# STATE OF RHODE ISLAND JUDICIARY

## SUPERIOR COURT
## OMNIBUS CALENDAR ASSIGNMENT FORM

| ☑ Providence/Bristol County ☐ Kent County ☐ Washington County ☐ Newport County | |
|---|---|
| State of Rhode Island | CASE NUMBER<br>PC-2024-04526 |
| VS.<br>AECOM Technical Services, Inc., et al. | |

**CALENDAR TYPE MUST BE SELECTED FOR SCHEDULING PURPOSES**

☐ FORMAL SPECIAL CAUSE CALENDAR ☑ BUSINESS CALENDAR ☐ DISPOSITIVE MOTION CALENDAR

### FORMAL SPECIAL CAUSE AND BUSINESS CALENDAR

| | |
|---|---|
| ☐ AGENCY APPEAL | ☐ MOTION FOR PROTECTIVE ORDER |
| ☐ ASSESSMENT OF DAMAGES | ☐ MOTION TO RECONSIDER |
| ☐ APPOINTMENT OF A SPECIAL MASTER | ☐ ORAL PROOF OF CLAIM |
| ☐ CONFIRM ARBITRATION | ☐ PETITION TO ALLOW SECURED CLAIM |
| ☐ DECLARATORY JUDGMENT | ☐ PETITION TO APPOINT TEMPORARY RECEIVER |
| ☐ ENTRY OF JUDGMENT | ☐ PROOF OF CLAIM |
| ☐ EVIDENTIARY HEARING | ☐ PETITION TO ENFORCE |
| ☐ FIRST AND FINAL REPORT | ☐ PETITION FOR INSTRUCTIONS |
| ☐ FORECLOSURE OF RIGHT OF REDEMPTION | ☐ PRELIMINARY INJUNCTION |
| ☐ FRIENDLY SUIT | ☐ APPOINTMENT OF PERMANENT SPECIAL MASTER |
| ☐ APPOINTMENT OF PERMANENT RECEIVER | ☐ PETITION TO RECLAIM |
| ☐ MOTION TO ATTACH | ☐ PARTITION PROCEEDINGS |
| ☐ MOTION FOR ATTORNEYS FEES | ☐ PETITION TO SELL |
| ☐ MOTION TO COMPEL RECEIVER | ☐ RECEIVERSHIP PROCEEDINGS |
| ☐ MOTION TO DEFAULT | ☐ SHOW CAUSE HEARING |
| ☐ MOTION FOR ENTRY OF FINAL JUDGMENT | ☐ SUPPLEMENTARY PROCEEDINGS |
| ☐ MECHANIC'S LIEN | ☐ TITLE PROCEEDINGS |
| ☐ MOTION FOR APPROVAL | ☐ TEMPORARY RESTRAINING ORDER |
| ☐ MANDATORY INJUNCTION | ☐ TRUSTEE PROCEEDINGS |
| ☐ MOTION TO ADJUDGE IN CONTEMPT | ☐ VACATE ARBITRATION |
| ☐ OTHER FORMAL MATTER (EXPLAIN) _____ | ☐ WRIT OF MANDAMUS |
| _____ | ☐ WRIT OF REPLEVIN |
| ☑ OTHER BUSINESS MATTER (EXPLAIN) _____ Before Judge Stern | |

**If you require witnesses, state the estimated time frame of said hearing and attach a witness list and expected testimony to this form.**

### DISPOSITIVE MOTION CALENDAR

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| ☑ MOTION TO DISMISS, UNDER RULE 12 | ☐ MOTION FOR PARTIAL SUMMARY JUDGMENT |
| ☐ MOTION FOR ENTRY OF JUDGMENT ON PLEADINGS | ☐ MOTION FOR SUMMARY JUDGMENT |
| ☐ OTHER DISPOSITIVE MOTION: (EXPLAIN) _____ | |
| _____ | |

| **HEARING DATE**: TBD Before Judge Stern | **APPROVED BY**: |
|---|---|

**Failure to fill out this form properly may result in your hearing date not being approved.**

| Signature of Attorney or Self-represented Litigant<br>/s/ Susan M. Silva, Esq. | Address:<br>600 Atlantic Ave., 6th Floor, Boston, MA 02210 | |
|---|---|---|
| Rhode Island Bar Number: 9505 | Office Telephone Number: 617-951-2063 | Date: 10/31/24 |

Superior-37 (revised May 2023)

Case Number: PC-2024-04526
Filed in Providence/Bristol County Superior Court
Submitted: 10/31/2024 9:38 AM
Envelope: 4861673
Reviewer: Alexandra R.

STATE OF RHODE ISLAND
PROVIDENCE, S.C.

SUPERIOR COURT
CIVIL ACTION NO. PC-2024-04526

**HEARING DATE**: TBD Before Judge Stern

STATE OF RHODE ISLAND,

Plaintiff,

v.

AECOM TECHNICAL SERVICES, INC., AETNA BRIDGE COMPANY, ARIES SUPPORT SERVICES INC., BARLETTA HEAVY DIVISION, INC., BARLETTA/AETNA I-195 WASHINGTON BRIDGE NORTH PHASE 2 JV, COLLINS ENGINEERS, INC., COMMONWEALTH ENGINEERS & CONSULTANTS, INC., JACOBS ENGINEERING GROUP, INC., MICHAEL BAKER INTERNATIONAL, INC., PRIME AE GROUP, INC., STEERE ENGINEERING, INC., TRANSYSTEMS CORPORATION, and VANASSE HANGEN BRUSTLIN, INC.,

Defendants.

**DEFENDANT COMMONWEALTH ENGINEERS & CONSULTANTS, INC.'S MOTION TO DISMISS**

Pursuant to Rule 12(b)(6) of the Rhode Island Superior Court Rules of Civil Procedure, the defendant, Commonwealth Engineers & Consultants, Inc. ("Commonwealth Engineers"), hereby moves to dismiss Count III (Negligence re: 2019 and 2023 inspections), Count XVI (Negligence re: Joint Venture Proposal), Count XIX (Declaratory Judgment Regarding Non-Contractual

Indemnity), and Count XX (Declaratory Judgment Regarding Contribution) of Plaintiff's Complaint asserted against it.

Commonwealth Engineers' Motion should be granted for three reasons. First, whether pled as negligence, indemnification, or contribution, the claims must all be dismissed under the economic loss doctrine as seeking recovery of purely economic losses. See Franklin Grove Corp. v. Drexel, 936 A.2d 1272, 1278 (R.I. 2007).

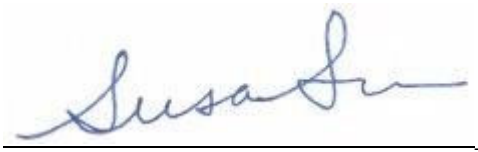
Second, the allegations fail to state a claim under Rule 12 (b)(6). The State's allegations against Commonwealth Engineers are threefold: (1) that Commonwealth Engineers negligently assisted AECOM in its July 24, 2019 inspection, (2) that Commonwealth Engineers negligently assisted AECOM in its July 21, 2023 inspection, and (3) that the "Joint Venture" submitted a proposal identifying rehabilitation tasks Commonwealth Engineers might perform on the bridge for the Joint Venture. Regarding the first two allegations, the publicly-available reports of these two inspections, which the Complaint incorporates by reference, conclusively show that Commonwealth Engineers did not assist AECOM with either inspection. Regarding the third allegation against Commonwealth Engineers, the factual allegations do not plausibly suggest an entitlement to relief from Commonwealth Engineers because they are limited to allegations that another co-defendant, the Joint Venture, made certain representations in a July 2021 proposal about what design work Commonwealth Engineers might perform in the future if the Joint Venture were awarded the bridge rehabilitation project. There is no allegation that Commonwealth Engineers actually performed any relevant work or was under contract to do so.

Finally, there are three additional reasons for the Court to dismiss the declaratory relief claims for noncontractual indemnity and contribution. First, the State has failed to join the allegedly injured, unnamed third parties, as necessary "interested parties," making dismissal

"mandatory" under the Uniform Declaratory Judgments Act. See R.I. Gen. § 9-30-11. Second, the State lacks standing to bring these claims, as the Complaint's alleged injury-in-fact—that unnamed third parties *might* bring a lawsuit against the State—is purely "hypothetical" and "conjectural," rather than "actual or imminent." See Bowen v. Mollis, 945 A.2d 314, 317 (R.I. 2008). Third, the Complaint fails to state facts satisfying the respective elements of noncontractual indemnity and contribution.

WHEREFORE, in light of the foregoing and the reasons set forth in the accompanying Memorandum of Law, Commonwealth Engineers hereby requests that this Court grant its Motion to Dismiss.

THE DEFENDANT,
COMMONWEALTH ENGINEERS
& CONSULTANTS, INC.,
By its Attorney,



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Case Number: PC-2024-04526
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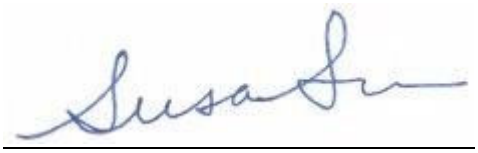
**CERTIFICATE OF SERVICE**

I, Susan M. Silva, hereby certify this 31 day of October, 2024, that the foregoing document was electronically filed and served electronically upon all parties on record.



Susan M. Silva, Esq.

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14828-209478

STATE OF RHODE ISLAND
PROVIDENCE, S.C.

SUPERIOR COURT
CIVIL ACTION NO. PC-2024-04526

**HEARING DATE**: TBD Before Judge Stern

STATE OF RHODE ISLAND,

Plaintiff,

v.

AECOM TECHNICAL SERVICES, INC., AETNA BRIDGE COMPANY, ARIES SUPPORT SERVICES INC., BARLETTA HEAVY DIVISION, INC., BARLETTA/AETNA I-195 WASHINGTON BRIDGE NORTH PHASE 2 JV, COLLINS ENGINEERS, INC., COMMONWEALTH ENGINEERS & CONSULTANTS, INC., JACOBS ENGINEERING GROUP, INC., MICHAEL BAKER INTERNATIONAL, INC., PRIME AE GROUP, INC., STEERE ENGINEERING, INC., TRANSYSTEMS CORPORATION, and VANASSE HANGEN BRUSTLIN, INC.,

Defendants.

**MEMORANDUM OF LAW IN SUPPORT OF DEFENDANT COMMONWEALTH ENGINEERS & CONSULTANTS, INC.'S MOTION TO DISMISS**

## INTRODUCTION

The State of Rhode Island filed this lawsuit against thirteen defendants following the emergency closure of the I-195 westbound Washington Bridge, formally known as the Washington Bridge North No. 700. The emergency closure came after it was discovered that steel tie-down rods—critical to the stability of the bridge—had fractured, putting the bridge at risk of collapse.

On December 11, 2023, the State closed the bridge "to protect public safety and prevent catastrophic injuries to persons and property." (Complaint, p. 4). It was later determined that Washington Bridge North No. 700 will need to be demolished, redesigned, and rebuilt at the cost of hundreds of millions of dollars. These are purely economic losses and are therefore not recoverable in a negligence cause of action. See Boston Investment Property # 1 State v. E.W. Burman, Inc., 658 A.2d 515, 517 (R.I. 1995).

The State asserts four causes of action against Commonwealth Engineers & Consultants, Inc. ("Commonwealth Engineers"), all based in negligence. The counts are: Count III (Negligence re: 2019 and 2023 inspections), Count XVI (Negligence re: Joint Venture Proposal), Count XIX (Declaratory Judgment Regarding Non-Contractual Indemnity), and Count XX (Declaratory Judgment Regarding Contribution). Whether pled as negligence, indemnification, or contribution, the claims must all be dismissed under the economic loss doctrine as seeking recovery of purely economic losses. See Franklin Grove Corp. v. Drexel, 936 A.2d 1272, 1278 (R.I. 2007) (economic loss doctrine applies to negligence claims as well as derivative claims for indemnification and contribution).

The State's claims against Commonwealth Engineers must be dismissed for a second independent reason, that is, for failing to state a claim under Rule 12(b)(6). The State's allegations against Commonwealth Engineers are threefold: (1) that Commonwealth Engineers negligently assisted AECOM in its July 24, 2019 inspection, (2) that Commonwealth Engineers negligently assisted AECOM in its July 21, 2023 inspection, and (3) that the "Joint Venture" submitted a proposal identifying rehabilitation tasks Commonwealth Engineers might perform on the bridge for the Joint Venture. (See Complaint, ¶¶ 88-89, 107). Regarding the first two allegations, the publicly-available reports of these two inspections, which the Complaint incorporates by reference,

(see Complaint, ¶ 68), conclusively show that Commonwealth Engineers did not assist AECOM with either inspection, (see Inspection Reports attached as **Exhibits 1 and 2**). Regarding the third allegation against Commonwealth Engineers, the factual allegations do not plausibly suggest an entitlement to relief from Commonwealth Engineers because they are limited to allegations that another co-defendant, the Joint Venture, made certain representations in a July 2021 proposal about what design work Commonwealth Engineers might perform in the future if the Joint Venture were awarded the bridge rehabilitation project. (See Complaint, ¶¶ 88-91). There is no allegation that Commonwealth Engineers actually performed any work or was under contract to do so. Thus, the Complaint does not (and cannot) plausibly allege that Commonwealth Engineers performed or had a duty to perform design services related to the relevant components of Washington Bridge North No. 700.

Finally, there are three additional reasons for the Court to dismiss the declaratory relief claims for noncontractual indemnity and contribution. First, the State has failed to join the allegedly injured, unnamed third parties, as necessary "interested parties," making dismissal "mandatory" under the Uniform Declaratory Judgments Act. See R.I. Gen. § 9-30-11; Burns v. Moorland Farm Condo. Ass'n, 86 A.3d 354, 358 (R.I. 2014). Second, the State lacks standing to bring these claims, as the Complaint's alleged injury-in-fact—that unnamed third parties *might* bring a lawsuit against the State—is purely "hypothetical" and "conjectural," rather than "actual or imminent." See Bowen v. Mollis, 945 A.2d 314, 317 (R.I. 2008). Third, the Complaint fails to state facts satisfying the respective elements of noncontractual indemnity and contribution.

Accordingly, for all of the above reasons, the State's Complaint must be dismissed as to Commonwealth Engineers in its entirety.

## FACTS[1]

### A. Overview

The Plaintiff is the State of Rhode Island (the "State" or "Plaintiff"), which includes its Department of Transportation ("RIDOT"), an executive department established pursuant to R.I. Gen. Laws § 42-13-1. (Complaint, ¶ 1). The State filed this lawsuit against thirteen defendants seeking damages following the emergency closure of the I-195 westbound Washington Bridge, formally known as the Washington Bridge North No. 700 ("Westbound Bridge").[2] The closure was necessitated by the discovery of two issues: first, that a number a steel tie-down rods critical to the stability of the bridge had fractured, (Complaint, p. 4; ¶¶ 30, 92-94), and second, extensive deterioration in the post-tensioning system in cantilever beams used throughout the bridge, (Complaint, p. 4; ¶¶ 30, 95). These two critical components—tie-down rods and post-tensioning system—are parts of the superstructure of the bridge. The State alleges that the various defendants should have conducted inspections of the Westbound Bridge, recognized the importance and significance of the tie-down rods as critical to the stability of the bridge, performed an investigation into or evaluation of the cracking discovered along the post-tensioned cables in the post-tensioned cantilever beams, and recommended repairs to address the same. (Complaint, ¶¶ 109, 170). The State had contracts with several defendants. The State did not have a contract with Commonwealth Engineers. Absent from the Complaint is any allegation setting forth the basis of a duty running

[1] For purposes of this Motion only, the following facts are taken from Plaintiff's Complaint.

[2] The Complaint uses the shorthand "the Washington Bridge" to mean the bridge at issue—Washington Bridge North No. 700 carrying westbound I-195 traffic. (Complaint, p. 4). This Motion uses either the full official name or the shorthand "Westbound Bridge" to avoid any confusion with the two other bridges that make up the Washington Bridge: Washington Bridge South No. 200 (carrying eastbound traffic of I-195, and referred to herein as the "Eastbound Bridge") and the Washington Bridge No. 20021 (the pedestrian bridge). Neither of those bridges are at issue in this lawsuit.

from Commonwealth Engineers to the State to inspect or make recommendations concerning the tie-down rods and post-tensioning system (or the superstructure of the bridge more generally).

B. Washington Bridge North No. 700 Design and Critical Components

Washington Bridge North No. 700 was originally designed in the late 1960s and opened to traffic in 1968. (Complaint, ¶¶ 18-19). According to the Complaint, the Westbound Bridge has an "extremely unusual design and may be the only bridge of its kind in the United States, if not the world." (Complaint, ¶ 20). The structure is composed of eighteen spans of various structural types, including post-tensioned cantilever beams. (Complaint, ¶ 21). The post-tensioned cantilever beams have two general configurations with the bridge, a balanced cantilever configuration and an unbalanced cantilever configuration. (Complaint, ¶ 22). In the balanced cantilever configuration, stability of the cantilever beam is established by the weight of adjacent drop-in prestressed girder spans and vertical rods anchoring the cantilever beam to the supporting pier. (Complaint, ¶ 23). In the unbalanced cantilever configuration, a drop-in prestressed girder span is only located on one end of the cantilever. The stability of the unbalanced cantilever is maintained by tie-down rods located on the opposite end of the beam from the drop-in span. (Complaint, ¶ 24). In addition to using tie-down rods, the original design also incorporated the use of post-tensioned cables in concrete beams used throughout the bridge. (Complaint, ¶ 26). The post-tensioned cables were used to construct post-tensioned concrete beams to provide stability to the bridge and prevent the beams from cracking when carrying live traffic loads. (Complaint, ¶ 27). The Complaint is very clear that the two critical components at risk of failure were the tie-down rods and post-tensioning system. (Complaint, ¶¶ 30, 92-95). Both components are part of the superstructure of the bridge.

