyond the end of the parapets. The guardrails have loss of galvanic coating, rust and areas of minor to moderate impact damage with bent posts. The northwest Gano Street Ramp approach guardrail is unsupported at the trailing end (Photo Nos. 226 – 230). There is an impact attenuator at the gore between Interstate-195 Westbound and the Gano Street Off-Ramp with no deficiencies noted (Photo No. 229).

515	Steel Protective Coating	3	3,150.00	sq.ft	1,800.00	0.00	1,350.00	0.00

There is loss of galvanic coating on the Gano Street Off-Ramp guardrails (Photo No. 230).

1000	Corrosion	3	100.00	ft	0.00	100.00	0.00	0.00

There are areas of light rust on the guardrails.

7000	Damage	3	70.00	ft	0.00	40.00	30.00	0.00

The Northwest guardrail for Interstate-195 has a 20' long area of impact damage at the west end with four (4) leaning posts (Photo No. 226).

The Northeast guardrail for Interstate-195 has a 20' long area of impact damage with one (1) leaning post (Photo No. 227).

The guardrails mounted to the inside of the Gano Street Ramp parapets have random areas of impact damage up to 10' long (30' total) (Photo No. 228).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8336	Conc Bridge Parapet	3	700.00	ft	350.00	320.00	30.00	0.00

The Gano Street Off-Ramp has a reinforced concrete bridge parapet with a single metal rail attached to the top face. The parapets exhibit scattered hairline vertical cracking and corner spalling with exposed rebar along the top of the concrete parapet (See Photo No. 231).

1080	Delamination/Spall/Patched Are	3	100.00	ft	0.00	100.00	0.00	0.00

The parapets exhibit corner spalling up to 2" long x 2" high x 1" deep along the top of concrete parapet.

1090	Exposed Rebar	3	100.00	ft	0.00	70.00	30.00	0.00

The parapets exhibit corner spalling up to 5' long x 7" high x 2" deep along the top of concrete parapet with exposed rebar (Photo No. 231).

1130	Cracking (RC and Other)	3	150.00	ft	0.00	150.00	0.00	0.00

The parapets exhibit scattered hairline vertical cracking.

STRUCTURE UNIT: 0

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8366	Rip Rap	3	1,000.00	sq.ft	940.00	30.00	30.00	0.00

There is rip rap along the Northwest and Northeast embankments. The Northwest embankment in front of Abutment #1R is protected by rip rap to the high water mark. Above the high water mark there is a level area covered by bituminous concrete pavement and a sloped block revetment to the base of Abutment #1R. The rip rap has random missing stones along the channel embankment and there are several small sinkholes up to 6" deep in the pavement at the top of the slope (Photo Nos. 191).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8367	Slope Blocks	3	700.00	sq.ft	595.00	0.00	105.00	0.00

There is a sloped block revetment in front of Abutment #1R. The slope block protection has mortar deterioration between the pavers and light to moderate vegetation growth (Photo No. 191).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8370	Steel Diaphragms	3	70.00	each	13.00	36.00	17.00	4.00

There are steel cross frames between the steel girders in Span #7 which exhibit paint chalking, peeling paint, and light to heavy rust with pack rust and section loss (Photo Nos. 232 - 233).

515	Steel Protective Coating	3	1,800.00	sq.ft	378.00	1,125.00	207.00	90.00

The diaphragms exhibit peeling/failed paint and areas of paint chalking.

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3410	*Chalk(Steel Protect Co*	*3*	*900.00*	*sq.ft*	*0.00*	*900.00*	*0.00*	*0.00*

The intermediate cross frame diaphragms in Span #7 have paint chalking (Photo No. 232).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
3420	*Peel/Bub/Crack(Stl Prc*	*3*	*522.00*	*sq.ft*	*0.00*	*225.00*	*207.00*	*90.00*

The steel cross frame end diaphragms in Span #7 exhibit peeling/failed paint (Photo Nos. 232).

1000	Corrosion	3	55.00	each	0.00	35.00	16.00	4.00

The steel cross frame end diaphragms in Span #7 exhibit moderate to heavy rust and section loss with scattered loss to a knife edge along the top channel and bottom angle flanges. The connection plates also exhibit moderate to heavy rust. There is up to 3/8" thick pack rust between girder bearing stiffeners and cross frame connection plates (Photo No. 232).

The interior cross frame diaphragms in Span #7 have random areas of light rust (Photo No. 233).

