Rhode Island Department of Transportation

Bridge Inspection Report

Structure Inventory and Appraisal Sheet (English Units)

Name: Washington Bridge North Agency ID: 070001 Inspec Date: 07/24/2018 Inspected By: [redacted]

IDENTIFICATION

		Route On Structure			44 Rhode Island
Rte. Signing Prefix	5B:	1 Interstate Hwy			I-195 WB
Level of Service	5C:	1 Mainline	Place Code	4:	East Providence
Route Number	5D:	00195	SHD District	2:	District 3
Directional Suffix	5E:	4 West	Feature Intersected	6:	SEEKONK RIVER
Border Bridge Code	98:	Not Applicable (P)	County Code	3:	Providence
Border Bridge Number	99:				0.2 Mi W of JCT US 6
Mile Post	11:	2.423 mi	Latitude	16:	41° 49' 09"
Struc Num	8:	000000000007000	Longitude	17:	071° 23' 12"
% Responsibility:					

INSPECTION

Inspection Date	90:	7/24/2017	Frequency	91:	24 months	Next Inspection:	7/24/2019
FC Inspection Date	93A:	NA	FC Frequency	92A:		Next FC Inspection:	NA
UW Inspection Date	93B:	7/24/2017	UW Frequency	92B:	48 months	Next UW Inspection:	7/24/2021
SI Date	93C:	7/24/2018	SI Frequency	92C:	12 months	Next SI:	7/24/2019
Element Insp. Date:		7/24/2018	Element Frequency:		24 months	Next Elem. Insp.:	7/24/2019

CONDITION

CONDITION Poor

Deck	58:	6 Satisfactory	Super	59:	4 Poor	Sub 60:	4 Poor
Culvert	62:	N N/A (NBI)	Channel/Channel Protection	61:	6 Bank Slumping		

SD/FO: SD

SUFF RATE: 52.0

LOAD RATING AND POSTING

Inventory Rating Method	65:	8 LRFR (HL93)	Operating Rating Method	63:	8 LRFR (HL93)
Inventory Rating	66:	MS22.2	Operating Rating	64:	MS28.8
Design Load	31:	6 MS18(HS20)+mod			
Posting Status	41:	A Open, no restriction	Posting	70:	5 At/Above Legal Loads

GEOMETRIC DATA

Length Max Span	48:	130.60 ft	Structure Length	49:	1,903.87
Width Curb to Curb	51:	71.85 ft	Curb/Sdwlk Width L	50A:	0.00
Approach Roadway width (w/ shoulders)	32:	61.00 ft	Curb/Sidewalk Width R	50B:	0.00 ft
			Width Out to Out	52:	76.44 ft
Deck Area:		145,531.00ft²	Median	33:	0 No median
Skew	34:	0.00°	Structure Flared	35:	1 Yes, flared
Vertical Clearance	10:	99.99 ft	Horizontal Clearance	47:	59.71 ft

Minimum Vertical Clearance Over Bridge	53:	18.33 ft
Minimum Vertical Underclearance Reference	54A:	H Hwy beneath struct
Minimum Vertical Underclearance	54B:	14.17 ft
Minimum Lateral Underclearance Reference R	55A:	H Hwy beneath struct
Minimum Lateral Underclearance R	55:	6.00 ft
Minimum Lateral Underclearance L	56:	0.00 ft

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Structure Inventory and Appraisal Sheet (English Units)

AGE AND SERVICE

Year Built	27:	1969	ADT	29:	76,700
Type of Service on	42A:	1 Highway	Year Reconstructed	106:	1998
Type of Service under	42B:	8 Hwy-waterway-RR	Detour Length	19:	2.0 mi
Lanes on	28A:	5	Truck ADT	109:	10%
Lanes under	28B:	8	Year of ADT	30:	2008

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans	46:	20	Number of Spans Main Unit	45:	1
Wearing Surface	108A:	6 Bituminous	Main Span Material Design	43A:	3 Steel
Membrane	108B:	2 Preformed Fabric	Main Span Material Design	43B:	02 Stringer/Girder
Deck protection	108C:	8 Unknown	Deck Type	107:	1 Concrete-Cast-ir

APPRAISAL

Bridge Rail	36A:	1 Meets Standards	Approach Rail	36C:	0 Substandard
Transition	36B:	0 Substandard	Approach Rail Ends	36D:	0 Substandard
Str Evaluation	67:	4 Minimum Tolerable	Deck Geometry	68:	4 Tolerable
Waterway Adequacy	71:	7 Above Minimum	Approach Alignment	72:	6 Equal Min Criteria
Scour Critical	113:	3 SC - Unstable			
Underclearance, Vertical and Horizontal	69:	4 Tolerable			

CLASSIFICATION

Defense Highway	100:	1 On Interstate STRAHNE	Parallel Structure	101:	Left of || bridge
Direction of Traffic	102:	1 1-way traffic	Temporary Structure	103:	Not Applicable (P)
Highway System	104:	3 On free road	NBIS Length	112:	Long Enough
Defense Hwy	110:	1 On the NHS	Functional Class	26:	11 Urban Interstate
Toll Facility	20:	1 On Interstate STRAHNE	Historical Significance	37:	5 Not eligible for NRHP
Owner	22:	State Highway Agency	Custodian	21:	01 State Highway Agency

PROPOSED IMPROVEMENTS

Bridge Cost	94:	$29,571,332	Type of Work	75:	35 Rehabilitate-gen.
Roadway Cost	95:	$2,957,133	Length of Improvement	76:	1,903.87
Total Cost	96:	$44,356,998	Future ADT	114:	92,040
Year of Cost Estimate	97:	2007	Year of Future ADT	115:	2036

NAVIGATION DATA

Navigation Control	38:	Permit Not Required	Horizontal Clearance	40:	99.7 ft
Vertical Clearance	39:	42.0 ft			
Pier Protection	111:	2 In-Place, Functioning	Lift Bridge Vertical Clearance	116:	

0	12/3	Re Concrete Deck	142,889.00	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	E po ed Rebar	2,143 00	0%	0 00	83%	1,786 00	17%	357 00	0%	0 00
	1120/3	Efflore cence/Ru t 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
0	16/3	Re Conc Top Flange	7,336.00	81%	5,911.00	16%	1,150.00	4%	275.00	0%	0.00
	510/3	Wearing Surface	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	200.00	0%	0.00	100%	200.00	0%	0.00	0%	0.00
	1090/3	Exposed Rebar	25.00	0%	0.00	0%	0.00	100%	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
0	105/3	Re Clsd Box Girder	922.00	8%	78.00	55%	505.00	37%	339.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	100.00	0%	0.00	80%	80.00	20%	20.00	0%	0.00
	1090/3	Exposed Rebar	5.00	0%	0.00	0%	0.00	100%	5.00	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
0	107/3	Steel Opn Girder/Beam	1,430.00	55%	787.00	35%	496.00	10%	147.00	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
0	109/3	Pre Opn Conc Girder/Beam	14,543.00	81%	11,733.00	9%	1,268.00	10%	1,407.00	1%	135.00
	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	1,150.00	0%	0.00	78%	900.00	22%	250.00	0%	0.00
	1090/3	Exposed Rebar	175.00	0%	0.00	0%	0.00	29%	50.00	71%	125.00
	1100/3	Exposed Prestressing	25.00	0%	0.00	0%	0.00	60%	15.00	40%	10.00
	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
0	110/3	Re Conc Opn Girder/Beam	2,880.00	33%	954.00	41%	1,188.00	24%	688.00	2%	50.00
	1080/3	Delamination/Spall/Patched Area	800.00	0%	0.00	75%	600.00	25%	200.00	0%	0.00
	1090/3	Exposed Rebar	100.00	0%	0.00	0%	0.00	50%	50.00	50%	50.00
	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
0	205/3	Re Conc Column	92.00	44%	40.00	22%	20.00	35%	32.00	0%	0.00
	1080/3	Delamination/Spall/Patched Area	42.00	0%	0.00	48%	20.00	52%	22.00	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
	8368/3	Graffiti	300.00	0%	0.00	100%	300.00	0%	0.00	0%	0.00
0	210/3	Re Conc Pier Wall	1,151.00	58%	666.00	25%	290.00	15%	172.00	2%	23.00
	1080/3	Delamination/Spall/Patched Area	175.00	0%	0.00	43%	75.00	44%	77.00	13%	23.00
	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
0	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
0	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
0	234/3	Re Conc Pier Cap	388.00	14%	53.00	66%	257.00	20%	78.00	0%	0.00