C. AECOM Inspections of the Washington Bridge North No. 700 and Commonwealth Engineers' Alleged Assistance with These Inspections

The Complaint details the history of the Washington Bridge North No. 700, beginning in the 1990s with the Lichtenstein Report, (Complaint, ¶¶ 33-39), and going through the 2017 planned rehabilitation of the bridge, which was suspended due to "unacceptable levels of traffic, congestion, and delays," (Complaint, ¶ 67, ¶¶ 40-67).

From 2015 until the fractured tie-down rods were discovered in December 2023, five engineering firms, including defendant AECOM, oversaw inspections of the Westbound Bridge and reported their findings to RIDOT pursuant to inspection contracts between the State and such firms. (Complaint, ¶ 68). Commonwealth Engineers was not one of those five engineering firms. (Complaint, ¶ 73).

The only allegation related to Commonwealth Engineers and these inspections can be found in Count III of the Complaint alleging that "Commonwealth Engineers assisted AECOM in conducting the July 24, 2019 and the July 21, 2023 inspections of the Washington Bridge." (Complaint, ¶ 108) (emphasis added). However, as will be explained below, Commonwealth Engineers did not assist AECOM with these inspections, and the State's own reports prove it.

According to the Complaint, the firm that conducted each inspection "reported their findings to RIDOT". (Complaint, ¶ 68). The Complaint incorporates these inspection reports, as these documents are "sufficiently referred to in the [C]omplaint." Mokwenyei v. Rhode Island Hospital, 198 A.3d 17, 22 (R.I. 2018). According to those reports, the July 24, 2019 and July 21, 2023 inspections of the Westbound Bridge were performed by AECOM alone, without the assistance of Commonwealth Engineers. Compare **Ex. 1** (inspection performed by "AECOM") and **Ex. 2** (inspection performed by "AECOM"), with **Ex. 3** (2023 inspection report for adjacent Eastbound Bridge inspected by "AECOM-COMMONWEALTH").

D. Joint Venture Embarks on the Design-Build of the Washington Bridge North No. 700

On or about March 17, 2021, RIDOT issued RFP/Bid No. 7611889—a request for proposals entitled "Best Value Design-Build Procurement for Bridge Group 57T-10: I-195 Washington Bridge North Phase 2". (Complaint, ¶ 78). On or about July 2, 2021, the Joint Venture[3] submitted a Design-Build Proposal. (Complaint, ¶ 82). Absent from the Complaint is any allegation that Commonwealth Engineers prepared or participated in the preparation of the proposal. The only factual allegations concerning Commonwealth Engineers relate to representations the Joint Venture made in its proposal concerning the design services the Joint Venture expected Commonwealth Engineers would perform if the Joint Venture was awarded the project. (Complaint, ¶¶ 84, 88, 89). Absent from the Complaint is any allegation that Commonwealth Engineers contracted with the State, the Joint Venture, VHB, or any other entity to actually perform those design services.[4]

E. Bridge Closure and Claimed Damages

On December 8, 2023, VHB identified tie-down rod failures at Pier 7 and tie-down rods compromised at Pier 6. (Complaint, ¶ 92). On December 11, 2023, RIDOT issued an emergency declaration closing Washington Bridge North No. 700. (Complaint, ¶ 94). Subsequent investigation "revealed the existence of unaddressed voids, poor grout, moisture, and corrosion,

[3] The Joint Venture is defendant Barletta/Aetna I-195 Washington Bridge North Phase 2 JV, which is a joint venture between defendants Barletta Heavy Division, Inc. and Aetna Bridge Company. (Complaint, ¶ 6).

[4] The State's failure to allege that Commonwealth Engineers contracted to perform relevant design services is not an oversight. The only design services Commonwealth Engineers provided on Washington Bridge North No. 700 concerned the substructure of the bridge. The substructure refers to supporting foundation, including elements like piers, abutments, and footings. The critical components at issue in this case (tie-down rods and post-tensioning system) are part of the superstructure of the bridge. The superstructure refers to the upper part of the bridge that supports the deck (where traffic travels) and spans the obstacle the bridge crosses.

resulting in widespread deterioration of the post-tensioning system, critical to the safety and structural integrity of the bridge, such that the only reasonable option is to demolish and replace the existing bridge." (Complaint, ¶ 95).

According to the Complaint, the bridge replacement is expected to cost "hundreds of millions of dollars". (Complaint, p. 4). The Complaint seeks to "hold those liable for the physical damage to its property [i.e. the bridge itself] and for the economic losses it has and will in the future suffer." (Complaint, p. 4; ¶ 110, 171). The Complaint does not allege personal injury or other property damage.

STANDARD OF REVIEW

Pursuant to Rule 12(b)(6), this Court is empowered to dismiss any and all claims that fail to state a claim upon which relief can be granted. See Banki v. Fine, 224 A.3d 88, 94 (R.I. 2020). In assessing a motion to dismiss under Rule 12, "the trial justice must look no further than the complaint, [must] assume that all allegations in the compliant are true, and resolve any doubts in a plaintiff's favor." Pontarelli v. Rhode Island Department of Elementary and Secondary Education, 176 A.3d 472, 476 (R.I. 2018) (brackets and internal quotations omitted) (quoting Multi-State Restoration, Inc. v. DWS Properties, LLC, 61 A.3d 414, 416 (R.I. 2013)). A motion to dismiss may be properly granted only "if it appears beyond a reasonable doubt that a plaintiff would not be entitled to relief under any conceivable set of facts." Id. (deletion omitted) (quoting Multi-State Restoration, Inc., 61 A.3d at 417); see also Banki, 224 A.3d at 94.

However, the trial justice may also consider "documents the authenticity of which are not disputed by the parties; for official public records; for documents central to plaintiffs' claim; or for documents sufficiently referred to in the complaint . . ." Mokwenyei v. Rhode Island Hospital, 198 A.3d 17, 22 (2018).

## ARGUMENT

### I. THE STATE'S CLAIMS AGAINST COMMONWEALTH ENGINEERS ARE BARRED BY THE ECONOMIC LOSS DOCTRINE

The economic loss doctrine provides that "a plaintiff is precluded from recovering purely economic losses in a negligence cause of action." Boston Investment Property # 1 State v. E.W. Burman, Inc., 658 A.2d 515, 517 (R.I.1995). The doctrine reasons that contract law—not tort law—provides the appropriate avenue for recovery between sophisticated commercial entities when there is no personal injury or physical injury to property. Franklin Grove Corp. v. Drexel, 936 A.2d 1272, 1275 (R.I. 2007). Here, all of the States' claims against Commonwealth Engineers sound in negligence. The damage alleged are purely economic losses: damage to the bridge itself and "other economic losses." Accordingly, the claims against Commonwealth Engineers are barred by the economic loss doctrine and must be dismissed.

The rationale for the rule, as articulated by our Supreme Court, is that "tort principles, such as negligence, are better suited for resolving claims involving unanticipated physical injury." Boston Inv. Prop. # 1 State, 658 A.2d at 518 (quoting Spring Motors Distribs., Inc. v. Ford Motor Co., 98 N.J. 555, 579-80, 489 A.2d 660, 672 (1985)). In contrast, "[c]ontract principles . . . are generally more appropriate for determining claims for consequential damage that the parties have or could have addressed." Id.; see also Triton Realty Ltd. P'ship v. Almeida, No. C.A. PC04-2335, 2006 WL 2089255, at *2 (R.I. Super. July 25, 2006) (Gibney, J., unpublished opinion) (dismissing complaint where parties were "sophisticated commercial entities involved in a commercial transaction" who could have "utilize[d] contract law to protect themselves from economic damages").

A. The Damages Alleged by the State Are Purely Economic Losses

The damages alleged on the face of the Complaint are purely economic losses. These damages are: "physical damage to its property [i.e. the bridge itself] and for the economic losses it has and will in the future suffer." (Complaint, p. 4; ¶ 110, 171). Absent from the Complaint is any allegation of personal injury or other property damage. It is settled that property damage to the product itself (here, the bridge) does not suffice to overcome the economic loss doctrine. See Isla Nena Air Servs., Inc. v. Cessna Aircraft Co., 449 F.3d 85, 87 (1st Cir. 2006). "Under the economic loss rule, a party generally may not recover in tort when a defective product harms only the product itself [instead of a person or other property]." Id. (applying the economic loss doctrine where defects in airplane's component parts caused it to crash); see also N. Ins. Co. of New York v. Albin Mfg., Inc., No. C.A. 06-190-S, 2008 WL 3285852, at *6 (D.R.I. Aug. 8, 2008), aff'd sub nom. N. Ins. Co. of New York v. Point Judith Marina, LLC, 579 F.3d 61 (1st Cir. 2009) (same). Other jurisdictions have applied the economic loss doctrine and dismissed claims under similar fact patterns where a design professional providing design services relative to a bridge was sued in negligence. See, e.g., BRW, Inc. v. Dufficy & Sons, Inc., 99 P.3d 66, 71 (Colo. 2004) (economic loss doctrine barred negligence claim based on incorrect primer applied to bridge steel); Pycsa Panama, S.A. v. Tensar Earth Techs., Inc., 625 F. Supp. 2d 1198, 1214, 1248 (S.D. Fla. 2008), aff'd, 329 F. App'x 257 (11th Cir. 2009) (economic loss doctrine barred negligence claim arising from bridge abutment collapse).

The economic loss doctrine bars plaintiffs from "recovering purely economic losses in a negligence cause of action." Boston Inv. Prop. # 1 State, 658 A.2d at 517. Economic loss is defined as "costs associated with repair and-or replacement of a defective product, or loss of profits consequent thereto, apart from any injury or damage to other property." Hart Engineering Co. v.

FMC Corp., 593 F. Supp. 1471, 1481 n. 11 (D.R.I. 1984); Gail Frances, Inc. v. Alaska Diesel Elec., Inc., 62 F. Supp. 2d 511, 517 (D.R.I. 1999). If damage to the bridge itself could be recoverable, it would subsume the economic loss doctrine entirely. Because the State seeks purely economic damages, its remedy lies exclusively in contract law.

B. Lack of Privity Between State and Commonwealth Engineers Will Not Prevent Application of the Doctrine

That there is no privity between the State and Commonwealth Engineers will not prevent application of the economic loss doctrine. Hexagon Holdings, Inc. v. Carlisle Syntec Inc., 199 A.3d 1034 (R.I. 2019) is dispositive. Hexagon involved a series of claims by a commercial building owner against the subcontractor which installed a roofing system alleging, among other things, negligence. Id. at 1036-37. The plaintiff building owner (Hexagon) had a contract with general contractor A/Z Construction, which in turn had a contract with the defendant subcontractor McKenna. Id. There was no contract between the plaintiff building owner and the defendant subcontractor. Id. Despite the absence of privity of contract, and despite the fact that the plaintiff building owner could not sue the defendant subcontractor in breach of contract, the Rhode Island Supreme Court applied the economic loss doctrine to dismiss the sole remaining claim of negligence. Id. at 1042-43. The Court identified the issue and holding as follows:

> The issue here is whether an owner of a commercial building may circumvent contractual privity with a general contractor by suing the subcontractor to evade application of the economic loss doctrine. We answer this question in the negative. Id.

The Court explained: "in the case of sophisticated commercial entities in the commercial real estate market, contract law is the proper device to allocate economic risk." Id. at 1042. The Court further held that "in the construction context between commercial entities" the economic loss doctrine

applies to bar purely economic losses, and an injured party "must resort to contract law for recovery." Id.

In the instant case, there is no contract between the State and Commonwealth Engineers. In a construction context between commercial entities, the State must resort to contract law for recovery. Perhaps in acknowledgment of this, the State has asserted breach of contract claims against AECOM, VHB, and other defendants. When purely economic losses are alleged between sophisticated commercial entities, as is the case here, the proper remedy is in breach of contract, not negligence. See BRW, 99 P.3d at 72 (Supreme Court of Colorado explained that particularly in the context of larger construction projects where multiple parties are involved, they rely on a "network of contracts to allocate their risks, duties, and remedies."); Owen Bldg. LLC v. Victory Heating & Air Conditioning Co., No. CV 20-00266-WES, 2021 WL 412282, at *2 (D.R.I. Jan. 20, 2021), report and recommendation adopted, No. CV 20-266 WES, 2021 WL 409863 (D.R.I. Feb. 5, 2021) (dismissing negligence claim under similar owner/GC/subcontractor facts as presented in Hexagon and instant case). Accordingly, all of the State's claims against Commonwealth Engineers should be dismissed under the economic loss doctrine.

## II. THE STATE'S COMPLAINT FAILS TO ALLEGE ANY WRONGFUL ACT OR OMISSION ON THE PART OF COMMONWEALTH ENGINEERS THAT COULD SATISFY THE ELEMENTS OF NEGLIGENCE

The Complaint only alleges three wrongful acts on the part of Commonwealth Engineers, and as will be shown below, none of these three allegations state a claim for negligence.

The first two alleged wrongful acts are that Commonwealth Engineers negligently assisted AECOM with its inspections of the subject bridge, Washington Bridge North No. 700, on July 24, 2019 and July 21, 2023, respectively. (See Complaint, ¶¶ 106-10). However, the inspection reports referred to in the Complaint, (see Complaint, ¶¶ 68, 74; **Ex. 1-2**), show that Commonwealth

Engineers did not assist AECOM in the inspections of the subject Westbound Bridge. Instead, both reports indicate that inspections were performed by "AECOM" alone. Accordingly, there is no act or omission on the part of Commonwealth Engineers that could constitute negligence or could have been the cause of any harm alleged in the Complaint to the State, nor could Commonwealth Engineers have owed a duty to the State with respect the alleged inspections.

The third alleged wrongful act of Commonwealth Engineers is not an "act," rather it is the mere allegation that under the Joint Venture Proposal, Commonwealth Engineers was proposed by the Joint Venture to perform certain designs and other rehabilitation work on the Westbound Bridge, as a subconsultant to VHB sometime in the future. (See Complaint, ¶¶ 88, 89). However, the Complaint never alleges that Commonwealth Engineers actually did any designs or other work on the Westbound Bridge. In fact, it says that the "rehabilitation plans" were "stamped VHB, Barletta, and Aetna," not Commonwealth Engineers. (Complaint, ¶ 91). Absent from the Complaint is any allegation relating to an act or omission on the part of Commonwealth Engineers that could constitute negligence or could have caused any harm to the State, nor could Commonwealth Engineers have owed a duty to the State based on these allegations that they were proposed by another party to do something.

As set forth in more detail below, all of the causes of action against Commonwealth Engineers (Counts III, XVI, XIX, and XX) fail to state a claim plausibly entitling the State to relief.

A. The 2019 and 2023 Inspection Reports for the Westbound Bridge Show That Commonwealth Engineers Did Not Conduct Those Inspections

The first two alleged wrongful acts are that Commonwealth Engineers negligently assisted AECOM with its inspections of the subject bridge on July 24, 2019 and July 21, 2023, respectively. (See Complaint, ¶¶ 106-110).

While this Court must ordinarily "accept as true all well-pleaded factual averments in the plaintiff's . . . complaint and indulge all reasonable inferences therefrom in his favor," Katz v. Pershing, LLC, 672 F.3d 64, 70 (1st Cir. 2012), the Court must also consider appropriate materials outside the pleadings, including here the publicly-available inspection reports referred to in the Complaint. These exhibits "govern over inconsistent allegations in the pleading to the extent that they 'render [those allegations] utterly implausible.'" Fitch v. Fed. Hous. Fin. Agency, No. 18-CV-214JJM, 2021 WL 4901909, at *5 (D.R.I. Oct. 21, 2021), report and recommendation adopted, No. CV 18-214-JJM-PAS, 2022 WL 159287 (D.R.I. Jan. 18, 2022) (quoting Colesanti v. Becton Dickinson, C.A. No. 18-491WES, 2019 WL 4043957, at *9 (D.R.I. July 19, 2019)); see also Hernandez v. Mortg. Elec. Registration Sys., Inc., No. CV 17-316WES, 2017 WL 10699613, at *3 (D.R.I. Oct. 11, 2017) ("[I]n the event that the written instrument contradicts allegations in the complaint to which it is attached, the exhibit trumps the allegations.") (internal quotation omitted).