1020	Connection	3	2.00	each	0.00	1.00	1.00	0.00

The north side of Girder "F" at the fifth interior diaphragm from Pier #6 has one missing diaphragm connection bolt and the south side of Girder "H" at the second intermediate diaphragm from Pier #6 has a misplaced drill hole that is partially filled with a bolt (Photo No. 233).

ELEM	ELEMENT NAME	ENV	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8371	Conc Diaphragms	3	221.00	each	35.00	73.00	113.00	0.00

There are reinforced concrete diaphragms between the prestressed concrete drop-in girders, the post-tensioned concrete corbels, the post-tensioned concrete cantilever girders, the prestressed concrete I-girders and within and beneath the Gano Street Ramp reinforced concrete box girders. The diaphragms exhibit hollow areas, cracking without and with efflorescence and rust staining, and spalls without and with exposed rebar (Photo Nos. 234 – 242). In Span #5 the east end of Girder "B" bears on an oversized 'L – shaped' diaphragm that transfers load to Girders "A" and "C" at the Pier #5 West Corbel. The irregular configuration is due to the Gano Street off-ramp connecting to Span #5 (See Photo No. 70). There are seismic restraints in place through the drop-in girder diaphragms with up to 5% random loose nuts and a few nuts are missing (Photo No. 235). Span #5: Bay "B" – At the West Corbel, there is a seismic restraint main nut and lock nut that are backed off 8" and 12" respectively at Girder "C". Bay "C" – At the East Corbel, the seismic restraint main nut and lock nut are backed off to the end of the bolt at Girder "D" and missing at Girder "E". Span #8: Bay "C" – At the East Corbel, the seismic restraint at the south end of the bay is missing the nut and lock nut on the east end. Bay "D" – At the West Corbel, the seismic restraint at the south end of the bay is missing the nut and lock nut on the west end. Span #9: Bay "E" – At the East Corbel, the south seismic restraint is missing the nut and lock and the north seismic restraint is missing the lock nut. There are several defects which have been repaired or in the process of being repaired during the inspection as indicated.

1080	Delamination/Spall/Patched Are3		52.00	each	0.00	0.00	52.00	0.00

Prestressed Concrete Drop-In Girder Diaphragms (Spans #1 through #6 and #8 through #14):
The reinforced concrete diaphragms in the drop-in spans near the corbels have multiple locations that exhibit large hollow areas extending up to full length of the diaphragm and across the full width of the underside. Scattered diaphragms have patched areas and spalls.

The 'L – shaped' diaphragm between Girders "A" and "C" at the east deck joint that supports Girder "B" has a full length x full width hollow area on the underside with cracks up to 3/8" wide and rust staining (Photo No. 70).

Prestressed Concrete I-girders Diaphragms (Spans #15 through #18):
The reinforced concrete intermediate and end diaphragms in Spans #15 through #18 exhibit isolated hollow areas up to full height and spalled concrete along the vertical faces of the diaphragms.

Box Girder Span Diaphragms (Spans #1R through #3R):
The diaphragms between box girder cells at the interior of Spans #1R through #3R and Span #5 have isolated hollow areas and spalls up to 5" deep around the crawl spaces.

The reinforced concrete diaphragms at the ends of Spans #1R through #3R beneath the bottom flange have full height vertical hairline cracks on the face of the diaphragms with some extending to the underside.

For specific defect notes refer to the file entitled "070001_Element 8371_Element 1080_BrM_Notes".

1090	Exposed Rebar	3	12.00	each	0.00	11.00	1.00	0.00

Prestressed Concrete Drop-In Girder Diaphragms (Spans #1 through #6 and #8 through #14):
Isolated reinforced concrete diaphragms in the drop-in spans at corbel locations exhibit spalls up to 6” deep with multiple exposed rebar along the lower portions of the diaphragms, and isolated section loss on exposed rebar up to 25%.

Prestressed Concrete I-girders Diaphragms (Spans #15 through #18):
The reinforced concrete intermediate and end diaphragms in Spans #15 through #18 exhibit isolated spalls with multiple exposed rebar along the vertical face of the diaphragm.

Box Girder Span Diaphragms (Spans #1R through #3R):
The diaphragms between box girder cells at the interior of Spans #1R through #3R and Span #5 exhibit isolated hollow areas and spalls up to 5” deep.