	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	81%	250.00	19%	58.00	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
0	**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
0	**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
0	**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
0	**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
0	**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
	2240/3	Loss of Bearing Area	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
0	**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	57%	1,352.00	21%	500.00	21%	500.00	0%	0.00
	3220/3	*Crack (Wearing Surface)*	*2,352.00*	*57%*	*1,352.00*	*21%*	*500.00*	*21%*	*500.00*	*0%*	*0.00*
0	**331/3**	**Re Conc Bridge Railing**	**3,808.00**	**89%**	**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
0	**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
0	**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
0	**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	43%	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
0	**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
0	**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
0	**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
0	**8366/3**	**Rip Rap**	**1,000.00**	**94%**	**940.00**	**3%**	**30.00**	**3%**	**30.00**	**0%**	**0.00**
0	**8367/3**	**Slope Blocks**	**700.00**	**85%**	**595.00**	**0%**	**0.00**	**15%**	**105.00**	**0%**	**0.00**
0	**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
0	**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	45%	5.00	0%	0.00
	1130/3	Cracking (RC and Other)	111.00	0%	0.00	50%	56.00	50%	55.00	0%	0.00

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	Re Concrete Deck	3	07/24/2018	142,889.00	sq.ft	134,317.00	7,144.00	1,428.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The top of the reinforced concrete deck is concealed from view by a bituminous concrete wearing surface/overlay.

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.

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	07/24/2018	142,889.00	sq.ft	134,317.00	7,144.00	1,428.00	0.00

This element was not included in the scope of this Special Inspection The following notes are from the previous Routine Inspection dated 07/24/17

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

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

3210	*Del/Spall/Patch/Pot(Wear Surf)*	*3*	*07/24/2018*	*4,286.00*	*sq.ft*	*0.00*	*3,572.00*	*714.00*	*0.00*

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

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.

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.

3220	*Crack (Wearing Surface)*	*3*	*07/24/2018*	*4,286.00*	*sq.ft*	*0.00*	*3,572.00*	*714.00*	*0.00*

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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. There are sealed transverse cracks adjacent to the joints.

1080	Delamination/Spall/Patched Area	3	07/24/2018	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

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.

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).

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'diame ter 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	07/24/2018	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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	07/24/2018	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

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.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
1130	Cracking (RC and Other)	3	07/24/2018	2,143.00	sq.ft	0.00	1,786.00	357.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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 NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
16	**Re Conc Top Flange**	**3**	**07/24/2018**	**7,336.00**	**sq.ft**	**5,911.00**	**1,150.00**	**275.00**	**0.00**

The undersides of the reinforced concrete closed box girders top flanges in spans 1R-3R & span 5 have up to full width transverse hairline cracks with efflorescence and rust, up to 12' long x full width areas of map cracks with efflorescence, isolated up to 6' long x 2' wide hollow areas, and isolated 1' diameter x 1" deep spall, up to 10' long x 5' wide concrete patches and an isolated 15' long x 2' wide x ½" deep area of shallow rebar.

See "Bridge # 070001 Elem 16, Defect Table.pdf" and photos 29, 31, 33-35, 38, 41 & 42 for additional details.

The tops of the reinforced concrete top flanges are concealed from view by a bituminous concrete overlay. This element is not included in the scope of this special inspection and the following notes are from the previous routine inspection report dated 07/24/2017:

The pavement / wearing surface has minor wheel line rutting and random areas of map cracking.

510	Wearing Surfaces	3	07/24/2018	7,336.00	sq.ft	6,086.00	1,000.00	250.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The pavement / wearing surface has minor wheel line rutting and random areas of map cracking.

3220	*Crack (Wearing Surface)*	*3*	*07/24/2018*	*1,000.00*	*sq.ft*	*0.00*	*750.00*	*250.00*	*0.00*

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The pavement / wearing surface has minor wheel line rutting and random areas of map cracking.

1080	Delamination/Spall/Patched Area	3	07/24/2018	200.00	sq.ft	0.00	200.00	0.00	0.00

The undersides of the reinforced concrete top flanges have scattered up to 10' long x 5' wide concrete patches, up to 6' long x 2' wide hollow areas and an isolated 1' diameter x 1" deep spall.

See "Bridge # 070001 Elem 16, Defect Table.pdf" for additional details.

1090	Exposed Rebar	3	07/24/2018	25.00	sq.ft	0.00	0.00	25.00	0.00

The undersides of the reinforced concrete top flanges have an isolated 15' long x 2' wide x up to ½" deep area of shallow rebar with efflorescence and rust (span 5, cell 1A; photo 41).

See "Bridge # 070001 Elem 16, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	1,000.00	sq.ft	0.00	750.00	250.00	0.00

The undersides of the reinforced concrete top flanges have random up to full width transverse and diagonal hairline cracks with efflorescence and rust, up to 12' long x full width areas of map cracks with efflorescence and scattered areas of efflorescence and rust staining throughout.

See "Bridge # 070001 Elem 16, Defect Table.pdf" for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	200.00	sq.ft	0.00	200.00	0.00	0.00

The undersides of the reinforced concrete top flanges have random up to full width transverse and diagonal hairline cracks and up to 12' long x full width areas of map cracks. See photo 31.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
105	**Re Clsd Box Girder**	**3**	**07/24/2018**	**922.00**	**ft**	**78.00**	**505.00**	**339.00**	**0.00**

There are reinforced concrete three-cell box girders in spans 1R-3R and Span 5 which carry the Gano Street off-ramp. The box girders are numbered 1-3 from north to south and cells lettered A-C from west to east with cell 1A located and the northwest corner.

The reinforced concrete box girder webs have up to thirteen (13) full height vertical / diagonal hairline cracks, up to 6' long x 4' high concrete patches, isolated areas of up to 10' long x 6" high x ½" deep honeycomb and an isolated 10' long x 6" high x ½" deep area of scale with efflorescence. The tops of the bottom flanges have up to 11' long x full width concrete patches and random areas of sand and construction debris in each cell. The undersides of the bottom flanges have random up to 5' long x 10' wide concrete patches, isolated up to 10" long x 11" wide x ½" deep shallow rebar, up to 5' long x 3' wide hollow areas with hairline map cracks, up to 6" diameter x 1" deep spalls with exposed rebar, isolated areas with timber formwork in place, and up to 3' long transverse hairline cracks with efflorescence. See photos 28-30, 32, 35-37, & 39-42.

- Span 2R, cell 1C, the top of the bottom flange has a 4' long x 2' wide x 1' high pile of construction debris.
- Span 2R, cell 3C, the top of the bottom flange has a 6' diameter x 2.5' high pile of construction debris .
- Span 5, cell 1A, the top of the bottom flange has a 4' diameter x 1' high pile of construction debris (p hoto 41).

See "Bridge # 070001 Elem 105, Defect Table.pdf and Bridge # 070001 Elem 105, Defect 1130 Table.pdf" for additional details.

1080	Delamination/Spall/Patched Area	3	07/24/2018	100.00	ft	0.00	80.00	20.00	0.00

The reinforced concrete box girder webs have up to 6' long x 4' high concrete patches, isolated areas of up to 10' long x 6" high x ½" deep honeycomb and an isolated 10' long x 6" high x ½" deep area of scale with efflorescence. The top of the bottom flange has up to 11' long x full width concrete patches. The undersides of the bottom flanges have random up to 5' long x 10' wide concrete patches and up to 5' long x 3' wide hollow areas with hairline map cracks.

See "Bridge # 070001 Elem 105, Defect Table.pdf" for additional details.

1090	Exposed Rebar	3	07/24/2018	5.00	ft	0.00	0.00	5.00	0.00

The undersides of the box girder bottom flanges have isolated up to 10" long x 11" wide x ½" deep shallow rebar and an up to 6" diameter x 1" deep spall with exposed rebar.

See "Bridge # 070001 Elem 105, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	244.00	ft	0.00	122.00	122.00	0.00

The reinforced concrete box girder webs have isolated 10' long x 6" high x ½" deep area of scale with efflorescence. The undersides of the bottom flanges have random up to 3' long transverse hairline cracks with isolated efflorescence .