In our case, the 2019 and 2023 inspection reports referred to in the Complaint (see Complaint, ¶¶ 68, 74), make clear that Commonwealth Engineers did not assist AECOM with the subject inspections of the Westbound Bridge. In ruling on this motion, the Court must credit the 2019 and 2023 inspection reports on this point. **Ex. 1, 2**. Under Mokwenyei v. Rhode Island Hospital, 198 A.3d 17, 22 (R.I. 2018), these inspection reports are "sufficiently referred to in the [C]omplaint," to be considered part of the Complaint. Furthermore, per Fitch and Hernandez, these two reports state that AECOM conducted the 2019 and 2023 inspections without Commonwealth Engineers' assistance, and that "trumps" the Complaint's allegations that they assisted AECOM with the inspections.[5]

[5] To alleviate any doubt, please refer to the 2023 inspection report of the adjacent Eastbound Bridge, which says the adjacent bridge was "inspected by: AECOM-COMMONWEALTH." **Ex.**

Because the Complaint, by incorporation of the reports, shows that Commonwealth Engineers did not conduct the two inspections of the Westbound Bridge, the Complaint's allegations regarding these inspections do not state a claim for negligence on the part of Commonwealth Engineers. To state a claim for negligence, a plaintiff must plausibly allege the existence of four elements: "(1) a legally cognizable duty owed by defendant to plaintiff; (2) breach of that duty; (3) that the conduct proximately caused the consequent injury; and (4) actual loss, damage, or injury." Blouin v. Koster, 319 A.3d 654, 659-60 (R.I. 2024). Here, the Complaint's allegations with respect to the 2019 and 2023 inspections cannot create a viable cause of action for negligence. Put simply, Commonwealth Engineers cannot have owed a duty, nor breached a duty, to the State with respect to inspections that they did not perform. Moreover, because they did not perform the inspections, there is no act or omission that could have been the cause of the State's injury, nor did the State suffer any injury as a result of their actions. Thus, the Complaint fails to state a cause of action for negligence, with respect to the 2019 and 2023 inspections of the Westbound Bridge, as against Commonwealth Engineers. Accordingly, count III and derivative counts XIX and XX must be dismissed.

B. The Complaint Never Alleges that Commonwealth Engineers Performed or Was Contracted to Perform Any Work Under the Joint Venture Proposal

The Complaint's third allegation against Commonwealth Engineers relates to the Joint Venture's proposal to the State for rehabilitation work on the Westbound Bridge. The Complaint alleges that in 2021, the Joint Venture submitted proposals to the State for a project to rehabilitate the bridge. Regarding Commonwealth Engineers, the Complaint alleges as follows:

**3**. Had Commonwealth Engineers assisted the other two inspections, it would have said "AECOM-COMMONWEALTH," as with this inspection.

> 84. The Joint Venture's Proposal identified VHB as its lead designer. . . . The proposal stated that VHB's design work would be supplemented by Commonwealth Engineers' design work.
>
> 88. The Joint Venture's proposal identified VHB's subconsultants on the project, including Commonwealth Engineers (which would be performing 'Structural/bridge design').
>
> 90. As part of its undertaking to extend the life expectancy of the bridge by twenty-five years, the proposal further stated: "Commonwealth and VHB will perform independent steel and camber designs as added quality review during the design phase" and "Commonwealth Engineers will perform independent review of structural steel, prestressed girder, and camber designs as well as ***additional rehabilitation design tasks***." (Emphasis in original).
>
> 91 On or about October 19, 2023, the Joint Venture issued rehabilitation plans stamped by VHB, Barletta, and Aetna.

In essence, the Complaint's allegations against Commonwealth Engineers with respect to the Joint Venture Proposal are that the Joint Venture proposed that Commonwealth would do certain tasks on the bridge, including designs and unspecified "additional rehabilitation tasks." However, the Complaint never alleges that Commonwealth Engineers actually performed these tasks, agreed to perform these tasks, or entered into a contract related to performance of these tasks. In fact, the Complaint says that the "rehabilitation plans [were] stamped by VHB, Barletta, and Aetna," not by Commonwealth Engineers. The absence of these allegations is not surprising given that Commonwealth Engineers in fact did not perform any tasks related to the superstructure of the Westbound Bridge where the at-issue components were located.

Because the Complaint never alleges that Commonwealth Engineers performed or agreed to perform any tasks under the Joint Venture's 2021 proposal, this third allegation against it cannot form the basis of any cause of action against it. As previously stated, to state a claim for negligence, a plaintiff must plausibly allege the existence of four elements: "(1) a legally cognizable duty owed by defendant to plaintiff; (2) breach of that duty; (3) that the conduct

proximately caused the consequent injury; and (4) actual loss, damage, or injury." Blouin, 319 A.3d at 659-60. Here, the Complaint's allegations regarding VHB's proposal do not state a claim for negligence. Regarding duty, there is no allegation that the State or anyone else contracted Commonwealth Engineers to perform the work under the proposal, or that it undertook that work, as to create a duty. Regarding breach and causation, Commonwealth Engineers could not have negligently performed services and, in turn, caused any damages to the State, since, again, there is no allegation that it performed any services under the proposal. Finally, the fact that the first three elements fail, necessarily means that Commonwealth Engineers could not have caused the State any damages.

Therefore, the Complaint's third allegation of a wrongful act by Commonwealth Engineers (the 2021 Joint Venture proposal) cannot underlie any cause of action. Accordingly, the Complaint's causes of action against Commonwealth Engineers that are based on proposed work, not actual work (Count XVI-Negligence, Count XIX-Declaratory Judgment [noncontractual indemnity], and Count XX Declaratory Judgment [contribution]), fail as a matter of law.

## III. THE COURT MUST DISMISS THE CAUSES OF ACTION FOR DECLARATORY RELIEF AS TO COMMONWEALTH ENGINEERS (COUNTS XIX & XX) FOR THREE INDEPENDENT REASONS

The Complaint also asserts causes of action for "Declaratory Judgment Regarding Non-Contractual Indemnity" (count XIX) and "Declaratory Judgment Regarding Contribution" (count XX). These counts fail for the same reasons outlined above, and for three additional independent reasons.

First, the State has not joined in this lawsuit the hypothetical third parties who might one day sue the State. This violates the "mandatory" requirement under the Uniform Declaratory Judgment Act for the party seeking relief to join all interested parties. See R.I. Gen. § 9-30-11.

Second, the Complaint never alleges that a specific third party is bringing or is likely to bring a claim for damages against the State. (See Complaint, ¶¶ 184, 188). Thus, the State lacks standing to bring a declaratory relief claim, as the Complaint's alleged injury-in-fact is purely "conjectural" and "hypothetical," rather than "actual or imminent." See Bowen v. Mollis, 945 A.2d 314, 317 (R.I. 2008)).

Finally, the Complaint's failure to specify either the third party or the factual basis for joint liability also constitutes a failure to plead the required elements of indemnity and contribution. As plead, the declaratory counts do not give Commonwealth Engineers fair notice of the claims.

A. The State Has Failed to Join the Third Parties Who Have an Interest in the Outcome of the Declaratory Relief Causes of Action

The "Uniform Declaratory Judgments Act" (UDJA) authorizes Rhode Island courts to issue "declaratory judgments." See R.I. Gen. Laws § 9-30-1. One requirement under the Act is that "[w]hen declaratory relief is sought, all persons shall be made parties who have or claim any interest which would be affected by the declaration and no declaration shall prejudice the rights of persons to the proceeding." R.I. Gen. Laws § 9-30-11. According to the Supreme Court of Rhode Island, the requirement to join all interested parties is "mandatory," and thus, the Court has said, "'failure to join all persons who have an interest that would be affected by the declaration' is fatal." Burns v. Moorland Farm Condo. Ass'n, 86 A.3d 354, 358 (R.I. 2014) (quoting Abbatematteo v. State, 694 A.2d 738, 740 (R.I. 1997)). "Failure to join" such interest persons "in the action warrants dismissal." Thompson v. Town Council of Town of Westerly, 487 A.2d 498, 500 (R.I. 1985).

Here, the State has failed to join all interested parties. These interested parties are the unnamed third parties to whom the Complaint alleges the State could potentially be liable, (see Complaint, ¶¶ 184, 188), and for which they seek indemnity and contribution from

Commonwealth Engineers. These third parties are interested parties because a judgment declaring the State to be purely derivatively or constructively liable to that third party, as required for indemnity[6], or declaring the State to be a joint tortfeasor with Commonwealth Engineers, as required for contribution[7], would impact the hypothetical third party's potential rights to recovery from both the State and Commonwealth Engineers. Therefore, because the State has failed to join all interested parties, the Court must dismiss their declaratory relief causes of action.

B. The State Lacks the Requisite Standing to Bring the Declaratory Relief Claims

While the UDJA authorizes Rhode Island courts to issue "declaratory judgments," a "declaratory-judgment action may not be used 'for the determination of abstract questions or the rendering of advisory opinions.'" Sullivan v. Chafee, 703 A.2d 748, 751 (R.I. 1997) (quoting Lamb v. Perry, 101 R.I. 538, 542 (1967)).

To obtain declaratory relief, the plaintiff must demonstrate that there is "an actual justiciable controversy." Sullivan, 703 A.2d at 751. "For a claim to be justiciable, two elemental components must be present: (1) a plaintiff with the requisite standing and (2) 'some legal hypothesis which will entitle the plaintiff to real and articulable relief.'" N &M Properties, LLC v. Town of West Warwick ex re. Moore, 964 A.2d 1141, 1145 (R.I. 2009) (quoting Bowen v. Mollis, 945 A.2d 314, 316 (R.I. 2008)).

"The requisite standing to prosecute a claim exists when the plaintiff has alleged that 'the challenged action has caused him injury in fact, economic, or otherwise," (quoting Rhode Island Ophthalmological Society v. Cannon, 113 R.I. 16, 22 (R.I. 1974)), that is, a "legally

[6] See Muldowney v. Weatherking Products, Inc., 509 A.2d 441, 445 (R.I. 1986).
[7] See R.I. Gen. Laws § 10-6-1 et seq.; Wilson v. Krasnoff, 560 A.2d 335, 339-40 (R.I. 1989).

cognizable and protectable interest," that is "actual or imminent, not 'conjectural' or 'hypothetical.'" Bowen, 945 A.2d at 317. Lack of standing requires a court to dismiss the claim. N & M Properties, LLC v. Town of West Warwick ex re. Moore, 964 A.2d 1141, 1146 (R.I. 2009) (concluding that "the motion justice properly dismissed its claim for lack of standing").

Here, the State lacks standing to bring the declaratory relief claims because the alleged injury is purely "conjectural" and "hypothetical," rather than "actual or imminent." The alleged injury is "conjectural" and "hypothetical" because the Complaint fails to identify the third parties potentially bringing a claim against the State or factual reasons why such a lawsuit is likely. The Complaint rather simply says that "the State may be held liable to one or more third parties." (Complaint, ¶¶ 184, 188). In other words, the State is alleging that it is *merely possible* that some third party could sue them for damages caused by Commonwealth Engineer's actions, but this is insufficient to confer standing. Therefore, because the State lacks standing, the Court must dismiss the declaratory relief claims.

C. The Complaint Fails to Allege a Factual Basis for Declaratory Relief

The Complaint also fails to sufficiently allege facts that would satisfy the elements for both noncontractual indemnity and the contribution claims. As plead, the declaratory counts do not give Commonwealth Engineers fair notice of the claims. See Bragg v. Warwick Shoppers World, Inc., 102 R.I. 8, 11 (1967) (complaint is required to "give the defendant fair notice of what the plaintiff's claim is and the ground upon which it rests.").

1. Noncontractual (or "Equitable") Indemnity

"To be entitled to indemnification," a plaintiff must prove (i) "that [they are] liable to a third party," (ii) "the prospective indemnitors [] are liable to a third party," and (iii) "the

obligation ought to be discharged by the indemnitors." DiMase v. Fleet Nat. Bank, 723 A.2d 765, 768 (R.I. 1999) (interpolations in original removed).[8] "The theory underlying the concept of equitable indemnity is that 'one who has been exposed to liability solely as the result of a wrongful act of another should be able to recover from that party. If another person has been compelled to pay damages that should have been paid by the wrongdoer, the latter becomes liable to the former.'" Id. (quoting Muldowney v. Weatherking Products, Inc., 509 A.2d 441, 443 (R.I. 1986)).

In our case, the Complaint fails to allege a factual basis for equitable indemnity. The Complaint fails to allege that facts showing that the State is liable to a third party, that Commonwealth Engineers is liable to that third party, or that Commonwealth Engineers should for equitable reasons be required to discharge the State's liability. Therefore, the Court must dismiss this claim.

2. Contribution

The "Uniform Contribution Among Tortfeasors Act" (UCATA) establishes the right of contribution under Rhode Island law, consistent with the traditional common law principles of contribution among joint tortfeasors who are "jointly or severally liable for the same injury." See R.I. Gen. Laws § 10-6-1 et seq.

The Supreme Court has explained the elements of contribution as follows:

> "[W]e discern two requirements in order for parties to be joint tortfeasors under the act. First, the parties must be 'liable in tort.' The phrase 'liable in tort' has been construed to mean to have negligently contributed to another's injury [citation omitted] Second, the statute refers to the same

[8] Rhode Island courts do not appear to recognize a concept called, "noncontractual indemnity." However, it also appears that "noncontractual indemnity" is another name for "equitable indemnity," which Rhode Island courts do recognize as a legal concept. See CJS INDEMNITY § 34, n.1, n.3. Thus, this Motion will treat it as a claim for "equitable indemnity."

> injury. The same injury is caused by parties who engage in common wrongs. To constitute joint tortfeasors under the act, both parties must have engaged in common wrongs. . . . In determining whether an occurrence between two or more parties is a common wrong, two important factors will be the time at which each party acted or failed to act and whether a party had the ability to guard against the negligence of the other." Wilson v. Krasnoff, 560 A.2d 335, 339–40 (R.I. 1989).

In our case, the Complaint fails to allege a factual basis that would satisfy any of the elements of contribution. There are no specific factual allegations that the State and Commonwealth Engineers were both negligent to a specified third party and that this negligence injured that third party. Additionally, there are no specific factual allegations of a "common wrong" on the part of the State and Commonwealth Engineers to that third party. In fact, the Complaint's allegations as to Commonwealth Engineers show that there *cannot* be a "common wrong" between them and the State. This is because the Complaint never alleges that the State assisted or in any way participated in Commonwealth Engineers' allegedly negligent work. Therefore, the Court must dismiss this claim.

## CONCLUSION

For all the reasons stated above, this court should grant Commonwealth Engineers' Motion to Dismiss.

First, under the economic loss doctrine, Commonwealth Engineers did not owe a duty to the State, because there was no contract between it and the State and because the State's losses were purely economic. See Franklin Grove, 936 A.2d at 1278.

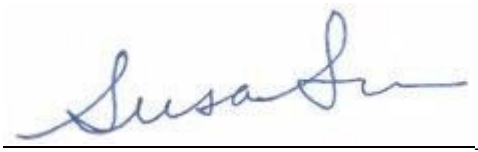
Second, the Complaint's three alleged wrongful acts by Commonwealth Engineers do not state a plausible cause of action. The first two allegations (the 2019 and 2023 inspections) are misplaced because Commonwealth Engineers did not conduct or assist in those inspections based

on the inspection reports the Complaint incorporates by reference that "trump" the Complaint's allegations. The third allegation (the 2021 Joint Venture Proposal) cannot support a cause of action because there is no allegation that Commonwealth Engineers performed those services, was contracted or subcontracted to perform those services, or that it agreed to perform those services.

Additionally, the Court must dismiss the Complaint's declaratory relief causes of action for noncontractual indemnity and contribution because the State has failed to join the third parties as "interested parties," because the Complaint's alleged injury-in-fact is purely "conjectural" and "hypothetical," and because the Complaint fails to allege a factual basis for the noncontractual indemnity and contribution claims.

In light of all of the above, Commonwealth Engineers respectfully requests that this Court GRANT this Motion to Dismiss.

THE DEFENDANT,
COMMONWEALTH ENGINEERS
& CONSULTANTS, INC.,
By its Attorney,



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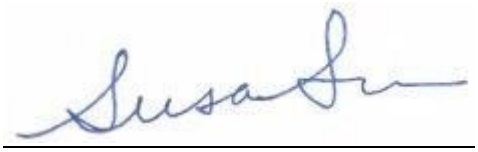
Case Number: PC-2024-04526
Filed in Providence/Bristol County Superior Court
Submitted: 10/31/2024 9:38 AM
Envelope: 4861673
Reviewer: Alexandra R.

**CERTIFICATE OF SERVICE**

I, Susan M. Silva, hereby certify this 31 day of October, 2024, that the foregoing document was electronically filed and served electronically upon all parties on record.



Susan M. Silva, Esq.