The reinforced concrete diaphragms at the ends of Spans #1R through #3R beneath the bottom flange have isolated spalls with exposed rebar.

For specific defect notes refer to the file entitled “070001_Element 8371_Element 1090_BrM_Notes”.

1120	Efflorescence/Rust Staining	3	11.00	each	0.00	6.00	5.00	0.00

Prestressed Concrete Drop-In Girder Diaphragms (Spans #1 through #6 and #8 through #14):
The reinforced concrete diaphragms in the drop-in spans at corbel locations have areas of cracking with efflorescence and rust staining.

Post-Tensioned Concrete Corbel Diaphragms (Spans #1 through #6 and #8 through #14):
The square reinforced concrete cantilever girder end diaphragms have random hairline cracks with efflorescence and rust staining.

Prestressed Concrete I-girders Diaphragms (Spans #15 through #18):
The reinforced concrete intermediate and end diaphragms in Spans #15 through #18 exhibit isolated cracks with efflorescence and rust staining.

Box Girder Span Diaphragms (Spans #1R through #3R):
The diaphragms between box girder cells at the interior of Spans #1R through #3R and Span #5 exhibit diagonal hairline cracking extending from the top corners of the crawl space with efflorescence and rust staining.

The reinforced concrete diaphragms at the ends of Spans #1R through #3R beneath the bottom flange have full height vertical hairline cracks on the face of the diaphragms with some extending to the underside with efflorescence and rust staining.

For specific defect notes refer to the file entitled “070001_Element 8371_Element 1120_BrM_Notes”.

1130	Cracking (RC and Other)	3	111.00	each	0.00	56.00	55.00	0.00

Prestressed Concrete Drop-In Girder Diaphragms (Spans #1 through #6 and #8 through #14):
The reinforced concrete diaphragms in the drop-in spans at corbel locations have areas of cracking.

Post-Tensioned Concrete Corbel Diaphragms (Spans #1 through #6 and #8 through #14):
The square reinforced concrete cantilever girder end diaphragms have random hairline cracks.

Prestressed Concrete I-girders Diaphragms (Spans #15 through #18):
The reinforced concrete intermediate and end diaphragms in Spans #15 through #18 exhibit isolated cracks.

Box Girder Span Diaphragms (Spans #1R through #3R):
The diaphragms between box girder cells at the interior of Spans #1R through #3R and Span #5 exhibit diagonal hairline cracking extending from the top corners of the crawl space.

The reinforced concrete diaphragms at the ends of Spans #1R through #3R beneath the bottom flange have full height vertical hairline cracks on the face of the diaphragms with some extending to the underside.

For specific defect notes refer to the file entitled
“070001_Element 8371_Element 1130_BrM_Notes”.

RIDOT Bridge Inspection Report

070001
Washington Bridge North

Inspected By COLLINS
Inspector: [redacted]
Inspection Date 07/24/2017

Bridge Condition Poor

Equipment
Aerial Lift
Boat
Underbridgeinspvel
Scaffolding
BoesemansChair
Waders
Rail Mount Elliot
Crash Truck
Air Monitor
Ladder
Bucket Truck
Rigging
Floats
Climbing
Rail Mount Bucket Truck
Light Tower

Poison Ivy
Heavy Vegetation
Hurricane Evac Route ?

Cones
Traffic Setup Req
Police Req
Night Insp Req
Signs

Speed Limit
Prep Time
Crew Slize
Under Insp Vehicle Time
Traffic Control Time
Mile Post
Crew Days
Time Report Time
Bucket Truck Time

Site Access Notes

Avg Curb Reveal North/East
Avg Curb Reveal South/West
Posted Weight Limit
Posting Sign ?
Post Signs Legible
Post Sign Rec
Adv Min Vert Clear Sign
Min Ver tClear Signs Leg
Min Vert Clear Post Vales
Min Vert Clear Sign Rec
Old Rating and Postings
RR Mile Post
US DOT/AAR No.

Telephone
Sewer
Cable
Oil
Fire Alarm
OH Lines Present
Water
Gas
Electric
Fiber Optic

2/29/2024

Bat and Bird Observations

Bats:

BATS_OBSERVED BATS_VISUAL BAT_DROPPINGS BAT_STAINING BAT_SOUNDS BAT_PHOTOS

BATS_NOTES

Birds

BIRDS_OBSERVED BIRD_PHOTOS BIRDS_SPECIES_IDENTIFIED

BIRD_NOTES