See "Bridge # 070001 Elem 105, Defect Table.pdf" for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	495.00	ft	0.00	303.00	192.00	0.00

The reinforced concrete box girder webs have up to thirteen (13) full height vertical / diagonal hairline cracks. The interior face of the west web of cells 1A, 2A and 3A in spans 1R and 2R, cracks have been epoxy coated. Many of the cracks have crack gauges installed and the crack gauges read 0,0 at the time of inspection (photos 30 & 35). The undersides of the bottom flanges have random up to 5' long x 3' wide hollow areas with hairline map cracks and up to 3' long transverse hairline cracks with isolated efflorescence .

See "Bridge # 070001 Elem 105, Defect 1130 Table.pdf" for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
107	**Steel Opn Girder/Beam**	**3**	**07/24/2018**	**1,430.00**	**ft**	**787.00**	**496.00**	**147.00**	**0.00**

There are eleven (11) steel plate girders in span 7 spanning between the east pier 6 wall and the west pier 7 wall (photo 74). The fascia sides of exterior girders A and K have been recently painted and are re-rusting. Remaining areas have light to moderate rust with up to heavy rust at girder ends. The girder ends have bolted repair plates and angles at the webs and bottom flanges for up to 25' long, with areas of light to moderate rust. Web section losses up to 2' long x 6" high x 1/8" deep extend beyond the repair plates. The bottom flanges have an isolated full width x up to 5" long x ¼" deep area of deformation and near the piers scattered up to 4' long x full width x 7/16" remaining areas of section loss. See photos 75-82.

See "Bridge # 070001 Elem 107, Defect Table.pdf" for additional details.

515	Steel Protective Coating	3	07/24/2018	21,000.00	sq.ft	7,350.00	6,300.00	6,350.00	1,000.00

The fascia sides of exterior girders A and K have been recently painted and are re-rusting. Remaining areas have light to moderate rust with up to heavy rust at girder ends.

See "Bridge # 070001 Elem 107, Defect Table.pdf" for additional details.

3410	*Chalk(Steel Protect Coatings)*	*3*	*07/24/2018*	*6,300.00*	*sq.ft*	*0.00*	*6,300.00*	*0.00*	*0.00*

The fascia sides of exterior girders A and K have been recently painted and are re-rusting. Remaining areas have light to moderate rust with up to heavy rust at girder ends.

See "Bridge # 070001 Elem 107, Defect Table.pdf" for additional details.

3420	*Peel/Bub/Crack(Stl Protect Coat)*	*3*	*07/24/2018*	*7,350.00*	*sq.ft*	*0.00*	*0.00*	*6,350.00*	*1,000.00*

The fascia sides of exterior girders A and K have been recently painted and are re-rusting. Remaining areas have light to moderate rust with up to heavy rust at girder ends.

See "Bridge # 070001 Elem 107, Defect Table.pdf" for additional details.

1000	Corrosion	3	07/24/2018	500.00	ft	0.00	353.00	147.00	0.00

The steel plate girder repair plates and angles at girder ends typically have areas of light to moderate rust, with isolated areas of heavy rust. Web section losses up to 2' long x 6" high x 1/8" deep extend beyond the repair plates (4 .2% loss). The bottom flanges near the piers have scattered up to 4' long x full width x 7/16" remaining areas of section loss.

See "Bridge # 070001 Elem 107, Defect Table.pdf" for additional details.

1900	Distortion	3	07/24/2018	143.00	ft	0.00	143.00	0.00	0.00

- Girder A, 18' from pier 7, bottom flange at the transition is bent up to 5" long x up to full width x 1/8" high (photo 80).
- Girder G, at the second stiffener from pier 6, bottom flange is bent up to 5" long x up to full height x ¼" high.
- Girder J, at the second stiffener from pier 6, bottom flange is bent up to 5" long x up to full height x ¼" high.

See "Bridge # 070001 Elem 107, Defect Table.pdf" for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
109	**Pre Opn Conc Girder/Beam**	**3**	**07/24/2018**	**14,543.00**	**ft**	**11,733.00**	**1,268.00**	**1,407.00**	**135.00**

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 (photos 43, 47, 48, 53, 59, 63, 68, 83, 87, 89, 96, 99 & 102). The cantilevered girder sections support prestressed concrete drop-in mid-span sections. The prestressed concrete I-girders in spans 15 through 18 are simply supported between the substructure units (photos 105, 108, 112).

The girders in spans 1 through 6 and 8 through 14 have random up to 18" long x full height x 6" deep spalls with and without exposed rebar, up to 3' long x full height hollow areas with isolated efflorescence and rust, up to 24" long shear cracks, scattered up to 16" wide x full height x 3" deep spalls with exposed anchor plates, up to 28" long x full height x 4" deep spalls that continue onto the underside for full width with exposed rebar and thirteen (13) exposed strands, up to 108" long cracks with isolated efflorescence and isolated up to 24" long x 38" high areas of hairline map cracks with rust.

The girders in spans 15 through 18 have scattered up to full width x full height x 2" deep spalls with and without exposed rebar, up to 18" long x full height hollow areas with isolated efflorescence and rust, up to 52" long x full width x up to 3" deep spalls with exposed rebar and strands, and up to full height x ¼" wide vertical cracks with isolated rust.

Rehabilitation construction is on-going and there are several defects that have been repaired or are in the process of being repaired as indicated in "Bridge # 070001 Elem 109, Defect Table.pdf".

See "Bridge # 070001 Elem 109, Defect Table.pdf", "Bridge # 070001 Elem 109, Shear CrackTable.pdf" and photos 43-73 & 83-120 for additional details.

521	Conc Prot Coating	3	07/24/2018	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 which are peeling and cracked for approximately 30% of area. See photos 50, 52, 54, 57-58, 60-61, 65, 71-73, 85-86, 93-95, 97-98, 100-101 & 104.

3510	*Wear (Concrete Protect Coat)*	*3*	*07/24/2018*	*750.00*	*sq.ft*	*0.00*	*0.00*	*375.00*	*375.00*

The ends of the prestressed concrete drop-in girders are coated with a protective sealant which are peeling and cracked for approximately 30% of area (photos 50, 52, 54, 57-58, 60-61, 65, 71-73, 85-86, 93-95, 97-98, 100-101 & 104).

1080	Delamination/Spall/Patched Area	3	07/24/2018	1,150.00	ft	0.00	900.00	250.00	0.00

Prestressed Concrete Girders (spans 1 through 6 and 8 through 14):
- Random up to 18" long x full height x 6" deep spalls with and without exposed rebar and up to 3' long x full height hollow areas exist.

Prestressed Concrete I-girders (spans 15 through 18):
- Random up to full width x full height x 2" deep spalls with and without exposed rebar and up to 18" long x full height hollow areas exist.

See "Bridge # 070001 Elem 109, Defect Table.pdf" for additional details.

1090	Exposed Rebar	3	07/24/2018	175.00	ft	0.00	0.00	50.00	125.00

Prestressed Concrete Girders (spans 1 through 6 and 8 through 14):
- Random up to 18" long x full height x 6" deep spalls with exposed and debonded rebar and random up to 16" wide x full height x 3" deep spalls with exposed anchor plates exist.

Prestressed Concrete I-girders (spans 15 through 18):
- Random up to full width x full height x 2" deep spalls with exposed and debonded rebar exist.

See "Bridge # 070001 Elem 109, Defect Table.pdf" for additional details.

1100	Exposed Prestressing	3	07/24/2018	25.00	ft	0.00	0.00	15.00	10.00

Prestressed Concrete Girders (spans 1 through 6 and 8 through 14):
- Random up to 28" long x full height x 4" deep spalls that continues onto the underside for full width with exposed rebar and thirteen (13) exposed strands exist.

Prestressed Concrete I-girders (spans 15 through 18):
- Random up to 52" long x full width x up to 3" deep spalls with exposed rebar and strands exist.

See "Bridge # 070001 Elem 109, Defect Table.pdf" for additional details.

1110	Cracking (PSC)	3	07/24/2018	727.00	ft	0.00	0.00	727.00	0.00

Prestressed Concrete Girders (spans 1 through 6 and 8 through 14):
- Random up to 24" long shear cracks, scattered up to 108" long cracks and isolated up to 24" long x 38" high areas of hairline map cracks exist.

Prestressed Concrete I-girders (spans 15 through 18):
- Random up to full height x ¼" wide vertical cracks exist.