2780646
14828-209478

# EXHIBIT 1

# *Rhode Island Department of Transportation*

## Bridge Inspection Report

## Structure Inventory and Appraisal Sheet (English Units)

Name: Washington Bridge North  Agency ID: 070001  Inspec Date: 07/24/2019  Inspected By: AECOM

### IDENTIFICATION

| | | | | | |
|---|---|---|---|---|---|
| Rte.(On/Under) | 5A: | Route On Structure | State | 1: | 44 Rhode Island |
| Rte. Signing Prefix | 5B: | 1 Interstate Hwy | Facility Carried | 7: | I-195 WB |
| Level of Service | 5C: | 1 Mainline | Municipality | 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: | | Location | 9: | 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: | 7/24/2019 | Frequency | 91: | 24 months | Next Inspection: | 7/24/2021 |
| 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: | 7/24/2019 | SI Frequency | 92C: | 12 months | Next SI: | 7/24/2020 |
| Element Insp. Date: | | 7/24/2019 | Element Frequency: | | 12 months | Next Elem. Insp.: | 7/24/2020 |

### 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 | ft |
| Width Curb to Curb | 51: | 71.85 ft | Curb/Sdwlk Width L | 50A: | 0.00 | ft |
| 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: | | 145,531.82ft² | 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 |

# *Rhode Island Department of Transportation*

## Bridge Inspection Report

## 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: | 01 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: | |

# *Rhode Island Department of Transportation*

## Bridge Inspection Report

## Structure Inventory and Appraisal Sheet (English Units)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | Exposed Rebar | 2,143.00 | 0% | 0.00 | 83% | 1,786.00 | 17% | 357.00 | 0% | 0.00 |
| | 1120/3 | Efflorescence/Rust Staining | 2,143.00 | 0% | 0.00 | 83% | 1,786.00 | 17% | 357.00 | 0% | 0.00 |
| | 1130/3 | Cracking (RC and Other) | 2,143.00 | 0% | 0.00 | 83% | 1,786.00 | 17% | 357.00 | 0% | 0.00 |
| 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 Surfaces | 7,336.00 | 100% | 7,336.00 | 0% | 0.00 | 0% | 0.00 | 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 | 1,320.00 | 60% | 787.00 | 38% | 496.00 | 3% | 37.00 | 0% | 0.00 |
| | 515/3 | Steel Protective Coating | 19,385.00 | 38% | 7,350.00 | 32% | 6,300.00 | 30% | 5,735.00 | 0% | 0.00 |
| | *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)* | *5,735.00* | *0%* | *0.00* | *0%* | *0.00* | *100%* | *5,735.00* | *0%* | *0.00* |
| | 1000/3 | Corrosion | 390.00 | 0% | 0.00 | 91% | 353.00 | 10% | 37.00 | 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 |
| | 8368/3 | Graffiti | 200.00 | 100% | 200.00 | 0% | 0.00 | 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 |
| | 521/3 | Conc Prot Coating | 14,800.00 | 100% | 14,800.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| | 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 | 43% | 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 |
| | 521/3 | Conc Prot Coating | 25,200.00 | 100% | 25,200.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| | 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 |
| | 521/3 | Conc Prot Coating | 2,300.00 | 100% | 2,300.00 | 0% | 0.00 | 0% | 0.00 | 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 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8368/3 | Graffiti | 200.00 | 0% | 0.00 | 100% | 200.00 | 0% | 0.00 | 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** | **13%** | **52.00** | **81%** | **313.00** | **6%** | **23.00** | **0%** | **0.00** |
| | 1080/3 | Delamination/Spall/Patched Area | 308.00 | 0% | 0.00 | 95% | 293.00 | 5% | 15.00 | 0% | 0.00 |
| | 1090/3 | Exposed Rebar | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 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 | 100% | 12.00 | 0% | 0.00 | 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 | 5.00 | 0% | 0.00 | 100% | 5.00 | 0% | 0.00 | 0% | 0.00 |
| | 2330/3 | Seal Damage | 10.00 | 0% | 0.00 | 100% | 10.00 | 0% | 0.00 | 0% | 0.00 |
| | 2350/3 | Debris Impaction | 5.00 | 0% | 0.00 | 100% | 5.00 | 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 | 9.00 | 0% | 0.00 | 78% | 7.00 | 22% | 2.00 | 0% | 0.00 |
| | 2220/3 | Alignment | 1.00 | 0% | 0.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 |
| | 2240/3 | Loss of Bearing Area | 1.00 | 0% | 0.00 | 0% | 0.00 | 100% | 1.00 | 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 | 11.00 | 0% | 0.00 | 73% | 8.00 | 27% | 3.00 | 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%** | **3,396.00** | **11%** | **411.00** | **0%** | **1.00** | **0%** | **0.00** |
| | 1080/3 | Delamination/Spall/Patched Area | 10.00 | 0% | 0.00 | 100% | 10.00 | 0% | 0.00 | 0% | 0.00 |
| | 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 0% | 0.00 | 100% | 1.00 | 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 | **8107/1** | **Steel Opn Girder/Beam ENDS** | **110.00** | **0%** | **0.00** | **0%** | **0.00** | **100%** | **110.00** | **0%** | **0.00** |
| | 515/1 | Steel Protective Coating | 1,615.00 | 0% | 0.00 | 0% | 0.00 | 38% | 615.00 | 62% | 1,000.00 |
| | *3420/1* | *Peel/Bub/Crack(Stl Protect Coat)* | *1,615.00* | *0%* | *0.00* | *0%* | *0.00* | *38%* | *615.00* | *62%* | *1,000.00* |
| 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 |
| | 8368/3 | Graffiti | 100.00 | 100% | 100.00 | 0% | 0.00 | 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** | **79%** | **550.00** | **21%** | **150.00** | **0%** | **0.00** | **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 |
| | 1020/3 | Connection | 10.00 | 0% | 0.00 | 100% | 10.00 | 0% | 0.00 | 0% | 0.00 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7000/3 | Damage | 40.00 | 0% | 0.00 | 100% | 40.00 | 0% | 0.00 | 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** |
| | 4000/3 | Settlement | 60.00 | 0% | 0.00 | 50% | 30.00 | 50% | 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** | **31%** | **68.00** | **51%** | **113.00** | **2%** | **5.00** |
| | 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 | 50% | 6.00 | 8% | 1.00 | 42% | 5.00 |
| | 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 |
| 0 | **8398/1** | **Curb/sidewalks - Con** | **700.00** | **0%** | **0.00** | **100%** | **700.00** | **0%** | **0.00** | **0%** | **0.00** |
| | 1080/1 | Delamination/Spall/Patched Area | 698.00 | 0% | 0.00 | 100% | 698.00 | 0% | 0.00 | 0% | 0.00 |
| | 1120/1 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| | 1130/1 | Cracking (RC and Other) | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 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** | **07/24/2019** | **142,889.00** | **sq.ft** | **134,317.00** | **7,144.00** | **1,428.00** | **0.00** |

**There is a reinforced concrete deck in Span #1 through #18.**

**The top of the deck has a bituminous concrete wearing surface/overlay that was in varying stages of repair during the inspection (Photos 1-5, 42-49).**

**The underside of the deck at the deck joints was in varying stages of re-construction during the inspection. Formwork remains in place throughout the bridge (Photos 26-36) and the seismic restrainer assemblies at the deck joints in Spans #1 though#6 and #8 through #14 typically have the restrainer rod removed (Photo 97).**

**The underside of the deck has areas of exposed rebar chairs throughout, areas of rust staining and efflorescence, random hairline cracking, random areas of damp concrete, 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. See photos 92-105 and the attached file "070001 Elem 12 Defect Table.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 510 | Wearing Surfaces | 3 | 07/24/2019 | 142,889.00 | sq.ft | 134,317.00 | 7,144.00 | 1,428.00 | 0.00 |

The bituminous concrete wearing surface/overlay on the bridge exhibits sand and debris accumulation along construction limits, minor to moderate wheel line rutting, random sealed and unsealed longitudinal and transverse cracks, scattered patches and depressed pavement with minor potholes, and random locations of raveling along deck joint edges (Photos 46 49, 55 62)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3210* | *Del/Spall/Patch/Pot(Wear Surf)* | *3* | *07/24/2019* | *4,286 00* | *sq.ft* | *0.00* | *3,572.00* | *714.00* | *0.00* |

*There are isolated minor potholes up to 3" deep and scattered depressed patches in the wearing surface . There is typical raveling or depressed areas up to 12" wide x 2" deep in the pavement along the joints ( Photos 46-49, 55-62).*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3220* | *Crack (Wearing Surface)* | *3* | *07/24/2019* | *4,286.00* | *sq.ft* | *0.00* | *3,572.00* | *714.00* | *0.00* |

*There are isolated locations of sealed longitudinal cracks along the lane lines, in the shoulders and in the gore area in Spans #15 through #18 (Photos 46-49). There are sealed transverse cracks adjacent to the joints (Photos 55-62).*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 2,143.00 | sq.ft | 0.00 | 1,786.00 | 357.00 | 0.00 |

See photos 92-105 and the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 2,143.00 | sq.ft | 0.00 | 1,786.00 | 357.00 | 0.00 |

See photos 92-105 and the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 2,143.00 | sq.ft | 0.00 | 1,786.00 | 357.00 | 0.00 |

See photos 92-105 and the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 2,143.00 | sq.ft | 0.00 | 1,786.00 | 357.00 | 0.00 |

See photos 92-105 and the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| 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** | **07/24/2019** | **7,336.00** | **sq.ft** | **5,911.00** | **1,150.00** | **275.00** | **0.00** |

**This element defines the top flanges of the reinforced concrete box girders in Spans #1R, #2R, #3R and #5 of the Gano Street off-ramp, which was closed at the time of the inspection (Photos 7, 53-54).**

**The top of the top flanges has a new bituminous concrete wearing surface/overlay which was not striped at the time of the inspection (Photos 6-7, 50-52).**

**The undersides of the top flanges exhibit typical transverse hairline cracks up to full width with efflorescence and rust, scattered areas of heavy map cracks with efflorescence, isolated hollow areas and spalls and ongoing repairs with form work left in place. See photos 182, 183, 186-189, 191 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 510 | Wearing Surfaces | 3 | 07/24/2019 | 7,336.00 | sq.ft | 7,336.00 | 0.00 | 0.00 | 0.00 |

The new bituminous concrete wearing surface/overlay was not striped at the time of the inspection (Photos 6-7, 50-52).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 200.00 | sq.ft | 0.00 | 200.00 | 0.00 | 0.00 |

See photos 182, 183, 186-189, 191 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 25.00 | sq.ft | 0.00 | 0.00 | 25.00 | 0.00 |

See photos 182, 183, 186-189, 191 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 1,000.00 | sq.ft | 0.00 | 750.00 | 250.00 | 0.00 |

See photos 182, 183, 186-189, 191 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 200.00 | sq.ft | 0.00 | 200.00 | 0.00 | 0.00 |

See photos 182, 183, 186-189, 191 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

| 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** | **07/24/2019** | **922.00** | **ft** | **78.00** | **505.00** | **339.00** | **0.00** |

**There are reinforced concrete three-cell box girders in Spans #1R, #2R, #3R and Span #5 which carry the Gano Street off-ramp. The box girder cells are lettered 'A' through 'C' from south to north to maintain the same orientation as the main bridge structure. Span bays are numbered 1 through 3 from west to east. See the attached file "070001 Gano Street Ramp Plan & Section.pdf" in the general info folder for clarification.**

**There are ongoing repairs on the interior of the box girders with scattered construction debris throughout and remaining formwork in place (Photos 182, 189, 191-193). There are several locations of ponding water up to 18" deep inside the box girders (Photos 189-192). RIDOT was informed about this issue on 7/11/19 and a work item has been added to BrM. The seismic restrainer assemblies and cables at Pier #2R exhibit typical rust with light corrosion (Photos 183, 191).**

**The interior webs exhibit typical full height vertical/diagonal hairline cracks, both sealed and unsealed (Photos 184-185). There are numerous gauges in place to monitor the movement of these cracks and at the time of inspection no movement was detected. See the attached file "070001 Elem 105 Defect 1130 Table.pdf" for further details.**

**The interior faces of the bottom flanges exhibit numerous repair patches and up to 2'-0" deep accumulation of construction debris throughout (Photos 183, 189, 191). There is typical ponding water up to 18" deep at Piers #1R and #2R (Photos 189-192). See the attached file "070001 Elem 105 Defect Table.pdf" for further details of scattered minor defects and notes.**

**The undersides of the bottom flanges have random repair patches, scattered transverse hairline cracks with efflorescence and rust staining and isolated hollow areas and spalls. See photos 37-41, 175-180 and the attached file "070001 Elem 105 Underside Sketches.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 100.00 | ft | 0.00 | 80.00 | 20.00 | 0.00 |

See photos 37-41, 175-193 and the attached files "070001 Elem 105 Defect 1130 Table.pdf", "070001 Elem 105 Defect Table.pdf" and "070001 Elem 105 Underside Sketches.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 5.00 | ft | 0.00 | 0.00 | 5.00 | 0.00 |

See photos 37-41, 175-193 and the attached files "070001 Elem 105 Defect 1130 Table.pdf", "070001 Elem 105 Defect Table.pdf" and "070001 Elem 105 Underside Sketches.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 244.00 | ft | 0.00 | 122.00 | 122.00 | 0.00 |

See photos 37-41, 175-193 and the attached files "070001 Elem 105 Defect 1130 Table.pdf", "070001 Elem 105 Defect Table.pdf" and "070001 Elem 105 Underside Sketches.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 495.00 | ft | 0.00 | 303.00 | 192.00 | 0.00 |

See photos 37-41, 175-193 and the attached files "070001 Elem 105 Defect 1130 Table.pdf", "070001 Elem 105 Defect Table.pdf" and "070001 Elem 105 Underside Sketches.pdf" for further 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** | **07/24/2019** | **1,320.00** | **ft** | **787.00** | **496.00** | **37.00** | **0.00** |

**There are eleven (11) steel plate girders in Span #7 spanning between the Pier #6 east wall and the Pier #7 west wall (Photos 15, 30, 245, 246). Most girder ends have bolted repair plates and angles at the webs and bottom flanges for up to 25' long, with typical light to heavy rust and up to 1/16" section loss to the repair plates and angles. There are isolated areas of 1/8" section loss to webs beyond the repair plates. Remaining areas have scattered light to moderate rust with heavy rust at girder ends. The bottom flanges at girder ends exhibit typical heavy rust and section loss with down to 5/16" remaining thickness. See photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.**

**Note that Element 8107 – Steel Opn Girder/Beam ENDS has been created and quantifies the end 5'-0" of each girder.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 07/24/2019 | 19,385.00 | sq.ft | 7,350.00 | 6,300.00 | 5,735.00 | 0.00 |

The fascia sides of Girders 'A' and 'K' have been re-painted and are re-rusting. Remaining areas have light to moderate rust with up to heavy rust at girder ends. See photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3410* | *Chalk(Steel Protect Coatings)* | *3* | *07/24/2019* | *6,300.00* | *sq.ft* | *0.00* | *6,300.00* | *0.00* | *0.00* |

*See photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Protect Coat )* | *3* | *07/24/2019* | *5,735.00* | *sq.ft* | *0.00* | *0.00* | *5,735.00* | *0.00* |

*See photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 07/24/2019 | 390.00 | ft | 0.00 | 353.00 | 37.00 | 0.00 |

See photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1900 | Distortion | 3 | 07/24/2019 | 143.00 | ft | 0.00 | 143.00 | 0.00 | 0.00 |

The bottom flanges exhibit typical 1/8" vertical distortion at the section transitions (Photo 128).

Girder 'A' bottom flange exhibits full length x up to ¼" vertical distortion and minor rotation of the girder (top of girder is rotating towards the north) (Photo 129).

| 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** | **07/24/2019** | **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. 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. Rehabilitation construction is on-going and there are multiple defects that have been repaired or are in the process of being repaired.**

**The drop-in girders exhibit typical shear cracks at dapped ends, scattered cracked, hollow and spalled areas at dapped ends and bottom flanges undersides with exposed stirrups and prestressing strands, scattered cracked, hollow and spalled areas over the bearings with fully exposed stirrups and reduced bearing areas. See photos 130-144 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details.**

**The corbels exhibit typical cracked, hollow and spalled areas with exposed post tensioned anchor plates on the drop-in span sides throughout. The other faces and undersides exhibit isolated cracks, hollow areas and minor spalls. See photos 146-153 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.**

**The cantilever girders exhibit typical hairline diagonal cracks along the post-tensioned cable lines, some sealed and unsealed, isolated vertical cracks and hollow area over the pier columns and typical hollow/spalled post-tensioned anchor blocks on the undersides. Other remaining areas exhibit random minor cracked, hollow and spalled areas. The cantilever ends in Span #7 at Pier #6 and Pier #7 (accessed via the catwalks on the interior walls of the piers) exhibit typical hollow areas/spalls up to full height with fully exposed and debonded stirrups and reduced bearing areas. See photos 154-163 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.**

**The I-girders in Spans #15 through #18 have scattered hairline cracking with efflorescence, hollow areas, spalls and exposed prestressing strands at girder ends, with more severe spalling and exposed stirrups on the back faces beyond the bearings. There are isolated hollow areas and spalls along bottom flange undersides. See photos 164-174 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 521 | Conc Prot Coating | 3 | 07/24/2019 | 5,000.00 | sq.ft | 4,250.00 | 0.00 | 375.00 | 375.00 |
| | The drop-in girder dapped ends are coated with a protective sealant which has scattered peeling and cracking throughout (Photos 130-144). | | | | | | | | |
| *3510* | *Wear (Concrete Protect Coat)* | *3* | *07/24/2019* | *750.00* | *sq.ft* | *0.00* | *0.00* | *375.00* | *375.00* |
| | *See 521 - Concrete Protective Coating notes.* | | | | | | | | |
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 1,150.00 | ft | 0.00 | 900.00 | 250.00 | 0.00 |
| | See photos 130-174 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details. | | | | | | | | |
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 175.00 | ft | 0.00 | 0.00 | 50.00 | 125.00 |
| | See photos 130-174 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details. | | | | | | | | |
| 1100 | Exposed Prestressing | 3 | 07/24/2019 | 25.00 | ft | 0.00 | 0.00 | 15.00 | 10.00 |
| | See photos 130-174 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details. | | | | | | | | |
| 1110 | Cracking (PSC) | 3 | 07/24/2019 | 727.00 | ft | 0.00 | 0.00 | 727.00 | 0.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | See photos 130-174 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details. | | | | | | | |
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 730.00 | ft | 0.00 | 365.00 | 365.00 | 0.00 |
| | | See photos 130-174 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details. | | | | | | | |
| 7000 | Damage | 3 | 07/24/2019 | 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:<br><br>- Span #16 Girder 'E' east of midspan: 3' long x up to ¼" deep scrape<br>- Span #18 All girders: Minor impact scrapes (±15' total) | | | | | | | |
| 8368 | Graffiti | 3 | 07/24/2019 | 200.00 | ft | 200.00 | 0.00 | 0.00 | 0.00 |
| | | The drop-in girder ends in Span #4 have scattered areas of minor to moderate graffiti (Photo 145). | | | | | | | |

| 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** | **07/24/2019** | **2,880.00** | **ft** | **954.00** | **1,188.00** | **688.00** | **50.00** |
| | **This element defines reinforced concrete fascia arches in Spans #1 through #6, #8 through #13 and #1R through #3R (Photos 8-17, 23-25). The arches consist of cantilevered sections at the piers and drop-in midspan sections. The cantilever sections support the drop-in sections with concrete keys at shiplap joints with elastomeric bearing pads. Rehabilitation construction is on-going and there are multiple defects that have been repaired or are in the process of being repaired.**<br><br>**The arches exhibit typical vertical and transverse hairline cracks in the midspan sections, typical hairline to medium horizontal cracks at the shiplap joints, scattered hollow areas and spalls above and below the joint keys with several through holes, exposed and debonded stirrups and rebars, and scattered cracked, hollow and spalled areas on the bottom flanges. See photos 106-121 and the attached file "070001 Elem 110 Defect Table.pdf" for further details.** | | | | | | | | |
| 521 | Conc Prot Coating | 3 | 07/24/2019 | 14,800.00 | sq.ft | 14,800.00 | 0.00 | 0.00 | 0.00 |
| | The arch exterior faces and bottom flanges are partially coated with a new protective sealant (Photos 8-17, 23-25). See photos 106-121 and the attached file "070001 Elem 110 Defect Table.pdf" for details of deterioration. | | | | | | | | |
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 800.00 | ft | 0.00 | 600.00 | 200.00 | 0.00 |
| | See photos 106-121 and the attached file "070001 Elem 110 Defect Table.pdf" for further details. | | | | | | | | |
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 100.00 | ft | 0.00 | 0.00 | 50.00 | 50.00 |
| | See photos 106-121 and the attached file "070001 Elem 110 Defect Table.pdf" for further details. | | | | | | | | |
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 450.00 | ft | 0.00 | 300.00 | 150.00 | 0.00 |
| | See photos 106-121 and the attached file "070001 Elem 110 Defect Table.pdf" for further details. | | | | | | | | |
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 576.00 | ft | 0.00 | 288.00 | 288.00 | 0.00 |
| | See photos 106-121 and the attached file "070001 Elem 110 Defect Table.pdf" for further 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** | **07/24/2019** | **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 (Photos 223-225, 236-238, 255-257).**

**The cantilever girder columns exhibit isolated hairline vertical and map cracks, hollow areas and spalls (Photo 241). The pedestals at the top of the columns exhibit typical scattered hollow areas/spalls up to full width x full height x 2" deep with exposed edges of steel bearing plates (Photo 239).**

**The pier cap columns exhibit typical scattered sealed/unsealed vertical cracks and rust staining throughout with isolated hairline map cracks, efflorescence, hollow areas and spalls (Photo 234).**

**See photos 236-238, 255-257 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 42.00 | each | 0.00 | 20.00 | 22.00 | 0.00 |

See photos 234, 236-238, 255-257 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 5.00 | each | 0.00 | 0.00 | 5.00 | 0.00 |

See photos 234, 236-238, 255-257 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 5.00 | each | 0.00 | 0.00 | 5.00 | 0.00 |

See photos 234, 236-238, 255-257 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 07/24/2019 | 300.00 | each | 0.00 | 300.00 | 0.00 | 0.00 |

The Pier #3 and Pier #10 columns have heavy graffiti on the lower halves (Photo 236).

| 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** | **07/24/2019** | **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. All pier walls except the east pier wall of Pier #6, the west pier wall of Pier #7 and Piers #1R through #3R are non-structural and act as curtain walls providing architectural (stone façade) and protective effects to the pier columns (Photos 235-238, 247, 255-257). The east pier wall of Pier #6 and the west pier wall of Pier #7 support the cantilever girder ends in Spans #6 and #8 (through cantilever support pedestals) and the steel girders in Span #7 (Photos 245-246). The cantilever girder pedestals can be accessed via the catwalks on the interior portions of Pier #6 and Pier #7; see inspection notes at end of report (285-286). Pier walls #1R through #3R support the Gano Street off-ramp box girder superstructure (Photos 259-263). 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 (Photos 16-17, 262).**

**The pier walls on land have a new protective coating in most locations and all piers have sealed vertical and map cracks throughout with isolated cracks re-opening (Photos 235-238, 247, 255-257). Scattered cracks through the pier wall stone facades remain throughout (Photo 243). The pylons remain uncoated and exhibit typical scattered hairline cracking with efflorescence and rust staining. See photos 235-263 and the attached file "070001 Elem 210 Defect Table.pdf" for details of deterioration.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 521 | Conc Prot Coating | 3 | 07/24/2019 | 25,200.00 | sq.ft | 25,200.00 | 0.00 | 0.00 | 0.00 |

The pier walls on land have a new protective coating. See photos 235, 256-258 and the attached file "070001 Elem 210 Defect Table.pdf" for details of deterioration.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 175.00 | ft | 0.00 | 75.00 | 77.00 | 23.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | See photos 235-263 and the attached file “070001 Elem 210 Defect Table.pdf” for details of deterioration. | | | | | | | | |
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 80.00 | ft | 0.00 | 40.00 | 40.00 | 0.00 |
| | See photos 235-263 and the attached file “070001 Elem 210 Defect Table.pdf” for details of deterioration. | | | | | | | | |
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 115.00 | ft | 0.00 | 60.00 | 55.00 | 0.00 |
| | See photos 235-263 and the attached file “070001 Elem 210 Defect Table.pdf” for details of deterioration. | | | | | | | | |
| 6000 | Scour | 3 | 07/24/2019 | 115.00 | ft | 0.00 | 115.00 | 0.00 | 0.00 |
| | 2017 Underwater Inspection:<br>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 | 07/24/2019 | 400.00 | ft | 0.00 | 400.00 | 0.00 | 0.00 |
| | The pier walls on land exhibit isolated moderate to heavy graffiti (Photos 235-236). | | | | | | | | |

| 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** | **07/24/2019** | **230.00** | **ft** | **78.00** | **44.00** | **108.00** | **0.00** |

**There are reinforced concrete abutments at each end of the main structure (West Abutment #1 & East Abutment #2) and at the end of the Gano Street off-ramp (West Abutment #1R). The abutments all have new protective coatings.**

**West Abutment #1 is a stub abutment that is hidden by backfill beyond a retaining wall (Photo 213). There is severe accumulation of pigeon debris and nesting pigeons behind the wall up to the top of the columns preventing the inspection of the stub abutment stem (Photo 214). The retaining wall exhibits scattered hairline cracking.**

**East Abutment #2 is a full height abutment with an electrical utility room built into the abutment in Bays ‘H’ and ‘I’ (Photos 215-216, 280). See inspection notes for electrical room notes. The abutment exhibits scattered hairline cracks, hollow areas and spalls with typical debris accumulation/pigeon nesting on the beam seat (Photos 217-221).**

**West Abutment #1R is a semi-stub abutment that sits on the river embankment with slope protection blocks in front (Photo 222). The abutment exhibits scattered efflorescence and rust staining and an isolate spall.**

**See photos 213-222 and the attached file “070001 Elem 215 Defect Table.pdf” for details of deterioration.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 521 | Conc Prot Coating | 3 | 07/24/2019 | 2,300.00 | sq.ft | 2,300.00 | 0.00 | 0.00 | 0.00 |
| | The abutments all have new protective coatings. See photos 213-222 and the attached file “070001 Elem 215 Defect Table.pdf” for details of deterioration. | | | | | | | | |
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 103.00 | ft | 0.00 | 29.00 | 74.00 | 0.00 |
| | See photos 213-222 and the attached file “070001 Elem 215 Defect Table.pdf” for details of deterioration. | | | | | | | | |
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 30.00 | ft | 0.00 | 15.00 | 15.00 | 0.00 |
| | See photos 213-222 and the attached file “070001 Elem 215 Defect Table.pdf” for details of deterioration. | | | | | | | | |
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 19.00 | ft | 0.00 | 0.00 | 19.00 | 0.00 |

See photos 213-222 and the attached file "070001 Elem 215 Defect Table.pdf" for details of deterioration.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 07/24/2019 | 200.00 | ft | 0.00 | 200.00 | 0.00 | 0.00 |

West Abutment #1R has heavy graffiti covering most of its surface (Photo 222).

| 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** | **07/24/2019** | **1,151.00** | **ft** | **1,150.00** | **1.00** | **0.00** | **0.00** |

**2017 Underwater Inspection:**
**The exposed pile caps step out from the face of the pier stems at varying widths from 10" wide to 18" wide and are exposed up to full-height with varying measurements from 2' (full-height) at Pier #5 to 9.0 ' (full-height) at Pier #3R (Gano Street Ramp).**

**Piers #3R, #5 and #9 exhibit exposed concrete tremie seals up to a maximum vertical exposure of 3.5' high. There is no observed undermining at any of the piers.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

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

| ELEM 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** | **07/24/2019** | **388.00** | **ft** | **52.00** | **313.00** | **23.00** | **0.00** |

**There are reinforced concrete caps at Piers #14 through #17. The caps were recently repaired and are covered with remaining chloride extraction materials throughout (Photos 223-228). The caps and pedestals exhibit isolated hairline cracks, hollow area and spalls. See photos 223-231 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 308.00 | ft | 0.00 | 293.00 | 15.00 | 0.00 |

See photos 223-231 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

See photos 223-231 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 15.00 | ft | 0.00 | 7.00 | 8.00 | 0.00 |

See photos 223-231 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 12.00 | ft | 0.00 | 12.00 | 0.00 | 0.00 |

See photos 223-231 and the attached file "070001 Elem 234 Defect Table.pdf" for further 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** | **07/24/2019** | **93.00** | **ft** | **0.00** | **88.00** | **5.00** | **0.00** |

**There is a strip seal joint in Span #5 at the east side of Pier #4 in the left lanes of I-195 westbound (Pho to 56). The portion of the joint in the right lanes of I-195 Westbound and at Pier #3R for the Gano Street off-ramp have been paved over (Photos 54, 64).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2310 | Leakage | 3 | 07/24/2019 | 5.00 | ft | 0.00 | 5.00 | 0.00 | 0.00 |

There is evidence of leakage through the joint on the underside due to failing joint seal (Photos 65-66).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2330 | Seal Damage | 3 | 07/24/2019 | 10.00 | ft | 0.00 | 10.00 | 0.00 | 0.00 |

The deck joint seal is loose/sagging/fallen along the underside (Photos 65-66).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2350 | Debris Impaction | 3 | 07/24/2019 | 5.00 | ft | 0.00 | 5.00 | 0.00 | 0.00 |

The joint has full length partial debris impaction that still allows free movement of the joint (Photo 56).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2370 | Metal Deterioration or Damage | 3 | 07/24/2019 | 5.00 | ft | 0.00 | 0.00 | 5.00 | 0.00 |

The steel extrusion on the east side of the joint in the wheel line of the right middle lane has a 3' long missing section that has been paved over (Photo 56)

| 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** | **07/24/2019** | **1,151.00** | **ft** | **507.00** | **544.00** | **85.00** | **15.00** |

**There are pourable joint seals on the west side of West Abutment #1 and Piers #1 through #7, on the east side of Piers #7 through #13, at East Abutment #2, and along the gore median in Spans #16 and #1 7. All joints have been paved over in the right lanes of I-195 Westbound as part of the on-going bridge construction (Photos 7, 42-44). The wearing surface along deck joint edges exhibits scattered patches and depressed pavement with minor potholes, and random locations of raveling (Photos 55, 57-59, 62).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2310 | Leakage | 3 | 07/24/2019 | 344.00 | ft | 0.00 | 344.00 | 0.00 | 0.00 |

The joints exhibit scattered evidence of leakage along the undersides (Photos 94, 104).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2320 | Seal Adhesion | 3 | 07/24/2019 | 300.00 | ft | 0.00 | 200.00 | 85.00 | 15.00 |

The pourable joint seals exhibit typical loss of seal adhesion up to full length with isolated locations of full adhesion failure (Photos 55, 57-59, 62).

| 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** | **07/24/2019** | **401.00** | **each** | **136.00** | **190.00** | **75.00** | **0.00** |

**There are elastomeric bearing pads for the following elements and locations:**
**- P/S concrete drop-in girder dapped ends at the corbels in Spans #1 through #6 and #8 through #14**
**- Post-tensioned concrete cantilever girder ends at the east wall of Pier #6 and the west wall of Pier #7**
**- P/S concrete I-girders in Spans #14 through #18**
**- Concrete fascia arches at the shiplap joints in Spans #1 through #6 and Spans #8 through #13 and at pier walls in Spans #1R through #3R**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2220 | Alignment | 3 | 07/24/2019 | 4.00 | each | 0.00 | 0.00 | 4.00 | 0.00 |

All measurements were recorded at a temperature of 80 90 degrees Fahrenheit

The drop in girder bearings in Spans #1 through #3, #6, #8, #9, #11, #13 and #14 are typically in contraction up to ½" ( Photo 147) The bearings in Spans #4, #5, #10 and #12 are typically neutral or expanded up to 1"

The I Girder bearings in Spans #15 through #18 are typically neutral or expanded up to ½" (Photo 206)

The fascia arch bearings in Spans #1R through #3R typically neutral or expanded up to ½" (Photo 209)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2230 | Bulging, Splitting or Tearing | 3 | 07/24/2019 | 200.00 | each | 0.00 | 150.00 | 50.00 | 0.00 |

The bearing pads exhibit random minor tears throughout. Random bearings exhibit minor to moderate bulging and isolated bearings exhibit heavier bulging with up to ½" separation at top of bottom of pad (Photos 208-209).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2240 | Loss of Bearing Area | 3 | 07/24/2019 | 61.00 | each | 0.00 | 40.00 | 21.00 | 0.00 |

There are scattered locations of bearing area loss due to spalls undermining the bearings and spalls above the bearings reducing the bearing area. See photos 107, 109, 111, 115, 136, 142, 147, 148, 163, 170, 205, 229-230 and the attached files "070001 Elem 109 Defect Table.pdf", "070001 Elem 110 Defect Table.pdf" and "070001 Elem 234 Defect Table.pdf" for further details.

In Span #14 at Pier #14, Bearing 'F' overhangs the pedestal ¾" deep x 14" long (Photo 205).

| 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** | **07/24/2019** | **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 have light to moderate accumulation of sand and debris (Photo 210).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 07/24/2019 | 132.00 | sq.ft | 0.00 | 0.00 | 44.00 | 88.00 |

The bearings have a steel protective coating with areas of peeling paint and light to moderate rust. Bearings 'A', 'B', 'J' and 'K' have no paint remaining (Photo 210).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Protect Coat )* | *3* | *07/24/2019* | *132.00* | *sq.ft* | *0.00* | *0.00* | *44.00* | *88.00* |

*See 515 - Steel Protective Coating notes.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 07/24/2019 | 9.00 | each | 0.00 | 7.00 | 2.00 | 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 (Photo 210).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2220 | Alignment | 3 | 07/24/2019 | 1.00 | each | 0.00 | 0.00 | 1.00 | 0.00 |

The bearings exhibit typical minor expansion at 80 degrees Fahrenheit (Photo 210). Bearing 'A' assembly is uneven with no gap at the south end and a 1" gap at the north end of the restraint plate (Photo 212).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2240 | Loss of Bearing Area | 3 | 07/24/2019 | 1.00 | each | 0.00 | 0.00 | 1.00 | 0.00 |

Bearing 'K' is undermined at the north east corner 4"' wide x 4" long x 2" deep and along the west edge 16" wide x up to 1" long (Photo 248).

| 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** | **07/24/2019** | **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 have light to moderate accumulation of sand and debris (Photo 211).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 07/24/2019 | 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 (Photo 211). Bearings 'A', 'B', 'J' and 'K' have no paint remaining.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Protect Coat )* | *3* | *07/24/2019* | *110.00* | *sq.ft* | *0.00* | *0.00* | *66.00* | *44.00* |

*See 515 - Steel Protective Coating notes.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 07/24/2019 | 11.00 | each | 0.00 | 8.00 | 3.00 | 0.00 |

The bearings and anchor bolts typically have light to moderate rust (Photo 211). Bearings 'A', 'B', 'J' and 'K' have heavy laminated rust on the bearings and anchor bolts.

| 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** | **07/24/2019** | **2,352.00** | **sq.ft** | **0.00** | **2,352.00** | **0.00** | **0.00** |

**The reinforced concrete approach slabs are concealed from view by bituminous concrete wearing surfaces (Photos 1-5, 67-71).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 510 | Wearing Surfaces | 3 | 07/24/2019 | 2,352.00 | sq.ft | 1,352.00 | 500.00 | 500.00 | 0.00 |

The wearing surfaces have moderate wheel line rutting with sealed and unsealed cracks throughout (Photos 67-71).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3220* | *Crack (Wearing Surface)* | *3* | *07/24/2019* | *2,352.00* | *sq.ft* | *1,352.00* | *500.00* | *500.00* | *0.00* |

*See 510 Wearing Surface notes*

| 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** | **07/24/2019** | **3,808.00** | **ft** | **3,396.00** | **411.00** | **1.00** | **0.00** |

**There are reinforced concrete bridge railings on both sides of the bridge in Spans #1 through #18 (Photo 42) . Numerous sections of the railings at the deck joints were recently demolished and re-constructed as part of the bridge rehabilitation (Photo 74). There are scattered utility box covers along the interior faces of the bridge railings, many with broken covers (Photos 46-48, 273, 275). The condition of the tops of the pylons is included in this element.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 10.00 | ft | 0.00 | 10.00 | 0.00 | 0.00 |

The bridge railings exhibit isolated minor edge spalls along the top of the railing (Photo 76). In Span #14 the north railing at Pier #14 has a 12" long x 6" high x 1" deep spall.