See "Bridge # 070001 Elem 109, Defect Table.pdf" and "Bridge # 070001 Elem 109, Shear Crack Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	730.00	ft	0.00	365.00	365.00	0.00

Prestressed Concrete Girders (spans 1 through 6 and 8 through 14):
- Random up to 108" long cracks with efflorescence, isolated 16" wide x full height hollow areas with efflorescence and rust, and 2' long x 3' high areas of hairline map cracks with rust exist.

Prestressed Concrete I-girders (spans 15 through 18):
- Isolated up to 39" long hairline cracks with rust and a 5" long x full height hollow area with efflorescence and rust exist.

See "Bridge # 070001 Elem 109, Defect Table.pdf" for additional details.

7000	Damage	3	07/24/2018	3.00	ft	0.00	3.00	0.00	0.00

The prestressed concrete I-girders have impact scrapes on the bottom flanges over travel lanes in the following locations:

- Span 16, girder E has a 3' long x up to ¼" deep scrape on the bottom flange east of midspan (photo 108).
- Span 18, all the girders have minor impact scrapes on the bottom flanges (±15' total).

See "Bridge # 070001 Elem 109, Defect Table.pdf" for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
110	**Re Conc Opn Girder/Beam**	**3**	**07/24/2018**	**2,880.00**	**ft**	**954.00**	**1,188.00**	**688.00**	**50.00**

There are reinforced concrete fascia arch girders in spans 1-6, 8-13 and 1R-3R. The girders consist of cantilevered sections at the piers and drop in sections in the spans. The cantilever sections support the drop-in sections with concrete keys at shiplap joints with elastomeric bearing pads. The reinforced concrete girders typically have random hairline cracks up to 3' long with isolated efflorescence and adjacent to the shiplap joint has up to 18" long x 22" high x 8" deep spalls / hollow areas with up to 4' long x 1/16" cracks adjacent (mainly at the built-up web on the inside face) and random up to 15 square foot patches. There are isolated up to 20' horizontal cracks open up to 1/8" wide, up to 10' long x full bottom flange width hollow areas and up to 20' long x 20" high x 10" deep spalls with up to six (6) debonded rebar (prepped for repair).

See "Bridge # 070001 Elem 110, Defect Table.pdf" and photos 121-127 for additional details.

1080	Delamination/Spall/Patched Area	3	07/24/2018	800.00	ft	0.00	600.00	200.00	0.00

The reinforced concrete fascia arch girders typically have random up to 15 square foot patches and adjacent to the shiplap joint has up to 18" long x 22" high x 8" deep spalls / hollow areas with up to 4' long x 1/16" cracks adjacent (ma inly at the built-up web on the inside face).

See "Bridge # 070001 Elem 110, Defect Table.pdf" for additional details.

1090	Exposed Rebar	3	07/24/2018	100.00	ft	0.00	0.00	50.00	50.00

There are up to 20' long x 20" high x 10" deep spalls with up to six (6) debonded rebar (some areas are prepped for repair; photo 126).

See "Bridge # 070001 Elem 110, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	450.00	ft	0.00	300.00	150.00	0.00

There are random hairline cracks up to 3' long with isolated efflorescence.

See "Bridge # 070001 Elem 110, Defect Table.pdf" for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	576.00	ft	0.00	288.00	288.00	0.00

There are up to 4' long x 1/16" cracks adjacent to the shiplap joint (mainly at the built-up web on the inside face). There are typically up to 6' horizontal hairline cracks, isolated up to 20' horizontal cracks open up to 1/8" wide and one (1) 2' long x ¼" wide crack (some are marked for repair).

See "Bridge # 070001 Elem 110, Defect Table.pdf" for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
205	**Re Conc Column**	**3**	**07/24/2018**	**92.00**	**each**	**40.00**	**20.00**	**32.00**	**0.00**

There are reinforced concrete columns at piers 1 through 13 that support the cantilever girders and at piers 14 through 17 that support the reinforced concrete pier caps. The columns that support the cantilever girders have random up to full width x full height x 2" deep spalls that expose bearing plates and isolated up to full pedestal width x full pedestal height hollow areas. The columns that support the pier caps have a 2" wide x 10" high x 2.5" deep spall, isolated 16" wide x 30" high hollow areas, up to 10' long x 1/16" wide vertical cracks with isolated efflorescence and rust and up to 2' long x 3' high areas of hairline map cracks with efflorescence and rust.

There are numerous defects that have been repaired or are in the process of being repaired as indicated in "Bridge # 070001 Elem 205, Defect Table.pdf".

See "Bridge # 070001 Elem 205, Defect Table.pdf" and photos 128-164 for additional details.

1080	Delamination/Spall/Patched Area	3	07/24/2018	42.00	each	0.00	20.00	22.00	0.00

Columns supporting cantilever girders (piers 1 through 13):
- There are random up to full width x full height x 2" deep spalls and isolated up to full pedestal width x full pedestal height hollow areas sometimes exposing edges of steel bearing plates.

Columns supporting the pier caps (piers 14 through 17):
- There is a 2" wide x 10" high x 2.5" deep spall and isolated 16" wide x 30" high hollow areas.

See "Bridge # 070001 Elem 205, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	5.00	each	0.00	0.00	5.00	0.00

Columns supporting the pier caps (piers 14 through 17):
- There are isolated up to 3' long x 1/16" wide vertical cracks with rust and efflorescence and a 12" long x 20" high area of hairline map cracks with rust.

See "Bridge # 070001 Elem 205, Defect Table.pdf" for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	5.00	each	0.00	0.00	5.00	0.00

Columns supporting the pier caps (piers 14 through 17):
- There are isolated up to 10' long x 1/16" wide vertical cracks and up to 2' long x 3' high areas of hairline map cracks.

See "Bridge # 070001 Elem 205, Defect Table.pdf" for additional details.

8368	Graffiti	3	07/24/2018	300.00	each	0.00	300.00	0.00	0.00

At pier 3, the columns have graffiti on all faces up to 7' high (photo 135).

ELEM NBR	ELEMENT NAME	ENV	INSP DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
210	**Re Conc Pier Wall**	**3**	**07/24/2018**	**1,151.00**	**ft**	**666.00**	**290.00**	**172.00**	**23.00**

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 of 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. The east pier wall at pier 6 and the west pier wall of pier 7 are structural and support the cantilever girders in spans 6 and 8, through cantilever support pedestals, and also support the steel girders in span 7. There are reinforced concrete pylons/ walls at the north and south ends of the piers that extend from the coping at the base of the bridge railings.

The pier walls have up to full height vertical cracks open up to ¼" wide with isolated efflorescence and rust, up to 20' long x 8.5' high concrete patches, up to 25 square foot areas of map cracks open up to 1/16" wide with efflorescence and rust, up to 10' high x 5' wide hollow areas, and up to 8" high x 10" wide x 1.5" deep spalls. Isolated cracks in the pier walls in the water spans extend 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. The cantilever support pedestals on the interior walls of Piers 6 east wall and Pier 7 west wall (behind the steel girder seats) have scattered up to 16" long x 3/16" wide vertical and horizontal cracks, and up to 3' high x full pedestal width concrete patches.

There are steel catwalks with railings anchored to the interior faces of the Pier 6 east wall and the Pier 7 west wall. 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 167).

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 stone masonry facades that have scattered areas of missing mortar, up to 15% with penetrations up to 6" deep between the stones (1' deep at Pier #6) and random cracked stones.

See "Bridge # 070001 Elem 210, Defect Table.pdf" and photos 128-156 & 165-173 for additional details.

1080	Delamination/Spall/Patched Area	3	07/24/2018	175.00	ft	0.00	75.00	77.00	23.00

The reinforced concrete pier walls have scattered up to 20' long x 8.5' high concrete patches, isolated up to 10' high x 5' wide hollow areas, and up to 8" high x 10" wide x 1.5" deep spalls.

See "Bridge # 070001 Elem 210, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	80.00	ft	0.00	40.00	40.00	0.00

The reinforced concrete pier walls have scattered up to full height vertical hairline cracks with isolated efflorescence and rust and up to 25 square foot areas of map cracking open up to 1/16 " wide with isolated efflorescence and rust.