The pylons exhibit typical scattered hollow areas and shallow spalls (Photos 77-80).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflore cence/Ru t Staining | 3 | 07/24/2019 | 1 00 | ft | 0 00 | 0 00 | 1 00 | 0 00 |

See 1130 Cracking notes

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 351.00 | ft | 0.00 | 351.00 | 0.00 | 0.00 |

The bridge railings exhibit typical scattered full height hairline vertical cracks (Photo 75). The pylons exhibit typical scattered cracks and rust stains (Photos 77-80).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7000 | Damage | 3 | 07/24/2019 | 50.00 | ft | 0.00 | 50.00 | 0.00 | 0.00 |

The bridge railings exhibit random 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** | **07/24/2019** | **27.00** | **(EA)** | **0.00** | **3.00** | **20.00** | **4.00** |

**The scupper drainage grates along both shoulders of I-195 Westbound and along the north 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 (Photos 82, 268). In Span #17 the drainage grate along the north shoulder is fully clogged and missing the drainage grate (Photo 269). The drain pipe at the end of Pier #17 has a disconnected section (Photo 270). The drain pipes on the interior of the Gano Street off-ramp box girders have been replaced with new PVC piping (Photo 192).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 07/24/2019 | 4.00 | (EA) | 0.00 | 0.00 | 0.00 | 4.00 |

The scupper drain pipes on the underside of deck exhibit typical light to heavy rust. The Pier #3 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 (Photo 95).

| ELEM NBR | ELEMENT NAME | ENV | INSP. DATE | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|---|
| **8107** | **Steel Opn Girder/Beam ENDS** | **1** | **07/24/2019** | **110 00** | **ft** | **0 00** | **0 00** | **110 00** | **0 00** |

**See Element 107 notes, photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf".**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 1 | 07/24/2019 | 1,615.00 | sq.ft | 0.00 | 0.00 | 615.00 | 1,000.00 |

See Element 107 notes, photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf".

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Protect Coat )* | *1* | *07/24/2019* | *1,615.00* | *sq.ft* | *0.00* | *0.00* | *615.00* | *1,000.00* |

*See Element 107 notes, photos 122-127 and the attached file "070001 Elem 107 Defect Table.pdf".*

| 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** | **07/24/2019** | **175.00** | **(LF)** | **0.00** | **150.00** | **25.00** | **0.00** |

**There are reinforced concrete return walls at the north ends of West Abutment #1 and East Abutment # 2 and at both ends of West Abutment #1R (Photos 264-267). The return walls have moderate to heavy vegetation growth.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 44.00 | (LF) | 0.00 | 44.00 | 0.00 | 0.00 |

The top of the northwest return wall at West Abutment #1 has multiple edge spalls along the cope up to 2" deep (Photo 264).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 110.00 | (LF) | 0.00 | 85.00 | 25.00 | 0.00 |

The return walls have scattered areas of hairline map cracks with isolated efflorescence and rust (Photos 264-267).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 21.00 | (LF) | 0.00 | 21.00 | 0.00 | 0.00 |

See 1120 Efflorescence/Rust Staining notes.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 07/24/2019 | 100.00 | (LF) | 100.00 | 0.00 | 0.00 | 0.00 |

There is anti-graffiti paint and light graffiti on the West Abutment #1R return walls (Photos 266-267).

| 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** | **07/24/2019** | **230.00** | **(LF)** | **104.00** | **80.00** | **46.00** | **0.00** |

**There are reinforced concrete backwalls at the abutments. West Abutment #1 backwall is inaccessible due to the heavy accumulation of pigeon debris and nesting pigeons on the abutment seat (Photo 214).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 80.00 | (LF) | 0.00 | 70.00 | 10.00 | 0.00 |

West Abutment #1R and East Abutment #2 backwalls exhibit random hollow and minor spalls up to 2' long x 2' high x 2" deep.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 23.00 | (LF) | 0.00 | 10.00 | 13.00 | 0.00 |

West Abutment #1R and East Abutment #2 backwalls exhibit typical scattered hairline vertical cracks, efflorescence and rust staining (Photos 217, 222).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 23.00 | (LF) | 0.00 | 0.00 | 23.00 | 0.00 |

West Abutment #1R and East Abutment #2 backwalls exhibit typical scattered hairline vertical cracks, efflorescence and rust staining (Photos 217, 222).

| 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** | **07/24/2019** | **1,438.00** | **(LF)** | **987.00** | **451.00** | **0.00** | **0.00** |

**There are asphaltic plug joints on the east side of West 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. All joints have been paved over in the right lanes of I-195 Westbound as part of the on-going bridge construction (Photos 7, 42-44, 60-61).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2310 | Leakage | 3 | 07/24/2019 | 430.00 | (LF) | 0.00 | 430.00 | 0.00 | 0.00 |

The joints exhibit scattered evidence of leakage along the undersides (Photos 142, 164-165).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2340 | Seal Cracking | 3 | 07/24/2019 | 21.00 | (LF) | 0.00 | 21.00 | 0.00 | 0.00 |

The asphaltic plug joints exhibit partial separations at joint edges and isolated cracks along the joints (Photos 60-61).

| 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** | **07/24/2019** | **700.00** | **(LF)** | **550.00** | **150.00** | **0.00** | **0.00** |

**There are W-beam steel guardrails at the north side of the approaches for I-195 Westbound (Photos 3, 5). The Gano Street off-ramp has new W-beam steel guardrails attached to the interior faces of the bridge parapet that continue to the west approach (6, 50-54, 91). There is a new impact attenuator at the gore between I-195 Westbound and the Gano Street off-ramp (Photo 54).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 07/24/2019 | 3,150.00 | sq.ft | 1,800.00 | 0.00 | 1,350.00 | 0.00 |

The guardrails are galvanized. The I-195 approach guardrails have areas of light rust (Photos 3, 5).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 07/24/2019 | 100.00 | (LF) | 0.00 | 100.00 | 0.00 | 0.00 |

The I-195 approach guardrails have areas of light rust (Photos 3, 5).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 07/24/2019 | 10.00 | (LF) | 0.00 | 10.00 | 0.00 | 0.00 |

The Gano Street off-ramp guardrails have scattered loose connection bolts to the parapets (Photo 89). The northwest approach guardrail at West Abutment #1R has missing connection bolts at the 4th and 5th posts from the endpost (Pho to 88).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7000 | Damage | 3 | 07/24/2019 | 40.00 | (LF) | 0.00 | 40.00 | 0.00 | 0.00 |

The I-195 approach guardrails have 20’ long areas of impact damage with leaning posts at the northwest and northeast guardrails (Photos 3, 90).

| 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** | **07/24/2019** | **700.00** | **(LF)** | **350.00** | **320.00** | **30.00** | **0.00** |

**The Gano Street off-ramp has a reinforced concrete bridge parapet with a single metal rail attached to the top face (Photos 6, 54, 73).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 100.00 | (LF) | 0.00 | 100.00 | 0.00 | 0.00 |

The parapets exhibit typical scattered cracks, hollow areas and random 1” deep spalls along the top of parapet (Photo 84). The north parapet at midspan of Span #1R has an 8’-0” long x up to 16” high hollow area with 5’-6” long x 9” high x 2” deep spall with multiple exposed rebars (Photo 85).

During the rehab project the contractor found that basically the entire face of the north parapet was hollow. There's a crack/seam that runs about 1"-2" in. They didn't replace the guardrail posts because they were concerned there would be nothing to connect them to if they removed the existing bolts.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 100.00 | (LF) | 0.00 | 70.00 | 30.00 | 0.00 |

See 1080 Delamination/Spall/Patched Area notes.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 150.00 | (LF) | 0.00 | 150.00 | 0.00 | 0.00 |

The parapets exhibit typical scattered hairline vertical cracks (Photos 84, 87). The north parapet at Pier #2R has a full height x ¼” wide vertical crack (Photo 86).

| 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** | **07/24/2019** | **1,000.00** | **sq.ft** | **940.00** | **30.00** | **30.00** | **0.00** |

**There is rip rap along the West Abutment #1R embankment (Photo 222). Above the high water mark there is a level area covered by bituminous concrete pavement and a sloped block revetment to the base of the abutment. The rip rap has random missing stones along the channel embankment and there are several small sinkholes up to 12" deep in the pavement at the top of the slope.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4000 | Settlement | 3 | 07/24/2019 | 60.00 | sq.ft | 0.00 | 30.00 | 30.00 | 0.00 |

The rip rap has random missing stones along the channel embankment and there are several small sinkholes up to 12" deep in the pavement at the top of the slope (Photo 222).

| 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** | **07/24/2019** | **700.00** | **sq.ft** | **595.00** | **0.00** | **105.00** | **0.00** |

**There is a sloped block revetment in front of West Abutment #1R. The slope block protection has mortar deterioration between the pavers and light to moderate vegetation growth (Photo 222).**

| 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** | **07/24/2019** | **70.00** | **(EA)** | **13.00** | **36.00** | **17.00** | **4.00** |

**There are steel diaphragms between the steel girders in Span #7 labeled end diaphragms at each pier and intermediate diaphragms numbered west to east (Photo 30).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 07/24/2019 | 1,800.00 | sq.ft | 378.00 | 1,125.00 | 207.00 | 90.00 |

The end diaphragms exhibit typical moderate to heavy rust and corrosion throughout (Photo 203). The intermediate diaphragms have typical paint chalking and random areas of light rust (Photo 204).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3410* | *Chalk(Steel Protect Coatings)* | *3* | *07/24/2019* | *900.00* | *sq.ft* | *0.00* | *900.00* | *0.00* | *0.00* |

*See 515 - Steel Protective Coating notes.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Protect Coat )* | *3* | *07/24/2019* | *522.00* | *sq.ft* | *0.00* | *225.00* | *207.00* | *90.00* |

*See 515 - Steel Protective Coating notes.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 07/24/2019 | 55.00 | (EA) | 0.00 | 35.00 | 16.00 | 4.00 |

The end diaphragms exhibit typical moderate to heavy rust and corrosion throughout with down to 1/8" remaining thickness to top flanges and down to ¼" remaining thickness to bottom flanges (Photo 203). There is scattered pack rust up to 3/8" thick between the bearing stiffeners and diaphragm connection plates .

The intermediate diaphragms have random areas of light rust (Photo 204).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 07/24/2019 | 2.00 | (EA) | 0.00 | 1.00 | 1.00 | 0.00 |

Bay 'E' Diaphragm #5 at Girder 'F' has one (1) missing lower diaphragm connection bolt (Photo 204). Bay 'H' Diaphragm #1 has a two (2) mis-drilled bolt holes.

| 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** | **07/24/2019** | **221.00** | **each** | **35.00** | **68.00** | **113.00** | **5.00** |

**There are reinforced concrete diaphragms for the following elements and locations:**
**- End diaphragms and a midspan diaphragm for drop-in girders, between corbels and between cantilever girders over piers in Spans #1 through #6 and #8 through #14**
**- End diaphragms and a midspan diaphragm for I-girders in Spans #14 through #18**
**- Gano Street off-ramp box girder interior diaphragms and exterior diaphragms below the box girders at the piers**

**In Span #5, the east end of drop-in Girder 'B' bears on an oversized L-shaped diaphragm/transverse support beam that transfers loads to Girders 'A' and 'C' (Photos 29, 194). The irregular configuration is due to the Gano Street off-ramp connecting to Span #5.**

**The diaphragms were in varying stages of rehabilitation during the inspection. There are several locations where the diaphragm concrete has been fully removed with only rebar remaining (Photos 197, 200). Scattered formwork remains in place throughout the bridge (Photo 195) and the seismic restrainer assemblies at the deck joints typically have the restrainer rod removed (Photo 97).**
**The diaphragms exhibit typical scattered hairline map cracks with and without efflorescence and rust staining, hairline to ½" wide vertical cracks, random concrete patches, hollow area and spalls with and without exposed and debonded rebar. See photos 194-202 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 3 | 07/24/2019 | 52.00 | each | 0.00 | 0.00 | 52.00 | 0.00 |

See photos 194-202 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 07/24/2019 | 12.00 | each | 0.00 | 6.00 | 1.00 | 5.00 |

See photos 194-202 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 07/24/2019 | 11.00 | each | 0.00 | 6.00 | 5.00 | 0.00 |

See photos 194-202 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 07/24/2019 | 111.00 | each | 0.00 | 56.00 | 55.00 | 0.00 |

See photos 194-202 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| ELEM NBR | ELEMENT NAME | ENV | INSP. DATE | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|---|
| **8398** | **Curb/sidewalks - Con** | **1** | **07/24/2019** | **700.00** | **ft** | **0.00** | **700.00** | **0.00** | **0.00** |

**There are concrete safety walks and granite curbs along both sides of the Gano Street off-ramp. The safetywalks exhibit typical heavy accumulation of dirt and debris up to 12" deep with vegetation growth (Photo 82).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Area | 1 | 07/24/2019 | 698.00 | ft | 0.00 | 698.00 | 0.00 | 0.00 |

The safety walks exhibit scattered hairline cracks and general scaling ½" to 1" deep (Photo 83). The curbs exhibit typical rust staining and minor chipping throughout. In Span #3R near Pier #3R the south curb has a 5" wide x 2-1/2" long x 2" deep chip. The approach curbs are shifted up to 3" laterally with typical gaps up to 1" between curb sections (Photos 72-73).

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 1 | 07/24/2019 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

See 1080 Delamination/Spall/Patched Area notes.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 1 | 07/24/2019 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

See 1080 Delamination/Spall/Patched Area notes.

**BRIDGE NOTES**

Orientation:
The main bridge structure carries I-195 Westbound and consists of eighteen (18) spans labeled Span #1 through #18. The spans are logged west to east with Girder 'A' at the north fascia.
The Gano Street Ramp ties into the main bridge structure at the north side of Span #5 and consists of three (3) spans labeled Span #1R through #3R. The spans are logged west to east with Box Girder Cell 'A' at the south (true west) fascia.
The Seekonk River flows north to south below the structure.

Equipment:
60' manlift, 60' bucket boat, Ladder and Air Monitor.

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 details. Moving closure on I-195 Westbound with state police details for topside inspection.

Access Notes:
- Access to the underside of Span #10 through Span #14 requires access to the CARDI construction yard. Check in with local personnel on site.
- The boat was launched from East Providence Yacht Club dock on Pier Road in East Providence.
- The interior of the Gano Street Ramp box girders was accessed through the hatches at West Abutment #1R with a 24' ladder (Photos 182, 222). The key for the box girder hatches can be obtained from David Cluley at the RIDOT Bridge Inspection office on Jefferson Boulevard.
- The catwalks on the interior portions of Pier #6 and Pier #7 can be accessed through hatches and ladders on the topside of the north overhang (Photos 282 – 284).
- The electrical utility room in the East Abutment has a locked door (Photos 215, 216, 280). The lock key can be obtained from David Cluley at the RIDOT Bridge Inspection office on Jefferson Boulevard.

**INSPECTION NOTES**

# Bridge Inspection Report

## Structure Inventory and Appraisal Sheet (English Units)

Routine and Special Inspection by AECOM
Inspection Date: Multiple dates from 06/17/19 to 07/24/19
Team Leader: [redacted]
Staff Inspector: [redacted]
Weather: 80° - 90° Fahrenheit

Special Inspection Requirements:
The special inspection includes the superstructure and substructure.

NBI Ratings:
The bridge is in overall Poor condition. The condition ratings for the Item 58 – Deck (6 – Satisfactory), Item 59 – Superstructure (6 – Satisfactory) and Item 60 – Substructure (4 - Poor) remain unchanged since the last inspection.

Bridge Construction:
The bridge was under construction during the time of inspection with ongoing superstructure repairs. There is scaffolding in place throughout the structure allowing access to the drop-in girder ends and corbels (Photos 236 – 238, 247, 255, 256, 288). There is typical construction debris scattered through the scaffolding (Photos 289, 290). There is typical construction wiring in place throughout the bridge (Ph oto 291).

The two (2) right lanes of I-195 Westbound and the Gano Street off ramp were closed during the time of inspection (Photos 7, 42 – 44, 50 – 54). The Taunton Avenue on ramp was also partially closed with a construction area in place at the east approach of the bridge (Photos 1, 4).

For additional inspection notes refer to the attached file “070001 Additional Inspection Notes.pdf”.

**SCHEDULE NOTES**

# *Rhode Island Department of Transportation*

## Bridge Inspection Report

## Structure Inventory and Appraisal Sheet (English Units)

### 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 | 20 |
| Time Report Time | |
| Bucket Truck Time | |

**Site Access Notes**

Access SP #10-14 via CARDI construction yard. Launch boat from E. Prov. Yacht Club dock on Pier Rd. Access Gano St Ramp box girder interiors via locked hatches at W. Abut. #1R with ladder. Access catwalks inside Pier #6 &7 via hatches on the top of the north overhang. The elect. room in E. Abut. is locked. Obtain all keys from David Cluley(RIDOT).

| | |
|---|---|
| Avg Curb Reveal North/East | 2.50 |
| Avg Curb Reveal South/West | 2.50 |
| 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 | ☐ |

# *Rhode Island Department of Transportation*

## Bridge Inspection Report

## Structure Inventory and Appraisal Sheet (English Units)

Work Candidaties

Assigned tio Agency

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

Assigned tio Municipalitiy

| Stiatius | Prioritiy | Action | Datie Proposed | Noties |
|---|---|---|---|---|
| Under Review | High | | 07/24/2019 | Generatied by user'[redacted]" on 10/26/2019<br>There are several locations off ponding watier up tio 8” deep inside tihe box girders RIDOT was infformed abouti tihis issue on 7/11/19. |

# EXHIBIT 2

# RIDOT Bridge Inspection Report

**070001**
**Washington Bridge North**

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

## IDENTIFICATION

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

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

## INSPECTION

**Date of Routine Inspection (90):** 7/21/2023
**Frequency (91):** 24
Next Inspection: 7/21/2025

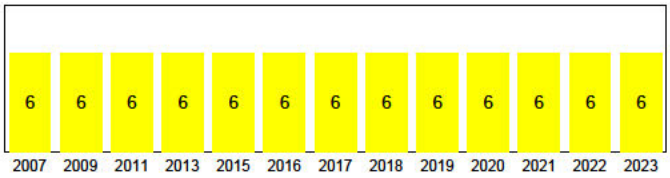
| Inspection Type | Freq (92) | Last Insp (93) | Next Insp |
|---|---|---|---|
| Element | 12 | 7/21/2023 | 7/21/2024 |
| Fracture Critical (A) | | 1/1/1901 | 1/1/1901 |
| Underwater (B) | 48 | 7/23/2021 | 7/23/2025 |
| Special Insp (C) | 12 | 7/21/2023 | 7/21/2024 |

## LOAD RATING AND POSTING

| | |
|---|---|
| **Posting Status (41)** | A Open, no restriction |
| **Posting % (70):** | 5 At/Above Legal Loads |
| **Rating Date:** | 1/19/2018 |
| **Design Load (31):** | 6 MS18(HS20)+mod |
| **Opr Method (63):** | 8 LRFR (HL93) |
| **Opr Rating (64):** | 52.00 Tons |
| **Inv Method (65):** | 8 LRFR (HL93) |
| **Inv Rating (66):** | 40.00 Tons |

## DECK GEOMETRY

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

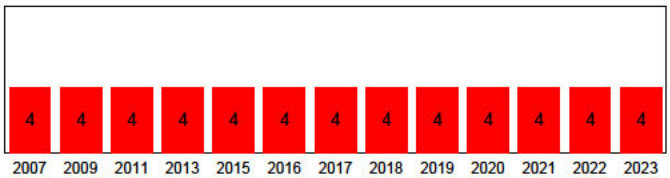



## DECK CONDITION

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

## SUPERSTRUCTURE GEOMETRY

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




## SUPERSTRUCTURE CONDITION

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

# RIDOT Bridge Inspection Report

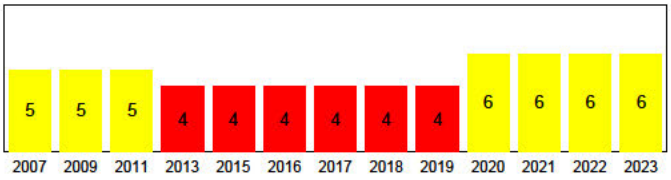
**070001**
**Washington Bridge North**

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

## SUBSTRUCTURE GEOMETRY

| | |
|---|---|
| **Navigation Control (38):** | Permit Not Required |
| **Nav Vert Clearance (39):** | 137.78 |
| **Nav Horiz Clearance (40):** | 327.22 |
| **Pier Protection (111):** | 2 In-Place, Functioning |
| **Lift Bridge Vertical Clearance (116):** | |
| **Scour Rating (113):** | 4 Stable, needs action |
| **Waterway Adequacy (71):** | 7 Above Minimum |




## SUBSTRUCTURE CONDITION

| | |
|---|---|
| **Substructure Rating (60):** | 6 Satisfactory |
| **Channel Rating (61):** | 6 Bank Slumping |

## 1ST ROUTE UNDER: Gano Street

### ROADWAY LOCATION

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

### ROADWAY CLASSIFICATION

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

### CLEARANCES

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

## 2ND ROUTE UNDER: Water Street

### ROADWAY LOCATION

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

### ROADWAY CLASSIFICATION

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

### CLEARANCES

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

## 3RD ROUTE UNDER: Waterfront Drive

### ROADWAY LOCATION

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

### ROADWAY CLASSIFICATION

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

### CLEARANCES

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

# RIDOT Bridge Inspection Report

**070001**
**Washington Bridge North**

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

## 4TH ROUTE UNDER: Valley Street

### ROADWAY LOCATION

| | |
|---|---|
| **Pos Prefix (5A):** | 4th Route Under |
| **Kind of Hwy (5B):** | 5 City Street |
| **Route Num (5D):** | 0 |
| **LRS Route (13A/B):** | |
| **Milepost (11):** | |
| **Suffix (5E):** | 0 N/A (NBI) |
| **Lanes Under (28B):** | 2 |
| **Detour Length (19):** | 0.30 mi (0.48 km) |

### ROADWAY CLASSIFICATION

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

### CLEARANCES

| | | |
|---|---|---|
| **Vertical (10):** | 14.17 | |
| **Min Vert Over (53):** | 18.33 | 14.17 |
| **Vert Ref (54A):** | H Hwy beneath struct | |
| **Horizontal (47):** | 35.40 | |
| **Min Lat Left (56):** | 0.00 | |
| **Min Lat Right (55B):** | 6.00 | |
| **Horiz Ref (55A):** | H Hwy beneath struct | |
| **Underclearance (69):** | 4 Tolerable | |

## ROUTE ON STRUCTURE: I-195 WB

### ROADWAY LOCATION

| | |
|---|---|
| **Pos Prefix (5A):** | Route On Structure |
| **Kind of Hwy (5B):** | 1 Interstate Hwy |
| **Route Num (5D):** | 00195 |
| **LRS Route (13A/B):** | 6700-A/00 |
| **Milepost (11):** | 2.60 mi (4.19 km) |
| **Suffix (5E):** | 4 West |
| **Lanes On (28A):** | 5 |
| **Detour Length (19):** | 2.00 mi (3.22 km) |

### ROADWAY CLASSIFICATION

| | |
|---|---|
| **Funct Class (26):** | 11 Urban Interstate |
| **Level Service (5C):** | 1 Mainline |
| **NHS (104):** | 1 On the NHS |
| **Defense Hwy (100):** | 1 On Interstate STRAHNET |
| **Toll Facility (20):** | 3 On free road |
| **ADT (29):** | 80,500 Cars/Day |
| **Pct Trucks (109):** | 19.00% |
| **ADT Year (30):** | 2021 |

### CLEARANCES

| | | |
|---|---|---|
| **Vertical (10):** | 99.99 | |
| **Min Vert Over (53):** | 18.33 | 14.17 |
| **Vert Ref (54A):** | H Hwy beneath struct | |
| **Horizontal (47):** | 59.71 | |
| **Min Lat Left (56):** | 0.00 | |
| **Min Lat Right (55B):** | 6.00 | |
| **Horiz Ref (55A):** | H Hwy beneath struct | |
| **Underclearance (69):** | 4 Tolerable | |

BRIDGE NOTES

ORIENTATION: The main bridge structure carries I-195 Westbound and consists of eighteen spans labeled Span 1 through 18 from west to east (photos 6 - 11). Spans 1 through 6 and 8 through 14 consist of prestressed concrete beams and reinforced concrete fascia arches (photos 14-17, 23-25 & 27-29). The beams are labeled A through F from north to south. Span 7 consists of eleven steel plate girders labeled A through K from north to south (photo 26). Spans 15 through 18 consist of prestressed concrete I-girders labeled A up to S from north to south (photos 18-21, 30 & 31). The Gano Street Off-Ramp ties into the main bridge structure at the north side of Span 5 and consists of three box girder spans labeled Span 1R through 3R and a portion of Span 5 (photos 6, 7, 22 & 32 - 34). The spans are logged west to east with Box Girder Cell A at the south (true west) fascia. The Seekonk River flows north to south below the structure.

EQUIPMENT USED: The bridge was inspected using a 60' manlift, 80' manlift on & off the barge, ladder and air monitor.

TRAFFIC CONTROL: Single lane closures on Gano Street (Span 1), Water Street (Span 15), Waterfront Street (Span 16) and Valley Street (Span 18) with a truck mounted attenuator and local police details.

ACCESS NOTES:
- Access to the underside of Spans 10 through 14 require access to the AETNA construction yard below the bridge (photo 89). Check in with local personnel on site.
- The manlift/barge was launched from the Moran Environmental Recovery dock on Water Street in East Providence.
- The interior of the Gano Street Ramp box girders was accessed through the Cell 'B' hatch at West Abutment 1R with a 24' ladder. The key for the box girder hatches can be obtained from Christopher Hart (401-265-0604) at the RIDOT Maintenance Headquarters in Warwick, RI. The Cell 'A' access hatch is frozen, and the Cell 'C' access hatch is covered with plywood (photo 246).
- The catwalks on the interior portions of Pier 6 and Pier 7 can be accessed through hatches and ladders on the topside of the north overhang from a right lane closure (photos 72 & 290).
- The electrical utility room in the East Abutment #2 has a locked door (photo 289). The lock key can be obtained from Christopher Hart (401-265-0604) at the RIDOT Maintenance Headquarters in Warwick, RI.
- During this inspection, there was an ongoing construction project in progress. See Inspection Notes for further details.

# RIDOT Bridge Inspection Report

**070001**
**Washington Bridge North**

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

INSPECTION NOTES

Inspection Date: 6/19/2023 to 7/21/2023 (Routine Inspection)
Inspected by: AECOM
[redacted]
Weather: 70 - 95 degrees Fahrenheit

NBI RATING: The NBI ratings for the Deck (Item 58), Superstructure (Item 59), and Substructure (Item 60) are 6 – Satisfactory, 4 – Poor, and 6 – Satisfactory, respectively and have not changed.

DEFLECTION AND VIBRATION: There was no significant deflection or vibration noted during this inspection.

MINIMUM VERTCIAL CLEARANCES:
- Span 1 over Gano Street: 15'-1" at the east curb below the north arch. Vertical clearance sign of 14'-10" has been installed at the south approach of Gano Street at the east sidewalk (photos 13 and 14).
- Span 15 over Water Street: Greater than 25'-0" at all locations. No vertical clearance signs (photos 18 and 19).
- Span 16 over Waterfront Drive: 21'-0" at the east curb below Girder N. No vertical clearance signs.
- Span 18 over Valley Street: 14'-2" at the east shoulder line below Girder R. Vertical clearance signs of 13'-9" are posted on both fascia girders (photos 20 and 21).

CONSTRUCTION NOTES: The bridge was under rehabilitation at the time of inspection. The rehabilitation of the bridge includes concrete repairs to the deck, superstructure and substructure elements. There is scaffolding in place throughout the structure primarily over the water spans allowing access to the drop-in girder ends and corbels (Photos 24, 25, and 27). There is construction debris and severe pigeon debris scattered throughout the scaffolding which restricts access to numerous locations (Photos 212-214 and 293 - 298). Span 13 could not be accessed at the time of inspection due to construction equipment and soil stockpile mound (Photos 17 and 272). There is a water hose anchored to the deck underside in the south most bay of Spans 10 through 15 (Photos 28-30). The topside of the bridge was under construction at the time of the inspection. I-95 Westbound had one (1) lane closed for construction and four (4) lanes open to traffic (Photos 8 & 35-51). The Gano Street ramp had closed construction zone along the south shoulder and one (1) lane open to traffic (Photos 4, 6 & 52-53). The topside was accessed via an opening in the deck from the scaffolding in Span #10 (Photo 88).

For additional inspection notes refer to the attached file "070001 Additional Inspection Notes.pdf".

| Elm/Env | Description | Total Qty | % in 1 | Qty. St. 1 | % in 2 | Qty. St. 2 | % in 3 | Qty. St. 3 | % in 4 | Qty. St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 12/3 | **Re Concrete Deck** | **142,889.00** | **94%** | **134,222.00** | **5%** | **7,319.00** | **1%** | **1,348.00** | **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 | 88% | 1,886.00 | 12% | 257.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 2,143.00 | 3% | 60.00 | 81% | 1,726.00 | 17% | 357.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 2,183.00 | 0% | 0.00 | 83% | 1,806.00 | 17% | 377.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 2,258.00 | 0% | 0.00 | 84% | 1,901.00 | 16% | 357.00 | 0% | 0.00 |
| 16/3 | **Re Conc Top Flange** | **7,336.00** | **80%** | **5,878.00** | **16%** | **1,168.00** | **4%** | **290.00** | **0%** | **0.00** |
| 510/3 | Wearing Surfaces | 7,336.00 | 100% | 7,336.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 218.00 | 0% | 0.00 | 100% | 218.00 | 0% | 0.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 40.00 | 0% | 0.00 | 0% | 0.00 | 100% | 40.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1,000.00 | 0% | 0.00 | 75% | 750.00 | 25% | 250.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 200.00 | 0% | 0.00 | 100% | 200.00 | 0% | 0.00 | 0% | 0.00 |
| 105/3 | **Re Clsd Box Girder** | **922.00** | **8%** | **77.00** | **55%** | **506.00** | **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 | 6.00 | 0% | 0.00 | 17% | 1.00 | 83% | 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 |

# RIDOT Bridge Inspection Report

070001
Washington Bridge North

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

| Elm/Env | Description | Total Qty | % in 1 | Qty. St. 1 | % in 2 | Qty. St. 2 | % in 3 | Qty. St. 3 | % in 4 | Qty. St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 107/3 | **Steel Opn Girder/Beam** | **1,320.00** | **60%** | **787.00** | **38%** | **496.00** | **3%** | **37.00** | **0%** | **0.00** |
| 515/3 | Steel Protective Coating | 19,385.00 | 38% | 7,350.00 | 32% | 6,300.00 | 30% | 5,735.00 | 0% | 0.00 |
| *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)* | *5,735.00* | 0% | 0.00 | 0% | 0.00 | 100% | 5,735.00 | 0% | 0.00 |
| 1000/3 | Corrosion | 390.00 | 0% | 0.00 | 91% | 353.00 | 9% | 37.00 | 0% | 0.00 |
| 1900/3 | Distortion | 143.00 | 0% | 0.00 | 100% | 143.00 | 0% | 0.00 | 0% | 0.00 |
| 109/3 | **Pre Opn Conc Girder/Beam** | **14,543.00** | **80%** | **11,647.00** | **10%** | **1,397.00** | **10%** | **1,394.00** | **1%** | **105.00** |
| 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 | 1,246.00 | 0% | 0.00 | 80% | 994.00 | 20% | 252.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 189.00 | 16% | 30.00 | 10% | 19.00 | 21% | 40.00 | 53% | 100.00 |
| 1100/3 | Exposed Prestressing | 25.00 | 60% | 15.00 | 0% | 0.00 | 20% | 5.00 | 20% | 5.00 |
| 1110/3 | Cracking (PSC) | 748.00 | 0% | 0.00 | 2% | 16.00 | 98% | 732.00 | 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 |
| 8368/3 | Graffiti | 200.00 | 0% | 0.00 | 100% | 200.00 | 0% | 0.00 | 0% | 0.00 |
| 110/3 | **Re Conc Opn Girder/Beam** | **2,880.00** | **20%** | **579.00** | **52%** | **1,486.00** | **27%** | **770.00** | **2%** | **45.00** |
| 521/3 | Conc Prot Coating | 14,800.00 | 100% | 14,800.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 830.00 | 0% | 0.00 | 76% | 630.00 | 24% | 200.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 103.00 | 0% | 0.00 | 17% | 18.00 | 49% | 50.00 | 34% | 35.00 |
| 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) | 918.00 | 0% | 0.00 | 59% | 538.00 | 40% | 370.00 | 1% | 10.00 |
| 205/3 | **Re Conc Column** | **92.00** | **33%** | **30.00** | **26%** | **24.00** | **41%** | **38.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 48.00 | 0% | 0.00 | 44% | 21.00 | 56% | 27.00 | 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) | 9.00 | 0% | 0.00 | 33% | 3.00 | 67% | 6.00 | 0% | 0.00 |
| 8368/3 | Graffiti | 300.00 | 0% | 0.00 | 100% | 300.00 | 0% | 0.00 | 0% | 0.00 |
| 210/3 | **Re Conc Pier Wall** | **1,151.00** | **50%** | **571.00** | **32%** | **367.00** | **19%** | **213.00** | **0%** | **0.00** |
| 521/3 | Conc Prot Coating | 25,200.00 | 100% | 25,200.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 200.00 | 0% | 0.00 | 49% | 97.00 | 52% | 103.00 | 0% | 0.00 |
| 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) | 185.00 | 0% | 0.00 | 62% | 115.00 | 38% | 70.00 | 0% | 0.00 |
| 6000/3 | Scour | 115.00 | 0% | 0.00 | 100% | 115.00 | 0% | 0.00 | 0% | 0.00 |
| 8368/3 | Graffiti | 400.00 | 0% | 0.00 | 100% | 400.00 | 0% | 0.00 | 0% | 0.00 |
| 215/3 | **Re Conc Abutment** | **230.00** | **23%** | **54.00** | **29%** | **67.00** | **47%** | **109.00** | **0%** | **0.00** |
| 521/3 | Conc Prot Coating | 2,300.00 | 100% | 2,300.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 127.00 | 0% | 0.00 | 41% | 52.00 | 59% | 75.00 | 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 |
| 8368/3 | Graffiti | 50.00 | 0% | 0.00 | 100% | 50.00 | 0% | 0.00 | 0% | 0.00 |
| 220/3 | **Re Conc Pile Cap/Ftg** | **1,151.00** | **100%** | **1,146.00** | **0%** | **1.00** | **0%** | **4.00** | **0%** | **0.00** |
| 1130/3 | Cracking (RC and Other) | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 6000/3 | Scour | 4.00 | 0% | 0.00 | 0% | 0.00 | 100% | 4.00 | 0% | 0.00 |
| 234/3 | **Re Conc Pier Cap** | **388.00** | **0%** | **0.00** | **93%** | **362.00** | **7%** | **26.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 325.00 | 0% | 0.00 | 94% | 307.00 | 6% | 18.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 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) | 47.00 | 0% | 0.00 | 100% | 47.00 | 0% | 0.00 | 0% | 0.00 |