See "Bridge # 070001 Elem 210, Defect Table.pdf" for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	115.00	ft	0.00	60.00	55.00	0.00

The reinforced concrete pier walls typically have scattered up to full height vertical hairline cracks with isolated efflorescence and rust (isolated cracks have been epoxy injected), up to 5' horizontal hairline cracks and isolated up to 25 square foot areas of map cracks open up to 1/16" wide with isolated efflorescence and rust typically located at the north or south end of the pier walls. There are isolated up to full height vertical crack open up to 1/8" wide.

See "Bridge # 070001 Elem 210, Defect Table.pdf" for additional details.

6000	Scour	3	07/24/2018	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	07/24/2018	400.00	ft	0.00	400.00	0.00	0.00

There is graffiti at Pier 3 for full height of the east wall and up to 7' high on the east elevation of the west wall (photo 135). The remaining pier walls have mostly been painted over (photos 128-131, 133-149, 151-156 & 168-173).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	**Re Conc Abutment**	**3**	**07/24/2018**	**230.00**	**ft**	**78.00**	**44.00**	**108.00**	**0.00**

There are reinforced concrete abutments at each end of the bridge as well as at the west end of the Gano Street off ramp.

The west abutment is a stub abutment that is hidden by backfill beyond a retaining wall and has a severe accumulation of pigeon debris and nesting pigeons requiring a respirator for inspection. The west abutment has random up to full height vertical hairline cracks and the retaining wall in front has recently been repainted and has random up to 4' long x 1/16" wide vertical cracks and a ±15' long horizontal hairline crack (photos 174-175).

The east abutment is a full height abutment with an electrical utility room built into the abutment in bays H and I. Both utility room access doors were locked at the time of inspection, however one (1) of the two (2) doors has a ±3.5' high x 6" wide hole giving access to the electrical controls (photo 177). The east abutment has isolated spalls up to 7' long x 3' high x 3" deep, hollow areas up to 2' long x 3' high, up to full height x 1/16" wide vertical cracks with efflorescence and rust stains, scattered areas of hairline map cracks with efflorescence up to 8' long x 6' high, and a 3' long x 1' high x 1" deep area of scale (photos 176-179).

The Gano Street abutment 1R is a semi-stub abutment that sits on the river embankment with slope protection blocks in front. Abutment 1R has anti-graffiti paint that is peeling/chipping, an 8" long x 40" high hollow area and a 5' long x 5' high area of hairline map cracks (photos 180 & 197).

There are several defects that have been repaired or are in the process of being repaired as indicated in "Bridge # 070001 Elem 215, Defect Table.pdf".

See "Bridge # 070001 Elem 215, Defect Table.pdf" and photos 174-180 & 197 for additional details.

1080	Delamination/Spall/Patched Area	3	07/24/2018	103.00	ft	0.00	29.00	74.00	0.00

East Abutment:
- There are isolated spalls up to 7' long x 3' high x 3" deep, hollow areas up to 2' long x 3' high and a 3' long x 1' high x 1" deep area of scale.

Abutment 1R:
- There is an 8" long x 40" high hollow area.

See "Bridge # 070001 Elem 215, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	30.00	ft	0.00	15.00	15.00	0.00

East Abutment:
- There are isolated up to full height x 1/16" wide vertical cracks with efflorescence and rust stains and scattered areas of hairline map cracks with efflorescence up to 8' long x 6' high.

See "Bridge # 070001 Elem 215, Defect Table.pdf" for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	19.00	ft	0.00	0.00	19.00	0.00

West Abutment:
- There are random up to full height vertical hairline cracks.

West Abutment Retaining Wall:
- There are random up to 4' long x 1/16" wide vertical cracks and a ±15' long horizontal hairline crack. The coping has random full height vertical cracks.

East Abutment:
- There are isolated up to full height x 1/16" wide vertical cracks and scattered areas of hairline map cracks up to 8' long x 6' high.

Abutment 1R:
- There is a 5' long x 5' high area of hairline map cracks.

See "Bridge # 070001 Elem 215, Defect Table.pdf" for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
220	**Re Conc Pile Cap/Ftg**	**3**	**07/24/2018**	**1,151.00**	**ft**	**1,150.00**	**1.00**	**0.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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	07/24/2018	1.00	ft	0.00	1.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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 NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	**Re Conc Pier Cap**	**3**	**07/24/2018**	**388.00**	**ft**	**53.00**	**257.00**	**78.00**	**0.00**

There are reinforced concrete caps at piers 14 through 17 that have isolated up to 6” long x 6” wide x 6” high x 3” deep spalls, up to 5’ long x full height hollow areas, random patches due to repairs being made, vertical and horizontal cracks up to 8’ long x 1/8” wide with and without efflorescence and rust, and isolated areas of hairline map cracks up to 18" long x full width.

There are several defects that have been repaired or are in the process of being repaired as indicated in “Bridge # 070001 Elem 234, Defect Table.pdf”.

See “Bridge # 070001 Elem 234, Defect Table.pdf” and photos 157-164 & 181-183 for additional details.

The pedestals at girders B through E in span 14 and at girders B through M in span 16 have a 3-sided steel collar in place that are held in position with transverse anchor bolts. The collars have moderate rust and isolated missing anchor bolts. In span 14, the collars overhang the pier cap by up to 2”. See photo 181.

521	Conc Prot Coating	3	07/24/2018	5,000.00	sq.ft	3,500.00	0.00	0.00	1,500.00

The reinforced concrete pier caps have a concrete protective coating that is typically worn and is missing in locations where there are spalls and patches. See photos 157-164 & 181-183.

3510	*Wear (Concrete Protect Coat)*	*3*	*07/24/2018*	*1,500.00*	*sq.ft*	*0.00*	*0.00*	*0.00*	*1,500.00*

The reinforced concrete pier caps have a concrete protective coating that is typically worn and is missing in locations where there are spalls and patches (photos 157-164 & 181-183).

1080	Delamination/Spall/Patched Area	3	07/24/2018	308.00	ft	0.00	250.00	58.00	0.00

The pier caps have up to 6” long x 6” wide x 6” high x 3” deep spalls, up to 5’ long x full height hollow areas and random patches due to repairs being made. There are isolated pedestals with up to full width x 7” high x 2” deep spalls .

See “Bridge # 070001 Elem 234, Defect Table.pdf” for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	15.00	ft	0.00	7.00	8.00	0.00

The pier caps have scattered vertical and horizontal cracks up to 8 ’ long x 1/8” wide with efflorescence and rust.

See “Bridge # 070001 Elem 234, Defect Table.pdf” for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	12.00	ft	0.00	0.00	12.00	0.00

The pier caps have scattered vertical and horizontal cracks up to 8’ long x 1/8” wide with efflorescence and rust and isolated areas of hairline map cracks up to 18" long x full width.

See “Bridge # 070001 Elem 234, Defect Table.pdf” for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
300	**Strip Seal Exp Joint**	**3**	**07/24/2018**	**93.00**	**ft**	**0.00**	**88.00**	**5.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

2310	Leakage	3	07/24/2018	30.00	ft	0.00	30.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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

2350	Debris Impaction	3	07/24/2018	58.00	ft	0.00	58.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The strip seal joint has full length partial debris impaction that still allows free movement of the joint.

2370	Metal Deterioration or Damage	3	07/24/2018	5.00	ft	0.00	0.00	5.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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 .

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
301	**Pourable Joint Seal**	**3**	**07/24/2018**	**1,151.00**	**ft**	**507.00**	**544.00**	**85.00**	**15.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

2310	Leakage	3	07/24/2018	344.00	ft	0.00	344.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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	07/24/2018	300.00	ft	0.00	200.00	85.00	15.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The pourable joint seals exhibit loss of seal adhesion with isolated locations of full depth loss of adhesion. The longitudinal deck joint in Bay "J" in Span #18 has loose joint material.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
310	**Elastomeric Bearing**	**3**	**07/24/2018**	**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. Random bearings have minor rips and tears up to 4" long and up to 23% loss of bearing area (beam F at pier 13 in span 14) due to concrete spalls. There are random bearings adjacent to where concrete repairs have been made that are covered in concrete (photo 71). The bearings in spans 1 through 3, 8 through 9, 11, and 13 are typically in contraction mode up to ½", and the bearings in the remaining spans are typically neutral to expansion mode up to 1", at 80 degrees Fahrenheit.

There are several defects on girders and bearing seats that have been repaired or are in the process of being repaired as indicated in "Bridge # 070001 Elem 310, Defect Table.pdf".

See "Bridge # 070001 Elem 310, Defect Table.pdf" and photos 44, 49, 52, 57, 60-62, 65, 72-73, 85, 93-94, 101, 103, 106, 111, 116, 118-119 & 184-188 for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
2220	Alignment	3	07/24/2018	4.00	each	0.00	0.00	4.00	0.00

Drop-in Girder Bearings (Spans 1 through 6 and 8 through 14):
- The bearings in spans 1 through 3, 8 through 9, 11, and 13 are typically up to ½" in contraction at 80 degrees Fahrenheit.
- The bearings in spans 4 through 6, 10, 12 and 14 are typically neutral to up to 1" in expansion at 80 degrees Fahrenheit.

Bulb-Tee Girder Bearings (Spans 15 through 18):
- The bearings are typically neutral to up to 1" in expansion at 80 degrees Fahrenheit.

See "Bridge # 070001 Elem 310, Defect Table.pdf" and photos 44, 49, 57, 62, 72-73, 85, 93, 106, 111, 116, 118-119, 184 & 187-188 for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
2230	Bulging, Splitting or Tearing	3	07/24/2018	200.00	each	0.00	150.00	50.00	0.00

Drop-in Girder Bearings (Spans 1 through 6 and 8 through 14):
- There are scattered elastomeric bearings that are bulging up to ½" with isolated bearings bulging up to ¾".

Bulb-Tee Girder Bearings (Spans 15 through 18):
- There are scattered elastomeric bearings that are bulging up to ¼".

Fascia Arch Girder Bearings (Spans 1 through 6, 8 through 13 and 1R through 3R):
- There are scattered elastomeric bearings that are bulging up to ¼".

See "Bridge # 070001 Elem 310, Defect Table.pdf" and photos 49, 184 & 187-188 for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
2240	Loss of Bearing Area	3	07/24/2018	61.00	each	0.00	40.00	21.00	0.00

The elastomeric bearings have losses in bearing area due to spalls undermining the bearings and spalls above the bearings reducing the bearing area. The losses in bearing areas are as follows:

- The drop-in girder bearings (spans 1 through 6 and 8 through 14) have up to 22% bearing area loss (photo 185).
- The post-tensioned concrete cantilever girder bearings (span 7) have up to 10% bearing area loss (photo 186).

- The bulb-tee girder bearings (spans 15 through 18) have up to 11% bearing area loss.
- The fascia arch bearings (spans 1 through 6, 8 through 13 & 1R through 3R) have up to 1% bearing area loss.

See "Bridge # 070001 Elem 310, Defect Table.pdf" and photos 52, 60-61, 65, 94, 101, 103, 106, 116 & 185-186 for additional details.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
311	Moveable Bearing	3	07/24/2018	11.00	each	0.00	7.00	4.00	0.00

There are steel rocker bearings in span 7 at pier 6 that have limited access for full inspection due to bearing restraints in place at the east face of each bearing. There are up to full width x ½" high x 6" deep gaps beneath the bearing restraints at the east face (per rehab plans). The bearings were typically in neutral to slightly expanded position at 80 degrees Fahrenheit and have peeling paint with light to moderate rust and a light to moderate accumulation of sand and debris. Bearings A, B, J and K have no paint remaining with heavy laminated rust on anchor bolts and the bearings with up to 3/8" thick pack rust between the bearing plates. See photos 189 & 190.

515	Steel Protective Coating	3	07/24/2018	132.00	sq.ft	0.00	0.00	44.00	88.00

The moveable bearings have a steel protective coating with areas of peeling paint with light to moderate rust. Bearings A, B, J and K have no paint remaining. See photos 189 & 190.

3420	*Peel/Bub/Crack(Stl Protect Coat)*	*3*	*07/24/2018*	*132.00*	*sq.ft*	*0.00*	*0.00*	*44.00*	*88.00*

The moveable bearings have a steel protective coating with areas of peeling paint with light to moderate rust. Bearings A, B, J and K have no paint remaining. See photos 189 & 190.

1000	Corrosion	3	07/24/2018	11.00	each	0.00	7.00	4.00	0.00

The bearings and anchor bolts typically have light to moderate rust. Bearings A, B, J and K have heavy laminated rust on the bearings and anchor bolts with up to 3/8" thick pack rust between the bearing plates. See photos 189 & 190.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
313	Fixed Bearing	3	07/24/2018	11.00	each	0.00	8.00	3.00	0.00

There are fixed steel bearings in span 7 at pier 7 that have limited access for full inspection due to bearing restraints in place at the west face of each bearing. There are up to full width x ½" high x 6" deep gaps beneath the bearing restraints at the west face (per rehab plans). The bearings typically have peeling paint with light to moderate rust. Bearings A, B, J and K have no paint remaining with heavy laminated rust on the bearings and anchor bolts with up to 3/8" thick pack rust between the bearing plates. Bearing K is undermined for up to 1" long x 16" wide due to a pedestal spall. See photos 191-192.

515	Steel Protective Coating	3	07/24/2018	110.00	sq.ft	0.00	0.00	66.00	44.00

The fixed bearings have a steel protective coating with areas of peeling paint with light to moderate rust. Bearings A, B , J and K have no paint remaining. See photos 191-192.

3420	*Peel/Bub/Crack(Stl Protect Coat)*	*3*	*07/24/2018*	*110.00*	*sq.ft*	*0.00*	*0.00*	*66.00*	*44.00*

The fixed bearings have a steel protective coating with areas of peeling paint with light to moderate rust. Bearings A, B, J and K have no paint remaining. See photos 191-192.

1000	Corrosion	3	07/24/2018	10.00	each	0.00	7.00	3.00	0.00

The bearings and anchor bolts typically have light to moderate rust. Bearings A, B, J and K have heavy laminated rust on the bearings and anchor bolts with up to 3/8" thick pack rust between the bearing plates. See photos 191-192.

2240	Loss of Bearing Area	3	07/24/2018	1.00	each	0.00	1.00	0.00	0.00

At bearing K, there is a pedestal spall along the east side that undermines the bearing for up to 1" long x 16" wide (no change; photo 192).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
321	Re Conc Approach Slab	3	07/24/2018	2,352.00	sq.ft	0.00	2,352.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

510	Wearing Surfaces	3	07/24/2018	2,352.00	sq.ft	1,352.00	500.00	500.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The bituminous concrete pavement / wearing surfaces on the approaches have moderate wheel line rutting, map cracking and several sealed and unsealed cracks.

3220	*Crack (Wearing Surface)*	*3*	*07/24/2018*	*2,352.00*	*sq.ft*	*1,352.00*	*500.00*	*500.00*	*0.00*

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	**Re Conc Bridge Railing**	**3**	**07/24/2018**	**3,808.00**	**ft**	**3,407.00**	**401.00**	**0.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

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.

1130	Cracking (RC and Other)	3	07/24/2018	351.00	ft	0.00	351.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The railings exhibit hairline vertical cracks.

7000	Damage	3	07/24/2018	50.00	ft	0.00	50.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The railings exhibit minor scrapes.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8060	**Scupper**	**3**	**07/24/2018**	**27.00**	**(EA)**	**0.00**	**3.00**	**20.00**	**4.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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. The scupper drain pipes exhibit rust and localized section loss.

1000	Corrosion	3	07/24/2018	4.00	(EA)	0.00	0.00	0.00	4.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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 NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8213	**R/C Return Wall**	**3**	**07/24/2018**	**175.00**	**(LF)**	**0.00**	**150.00**	**25.00**	**0.00**

There are reinforced concrete return walls at the north ends of the west and east abutments and at both ends of the Gano Street ramp abutment 1R. The return walls have isolated spalls up to 6" diameter x 2" deep, up to full length x full width areas of hairline map cracks with isolated areas of efflorescence and rust staining, and moderate to heavy vegetation growth along the return walls. See photos 194-197.

1080	Delamination/Spall/Patched Area	3	07/24/2018	44.00	(LF)	0.00	44.00	0.00	0.00

At the top of the return walls, there are minor edge spalls along the coping (photo 194). The northwest return wall has a 6" diameter x up to 2" deep spall at the top ±10' west of the construction joint (photo 194).

1120	Efflorescence/Rust Staining	3	07/24/2018	110.00	(LF)	0.00	85.00	25.00	0.00

The return walls have areas of hairline map cracks with isolated efflorescence and rust (photos 194 & 197).

1130	Cracking (RC and Other)	3	07/24/2018	21.00	(LF)	0.00	21.00	0.00	0.00

The northwest and northeast return walls are 100% hairline map cracked (photos 194-195). The northwest return wall at the ramp has isolated up to 5' long x 6' high areas of hairline map cracks (photo 197).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8218	**Backwall, All Types**	**3**	**07/24/2018**	**230.00**	**(LF)**	**104.00**	**80.00**	**46.00**	**0.00**

There are reinforced concrete backwalls at the west abutment, east abutment, and abutment 1R. The west abutment backwall was mostly inaccessible due to a heavy accumulation of pigeon debris and nesting pigeons on the abutment seat. The east abutment backwall has full height x 1/16" wide vertical cracks, isolated areas of efflorescence and rust staining, and a 3' long x 2' high hollow area. The Gano Street backwall has random hollow areas up to 2' long x 2' high and isolated spalls up to 3' long x 2' high x 2" deep. See photos 174, 178 & 180.

1080	Delamination/Spall/Patched Area	3	07/24/2018	80.00	(LF)	0.00	70.00	10.00	0.00

West Abutment:
- In bay J there is a 3' long x 2' high hollow area at the top of the backwall.

Abutment 1R:
- There are random hollow areas up to 2' long x 2' high.
- Below the west cell, there is a 2' long x 2' high x ½" deep spall (photo 180).
- At midspan, there is a 3' long x 2' high x 2" deep spall (photo 180).

1120	Efflorescence/Rust Staining	3	07/24/2018	23.00	(LF)	0.00	10.00	13.00	0.00

The backwall at the north end of the east abutment has an area of heavy efflorescence and rust staining (photo 180).

1130	Cracking (RC and Other)	3	07/24/2018	23.00	(LF)	0.00	0.00	23.00	0.00

The backwall at the east abutment in bays B, E and G, there are full height x 1/16" wide vertical cracks (photo 178).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8305	**Asphaltic Joint Material**	**3**	**07/24/2018**	**1,438.00**	**(LF)**	**987.00**	**451.00**	**0.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

2310	Leakage	3	07/24/2018	430.00	(LF)	0.00	430.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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	07/24/2018	21.00	(LF)	0.00	21.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8335	**Guardrail, Vehicular**	**3**	**07/24/2018**	**700.00**	**(LF)**	**530.00**	**140.00**	**30.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

There is an impact attenuator at the gore between Interstate-195 Westbound and the Gano Street Off-Ramp with no deficiencies noted.

515	Steel Protective Coating	3	07/24/2018	3,150.00	sq.ft	1,800.00	0.00	1,350.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

There is loss of galvanic coating on the Gano Street Off-Ramp guardrails.

1000	Corrosion	3	07/24/2018	100.00	(LF)	0.00	100.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

There are areas of light rust on the guardrails.

7000	Damage	3	07/24/2018	70.00	(LF)	0.00	40.00	30.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The Northwest guardrail for Interstate-195 has a 20' long area of impact damage at the west end with four (4) leaning posts.

The Northeast guardrail for Interstate-195 has a 20' long area of impact damage with one (1) leaning post.

The guardrails mounted to the inside of the Gano Street Ramp parapets have random areas of impact damage up to 10' long (30' total).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8336	**Conc Bridge Parapet**	**3**	**07/24/2018**	**700.00**	**(LF)**	**350.00**	**320.00**	**30.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

1080	Delamination/Spall/Patched Area	3	07/24/2018	100.00	(LF)	0.00	100.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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	07/24/2018	100.00	(LF)	0.00	70.00	30.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The parapets exhibit corner spalling up to 5' long x 7" high x 2" deep along the top of concrete parapet with exposed rebar.

1130	Cracking (RC and Other)	3	07/24/2018	150.00	(LF)	0.00	150.00	0.00	0.00

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

The parapets exhibit scattered hairline vertical cracking.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8366	**Rip Rap**	**3**	**07/24/2018**	**1,000.00**	**sq.ft**	**940.00**	**30.00**	**30.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8367	**Slope Blocks**	**3**	**07/24/2018**	**700.00**	**sq.ft**	**595.00**	**0.00**	**105.00**	**0.00**

This element was not included in the scope of this Special Inspection. The following notes are from the previous Routine Inspection dated 07/24/17:

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.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8370	**Steel Diaphragms**	**3**	**07/24/2018**	**70.00**	**(EA)**	**13.00**	**36.00**	**17.00**	**4.00**

There are steel cross frames between the steel girders in span 7 (photo 74). The cross frames have paint chalking, peeling paint with light to heavy rust, an isolated missing diaphragm connection bolt, and section loss up to 1/16" deep with isolated loss up to knife edge remaining. At the end diaphragms , there is up to 3/8" thick pack rust between the bearing stiffeners and cross frame connection plates. See photos 80-81 & 198-200.

515	Steel Protective Coating	3	07/24/2018	1,800.00	sq.ft	378.00	1,125.00	207.00	90.00

The steel cross frame diaphragms typically have paint chalking and peeling paint with rust. See photos 80-81 & 198-200.

3410	*Chalk(Steel Protect Coatings)*	*3*	*07/24/2018*	*900.00*	*sq.ft*	*0.00*	*900.00*	*0.00*	*0.00*

The steel cross frame diaphragms typically have paint chalking (photos 80-81 & 198-200).

3420	*Peel/Bub/Crack(Stl Protect Coat)*	*3*	*07/24/2018*	*522.00*	*sq.ft*	*0.00*	*225.00*	*207.00*	*90.00*

The steel cross frame diaphragms typically have peeling paint with rust (photos 80-81 & 198-200).

1000	Corrosion	3	07/24/2018	55.00	(EA)	0.00	35.00	16.00	4.00

The end cross frame diaphragms typically have moderate to heavy rust, up to 3/8" thick pack rust between the bearing stiffeners and cross frame connection plates, and section loss up to 1/16" deep with isolated loss up to knife edge remaining at the top and bottom angle flanges (photo 198). The interior cross frame diaphragms have random areas of light rust (photos 80-81 & 198-200).

1020	Connection	3	07/24/2018	2.00	(EA)	0.00	1.00	1.00	0.00

In bay E, the fifth intermediate diaphragm at girder F has one (1) missing diaphragm connection bolt (photo 200). In bay H, the first interior diaphragm has a two (2) mis-drilled bolt holes (photo 199).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
8371	**Conc Diaphragms**	**3**	**07/24/2018**	**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 inside and below the Gano Street Ramp reinforced concrete box girders (photos 29, 35, 37-39, 41-42, 46, 48, 53, 59, 63, 83, 87, 89, 92, 96, 99, 102, 112, 168-174, 180, & 201-206). The diaphragms have up to 4.5' long x 3' high x up to 3" deep spalls with and without exposed and debonded rebar, up to full length x full height hollow areas, random concrete patches, cracks open up to ½" wide with and without efflorescence and rust, and map cracks with and without efflorescence and rust.

There are several defects that have been repaired or are in the process of being repaired as indicated in "Bridge # 070001 Elem 8371, Defect Table.pdf".

See "Bridge # 070001 Elem 8371, Defect Table.pdf" and photos 201-206 for additional details.

In span 5, the east end of girder B bears on an oversized L-shaped diaphragm that transfers loads 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.

There are seismic restraints in place at the drop-in girder diaphragms with scattered missing nuts and up to 5% loose nuts at the following locations:

Span 5:
- Bay B: At the west corbel at girder C, the seismic restraint main nut and lock nut that are backed off 8" and 12", respectively.
- 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 south seismic restraint is missing the nut and lock nut on the east end.
- Bay D: At the west corbel, the south seismic restraint 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.

1080	Delamination/Spall/Patched Area	3	07/24/2018	52.00	each	0.00	0.00	52.00	0.00

Drop-in Girder Diaphragms (Spans 1 through 6 and 8 through 14):
- There are random concrete patches, spalls with and without exposed rebar up to 3' long x 8" wide x 4" deep and hollow areas up to full length x full height. In span 5, the L-shaped diaphragm between girders A and C that supports girder B has a full length x full width hollow area on the underside with up to 3/8" wide cracks with rust stains.

Bulb-Tee Girder Diaphragms (Spans 15 through 18):
- There are isolated concrete patches and random hollow areas up to full length x full height.

Box Girder Diaphragms (Spans 1R through 3R and 5):
- The interior diaphragms have isolated concrete patches, a 1' long x 6" high x ½" deep spall and isolated up to 32" long x 20" high hollow areas.

See "Bridge # 070001 Elem 8371, Defect Table.pdf" for additional details.

1090	Exposed Rebar	3	07/24/2018	12.00	each	0.00	11.00	1.00	0.00

The drop-in girder diaphragms have random spalls with exposed rebar up to 3 ' long x 8" wide x 4" deep.

See "Bridge # 070001 Elem 8371, Defect Table.pdf" for additional details.

1120	Efflorescence/Rust Staining	3	07/24/2018	11.00	each	0.00	6.00	5.00	0.00

Drop-in Girder Diaphragms (Spans 1 through 6 and 8 through 14):
- There are scattered cracks up to 7’ long x 1/8” wide and map cracks with efflorescence and rust.

Bulb-Tee Girder Diaphragms (Spans 15 through 18):
- There is an isolated hollow area with loose concrete and efflorescence.

Box Girder Diaphragms (Spans 1R through 3R and 5):
- The interior diaphragms have isolated vertical hairline cracks and map cracks with efflorescence and rust.

See “Bridge # 070001 Elem 8371, Defect Table.pdf” for additional details.

1130	Cracking (RC and Other)	3	07/24/2018	111.00	each	0.00	56.00	55.00	0.00

Drop-in Girder Diaphragms (Spans 1 through 6 and 8 through 14):
- There are scattered vertical/diagonal and horizontal cracks open up to ½” wide, hairline map cracks and isolated up to full width transverse hairline cracks.

Bulb-Tee Girder Diaphragms (Spans 15 through 18):
- There are scattered full height vertical hairline cracks and horizontal cracks up to full length x 1/16” wide.

Box Girder Diaphragms (Spans 1R through 3R and 5):
- The interior diaphragms have scattered vertical/diagonal cracks up to 66” long x 1/16” wide.

See “Bridge # 070001 Elem 8371, Defect Table.pdf” for additional details.

BRIDGE NOTES

General Information: The bridge is logged west to east with girder A at the north fascia. Note, Gano Street Ramp spans 1R through 3R are similarly logged west to east with box girder 1 at the north (true east) fascia. Seekonk River flows north to south below the structure.
Equipment Used: 40' lift truck, 60' manlift & 60' bucket boat.
Traffic Control: Lane Closures on Gano Street (Span 1), Water Street (span 15), Waterfront Drive (Span 16) and Valley Street (span 18) with local police assistance.
Access Notes: Boats can be launched from public boat ramps located on the southeast channel embankment (Bold Point Park) and northwest channel embankment (Gano Park boat launch). The utility room with two doors built into the east abutment was not accessed during this inspection due to the doors being locked. The interior of the box girders (spans 1R, 2R and 3R) 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 (not locked at time of inspection). The interior portion of pier walls 6 and 7 can be accessed from the top of deck via hatches located in span 7 at the north overhang of I-195 westbound.

INSPECTION NOTES

Special Inspection by Michael Baker International.
Inspection Date: 06/25/18, 06/26/18, 06/27/18, 06/28/18, 06/29/18, 07/16/18, 07/17/18, 07/18/18, 07/19/18, 07/20/18, 07/23/18 & 07/24/18
Team Leader: [redacted]
Staff Inspector: [redacted]
Weather: Varied, 70° Fahrenheit - 80° Fahrenheit

The purpose of this special inspection is to monitor the condition of the superstructure and substructure due to deteriorated condition per BI-011 on file dated 10/26/15. Note, rehabilitation construction activities are on-going and were occurring at the time of this special inspection.

Based on the results of this special inspection, the bridge overall is in poor condition. The condition ratings for the superstructure (item 59, rated 4) and substructure (item 60, rated 4) remain unchanged with the following conditions noted:

Superstructure (Rating = 4) – The superstructure has hollow areas and spalls with exposed rebar and strands at the ends of the prestressed drop-in girders in spans 1 through 6 and 8 through 14 and the post-tensioned concrete corbels that support them at the ends of the cantilever girders. There is spalling with exposed rebar and strands on the prestressed bulb-tee girder ends in spans 15 through 18. There is cracking of the webs and bottom flanges, spalls with exposed rebar, hollow areas in the closed box girders in spans 1R through 3R and span 5.

Substructure (Rating = 4) – The substructure has hollow areas and spalls at the cantilever pedestals. The pier walls that support span 7 have cracking.

The condition ratings for the deck (item 58, rated 6) and Channel/Channel Protection (Item 61, rated 6) are based on the previous routine inspection completed on 07/24/17.

Deflection and Vibration: There was no significant vibration or deflection noted during this inspection.

Minimum Vertical Clearances: The minimum vertical clearances are as follows:

- Span 1 over Gano Street: The minimum vertical clearance was measured to be 14’-10” at the east curb below the north arch. There are no posted clearance signs for this span.
- Span 15 over Water Street: The minimum vertical clearance was measured to be greater than 25’. There are no posted clearance signs for this span.
- Span 16 over Waterfront Drive: The minimum vertical clearance was measured to be 21’-0” at the east curb below girder N. There are no posted clearance signs for this span.
- Span 18 over Valley Street: The minimum vertical clearance was measured to be 14’-2” at the east edge of travelway below girder A. There are clearance signs posted on the fascia girders for 13’-9” (photos 5 & 18).

The following elements were not inspected as part of this special inspection and the notes are from the previous routine inspection report dated 07/24/2017:

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 underside of 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 conduit 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 Abutment #2 stem exhibit light to heavy rust.

For additional inspection notes refer to the file entitled “Bridge # 070001 Additional Notes.pdf”.

SCHEDULE NOTES

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	Yes
Traffic Setup Req	Yes
Police Req	Yes
Night Insp Req	No
Signs	Yes

Speed Limit	
Prep Time	
Crew SIize	Varies
Under Insp Vehicle Time	
Traffic Control Time	4
Mile Post	
Crew Days	18
Time Report Time	
Bucket Truck Time	11

Site Access Notes

Spans over water accessed via barge mounted man lift.

Avg Curb Reveal North/East	
Avg Curb Reveal South/West	
Posted Weight Limit	
Posting Sign ?	☐
Post Signs Legible	01
Post Sign Rec	01
Adv Min Vert Clear Sign	-1
Min Ver tClear Signs Leg	01
Min Vert Clear Post Vales	13'-9"
Min Vert Clear Sign Rec	01
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	☐

Work Candidaties

Assigned tio Agency

Stiatius	Prioritiy	Action	Datie Proposed	Noties
Unknown	High	Bridge-Rehab	07/28/2015	Bridge rehab projecti in progress [Baker – revised per 2018 Special Inspection] Repair quantitiy is based on tiotial defecti quantitiy for each elementi Superstiructiure • Totial Reinforced Concretie Closed Box Girde(Elementi105) repair quantitiy(844 LF) • Totial Stieel Open Girde(Elementi107) repair quantitiy(643 LF) • Totial Prestiressed Concretie Open Girde(Elementi109) repair quantitiy(2,810 LF) • Totial Reinforced Concretie Open Girde/Beam (Elementi110) repair quantitiy(1,926 LF) • Totial Elastiomeric Bearing(Elementi310) repair quantitiy(265 EA) • Totial Movable Bearing(Elementi311) repair quantitiy(11 EA) • Totial Fixed Bearing(Elementi313) repair quantitiy(11 EA) • Totial Stieel Diaphragms(Elementi8370) repair quantitiy(57 EA) • Totial Concretie Diaphragms(Elementi8371) repair quantitiy(186 EA) Substiructiure • Totial Reinforced Concretie Columr(Elementi205) repair quantitiy(52 EA) • Totial Reinforced Concretie Pier Wal(Elementi210) repair quantitiy(485 LF) • Totial Reinforced Concretie Abutiment(Elementi215) repair quantitiy(152 LF) • Totial Reinforced Concretie Pier Cap(Elementi234) repair quantitiy(335 LF) • Totial Reinforced Concretie Retiurn Wal(Elementi8213) repair quantitiy(175 LF) • Totial Backwall(Elementi8218) repair quantitiy(126 LF) • Totial Riprap(8366) repair quantitiy(60 SF) • Totial Slope Blocks(8367) repair quantitiy(105 SF)