# RIDOT Bridge Inspection Report

070001
Washington Bridge North

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

| Elm/Env | Description | Total Qty | % in 1 | Qty. St. 1 | % in 2 | Qty. St. 2 | % in 3 | Qty. St. 3 | % in 4 | Qty. St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 300/3 | **Strip Seal Exp Joint** | **93.00** | **73%** | **68.00** | **22%** | **20.00** | **5%** | **5.00** | **0%** | **0.00** |
| 2310/3 | Leakage | 5.00 | 0% | 0.00 | 100% | 5.00 | 0% | 0.00 | 0% | 0.00 |
| 2330/3 | Seal Damage | 10.00 | 0% | 0.00 | 100% | 10.00 | 0% | 0.00 | 0% | 0.00 |
| 2350/3 | Debris Impaction | 5.00 | 0% | 0.00 | 100% | 5.00 | 0% | 0.00 | 0% | 0.00 |
| 2370/3 | Metal Deterioration or Damage | 5.00 | 0% | 0.00 | 0% | 0.00 | 100% | 5.00 | 0% | 0.00 |
| 301/3 | **Pourable Joint Seal** | **1,151.00** | **44%** | **507.00** | **47%** | **544.00** | **7%** | **85.00** | **1%** | **15.00** |
| 2310/3 | Leakage | 344.00 | 0% | 0.00 | 100% | 344.00 | 0% | 0.00 | 0% | 0.00 |
| 2320/3 | Seal Adhesion | 300.00 | 0% | 0.00 | 67% | 200.00 | 28% | 85.00 | 5% | 15.00 |
| 310/3 | **Elastomeric Bearing** | **401.00** | **34%** | **136.00** | **47%** | **190.00** | **19%** | **75.00** | **0%** | **0.00** |
| 2220/3 | Alignment | 4.00 | 0% | 0.00 | 0% | 0.00 | 100% | 4.00 | 0% | 0.00 |
| 2230/3 | Bulging, Splitting or Tearing | 200.00 | 0% | 0.00 | 75% | 150.00 | 25% | 50.00 | 0% | 0.00 |
| 2240/3 | Loss of Bearing Area | 61.00 | 0% | 0.00 | 66% | 40.00 | 34% | 21.00 | 0% | 0.00 |
| 311/3 | **Moveable Bearing** | **11.00** | **9%** | **1.00** | **64%** | **7.00** | **27%** | **3.00** | **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 | 9.00 | 0% | 0.00 | 78% | 7.00 | 22% | 2.00 | 0% | 0.00 |
| 2220/3 | Alignment | 1.00 | 0% | 0.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 |
| 2240/3 | Loss of Bearing Area | 1.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 313/3 | **Fixed Bearing** | **11.00** | **0%** | **0.00** | **73%** | **8.00** | **27%** | **3.00** | **0%** | **0.00** |
| 515/3 | Steel Protective Coating | 110.00 | 0% | 0.00 | 0% | 0.00 | 60% | 66.00 | 40% | 44.00 |
| *3420/3* | *Peel/Bub/Crack(Stl Protect Coat)* | *110.00* | 0% | 0.00 | 0% | 0.00 | 60% | 66.00 | 40% | 44.00 |
| 1000/3 | Corrosion | 11.00 | 0% | 0.00 | 73% | 8.00 | 27% | 3.00 | 0% | 0.00 |
| 321/3 | **Re Conc Approach Slab** | **2,352.00** | **0%** | **0.00** | **100%** | **2,352.00** | **0%** | **0.00** | **0%** | **0.00** |
| 510/3 | Wearing Surfaces | 2,352.00 | 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 |
| 331/3 | **Re Conc Bridge Railing** | **4,108.00** | **90%** | **3,693.00** | **10%** | **411.00** | **0%** | **4.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 10.00 | 0% | 0.00 | 100% | 10.00 | 0% | 0.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 3.00 | 0% | 0.00 | 0% | 0.00 | 100% | 3.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 351.00 | 0% | 0.00 | 100% | 351.00 | 0% | 0.00 | 0% | 0.00 |
| 7000/3 | Damage | 50.00 | 0% | 0.00 | 100% | 50.00 | 0% | 0.00 | 0% | 0.00 |
| 8060/3 | **Scupper** | **27.00** | **0%** | **0.00** | **11%** | **3.00** | **74%** | **20.00** | **15%** | **4.00** |
| 1000/3 | Corrosion | 4.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 | 100% | 4.00 |
| 8107/3 | **Steel Opn Girder/Beam END** | **110.00** | **0%** | **0.00** | **0%** | **0.00** | **100%** | **110.00** | **0%** | **0.00** |
| 515/3 | Steel Protective Coating | 1,615.00 | 0% | 0.00 | 0% | 0.00 | 38% | 615.00 | 62% | 1,000.00 |
| *3420/3* | *Peel/Bub/Crack(Stl Protect Coat)* | *1,615.00* | 0% | 0.00 | 0% | 0.00 | 38% | 615.00 | 62% | 1,000.00 |
| 1000/3 | Corrosion | 110.00 | 0% | 0.00 | 0% | 0.00 | 100% | 110.00 | 0% | 0.00 |
| 8213/3 | **R/C Return Wall** | **175.00** | **0%** | **0.00** | **86%** | **150.00** | **14%** | **25.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 44.00 | 0% | 0.00 | 100% | 44.00 | 0% | 0.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 110.00 | 0% | 0.00 | 77% | 85.00 | 23% | 25.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 21.00 | 0% | 0.00 | 100% | 21.00 | 0% | 0.00 | 0% | 0.00 |
| 8368/3 | Graffiti | 100.00 | 0% | 0.00 | 100% | 100.00 | 0% | 0.00 | 0% | 0.00 |
| 8218/3 | **Backwall, All Types** | **230.00** | **45%** | **104.00** | **35%** | **80.00** | **20%** | **46.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 80.00 | 0% | 0.00 | 88% | 70.00 | 13% | 10.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 23.00 | 0% | 0.00 | 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 |
| 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 |

# RIDOT Bridge Inspection Report

070001
Washington Bridge North

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

| Elm/Env | Description | Total Qty | % in 1 | Qty. St. 1 | % in 2 | Qty. St. 2 | % in 3 | Qty. St. 3 | % in 4 | Qty. St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2340/3 | Seal Cracking | 21.00 | 0% | 0.00 | 100% | 21.00 | 0% | 0.00 | 0% | 0.00 |
| 8335/3 | **Guardrail, Vehicular** | **700.00** | **99%** | **690.00** | **1%** | **10.00** | **0%** | **0.00** | **0%** | **0.00** |
| 515/3 | Steel Protective Coating | 3,150.00 | 100% | 3,150.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1020/3 | Connection | 10.00 | 0% | 0.00 | 100% | 10.00 | 0% | 0.00 | 0% | 0.00 |
| 8336/3 | **Conc Bridge Parapet** | **350.00** | **21%** | **75.00** | **70%** | **245.00** | **9%** | **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) | 75.00 | 0% | 0.00 | 100% | 75.00 | 0% | 0.00 | 0% | 0.00 |
| 8366/3 | **Rip Rap** | **1,000.00** | **94%** | **940.00** | **3%** | **30.00** | **3%** | **30.00** | **0%** | **0.00** |
| 4000/3 | Settlement | 60.00 | 0% | 0.00 | 50% | 30.00 | 50% | 30.00 | 0% | 0.00 |
| 8367/3 | **Slope Blocks** | **700.00** | **85%** | **595.00** | **0%** | **0.00** | **15%** | **105.00** | **0%** | **0.00** |
| 8370/3 | **Steel Diaphragms** | **70.00** | **19%** | **13.00** | **51%** | **36.00** | **24%** | **17.00** | **6%** | **4.00** |
| 515/3 | Steel Protective Coating | 1,800.00 | 21% | 378.00 | 63% | 1,125.00 | 12% | 207.00 | 5% | 90.00 |
| *3410/3* | *Chalk(Steel Protect Coatings)* | *900.00* | 0% | 0.00 | 100% | 900.00 | 0% | 0.00 | 0% | 0.00 |
| *3420/3* | *Peel/Bub/Crack(Stl Protect Coat)* | *522.00* | 0% | 0.00 | 43% | 225.00 | 40% | 207.00 | 17% | 90.00 |
| 1000/3 | Corrosion | 55.00 | 0% | 0.00 | 64% | 35.00 | 29% | 16.00 | 7% | 4.00 |
| 1020/3 | Connection | 2.00 | 0% | 0.00 | 50% | 1.00 | 50% | 1.00 | 0% | 0.00 |
| 8371/3 | **Conc Diaphragms** | **221.00** | **3%** | **6.00** | **39%** | **86.00** | **58%** | **129.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 74.00 | 0% | 0.00 | 8% | 6.00 | 92% | 68.00 | 0% | 0.00 |
| 1090/3 | Exposed Rebar | 13.00 | 46% | 6.00 | 46% | 6.00 | 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) | 123.00 | 0% | 0.00 | 55% | 68.00 | 45% | 55.00 | 0% | 0.00 |
| 8368/3 | Graffiti | 100.00 | 0% | 0.00 | 100% | 100.00 | 0% | 0.00 | 0% | 0.00 |
| 8398/3 | **Curb/sidewalks - Con** | **350.00** | **0%** | **0.00** | **100%** | **350.00** | **0%** | **0.00** | **0%** | **0.00** |
| 1080/3 | Delamination/Spall/Patched Area | 348.00 | 0% | 0.00 | 100% | 348.00 | 0% | 0.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 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 |

ELEMENT NOTES

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **12** | **Re Concrete Deck** | **3** | **142,889.00** | **sq.ft** | **134,222.00** | **7,319.00** | **1,348.00** | **0.00** |

**There is a reinforced concrete deck in Spans 1 through 18 (photos 23-31). The top of the deck has a bituminous concrete wearing surface/overlay which was under construction at the time of the inspection (see "Inspection Notes" and photos 35-51). The deck including new link slab construction at the deck joints was in varying stages of re-construction during the inspection (photos 54, 78, 79). Formwork and scaffolding remains in place throughout the bridge and the seismic restrainer assemblies at the deck joints in Spans 1 through 6 and 8 through 14 typically have the restrainer rod removed (photo 24, 25, 27, 87, 91, 112, 131, 142, 144, 147, 169, 172, 176, 212-214, 216, 226, 263, 265, 268-270). The underside of the deck exhibits areas of exposed rebar chairs throughout, areas of rust staining and efflorescence, random hairline cracking, random areas of damp concrete, random delaminations, isolated spalls, and active leakage in the construction areas at the deck joints. The areas immediately surrounding drainpipes exhibit heavy rust staining and efflorescence with intermittent hollow areas. The overhangs exhibit typical hairline transverse cracks with efflorescence and stalactites (photo 75). See the attached file "070001 Elem 12 Defect Table.pdf" and Photos 74-95 for further details.**

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

The older areas of the bituminous concrete wearing surface/overlay on the bridge exhibits minor sand and debris accumulation on the shoulders, minor to moderate wheel line rutting, random sealed and unsealed longitudinal and transverse cracks, scattered patches and depressed pavement with minor potholes, and random locations of raveling along deck joint edges (photos 45-51).

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

*There are isolated minor potholes up to 3" deep and scattered depressed patches in the wearing surface. There is typical raveling or depressed areas up to 1'-0" wide x 2" deep in the pavement along the joints and along edges of new pavement (photos 45-51).*

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| *3220* | *Crack (Wearing Surfac* | *3* | *4,286.00* | *sq.ft* | *0.00* | *3,572.00* | *714.00* | *0.00* |

*There are isolated locations of sealed longitudinal cracks along the lane lines, in the shoulders and in the gore area in Spans 15 through 18 (photos 45-51). There are sealed and unsealed transverse cracks scattered throughout.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 2,143.00 | sq.ft | 0.00 | 1,886.00 | 257.00 | 0.00 |

See the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 2,143.00 | sq.ft | 60 00 | 1,726.00 | 357.00 | 0.00 |

See the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 2,183.00 | sq.ft | 0.00 | 1,806.00 | 377.00 | 0.00 |

Bay 'C' of the drop-in spans where previous staged construction was conducted has typical rust staining at abandoned temporary barrier anchor rod drilled hole locations.

See the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 2,258.00 | sq.ft | 0.00 | 1,901.00 | 357.00 | 0.00 |

See the attached file "070001 Elem 12 Defect Table.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **16** | **Re Conc Top Flange** | **3** | **7,336.00** | **sq.ft** | **5,878.00** | **1,168.00** | **290.00** | **0.00** |

**This element represents the top flanges of the reinforced concrete box girders in Spans 1R, 2R, 3R and 5 of the Gano Street off-ramp. The top of the top flanges has a bituminous concrete wearing surface/overlay. The underside of the top flanges exhibit typical transverse hairline cracks up to full width with efflorescence and rust, scattered areas of map hairline cracks with efflorescence, isolated delaminations and spalls. There are ongoing repairs with formwork left in place. See photos 187 through 204 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 510 | Wearing Surfaces | 3 | 7,336.00 | sq.ft | 7,336.00 | 0.00 | 0.00 | 0.00 |

The wearing surface exhibits isolated transverse cracks and wheel line wear. The South 2'-0" of the wearing surface is new pavement with a new bridge railing (Photo 73).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 218.00 | sq.ft | 0.00 | 218.00 | 0.00 | 0.00 |

See photos 189, 194, 198, 200 through 202, 204 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 40.00 | sq.ft | 0.00 | 0.00 | 40.00 | 0.00 |

See photos 189, 202 and 204 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

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

See photos 189, 190, 194, 198 through 202 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

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

See photos 187 through 204 and the attached file "070001 Elem 16 Defect Table.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 105 | Re Clsd Box Girder | 3 | 922.00 | ft | 77.00 | 506.00 | 339.00 | 0.00 |

**There are reinforced concrete three-cell box girders in Spans 1R, 2R, 3R and Span 5 which carry the Gano Street off-ramp (photos 32-34). The box girder cells are labeled A through C from south to north to maintain the same orientation as the main bridge structure. Span bays are numbered 1 through 3 from west to east. The seismic restrainer assemblies and cables at Pier 2R exhibit typical rust with light corrosion (photos 197, 202). The interior webs exhibit typical full height vertical/diagonal hairline cracks, both sealed and unsealed. There are numerous gauges in place to monitor crack movement, with no movement detected during this inspection. There is typical ponding water up to 7" deep at Pier 2R due to clogged drain holes (photos 190, 191, and 202). The undersides of the bottom flanges exhibit random repair patches, scattered transverse hairline cracks with efflorescence and rust staining and isolated delaminations and spalls. Scaffolding remains on south face (photos 22, 34 and 117). See photos 181 through 204 and the attached files "070001 Elem 105 Defect 1130 Interior Table.pdf", "070001 Elem 105 Defect Interior Table.pdf" and "070001 Elem 105 Underside Exterior Sketches.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 100.00 | ft | 0.00 | 80 00 | 20.00 | 0.00 |

See photos 181 - 186, 192, 194, 200, and 203 and the attached files "070001 Elem 105 Defect 1130 Interior Table.pdf", "070001 Elem 105 Defect Interior Table.pdf" and "070001 Elem 105 Underside Exterior Sketches.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 6.00 | ft | 0.00 | 1.00 | 5.00 | 0.00 |

See photos 183, 189, 202 & 204 and the attached files "070001 Elem 105 Defect 1130 Interior Table.pdf", "070001 Elem 105 Defect Interior Table.pdf" and "070001 Elem 105 Underside Exterior Sketches.pdf" for further details.

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

See photos 181, 182, 184, 187, 188, 194 and 200 and the attached files "070001 Elem 105 Defect 1130 Interior Table.pdf", "070001 Elem 105 Defect Interior Table.pdf" and "070001 Elem 105 Underside Exterior Sketches.pdf" for further details.

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

See photos 181, 184, 186, 187, 188, 192 through 194 and 196 and the attached files "070001 Elem 105 Defect 1130 Interior Table.pdf", "070001 Elem 105 Defect Interior Table.pdf" and "070001 Elem 105 Underside Exterior Sketches.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 107 | Steel Opn Girder/Beam | 3 | 1,320.00 | ft | 787.00 | 496.00 | 37.00 | 0.00 |

**There are eleven steel plate girders in Span 7 spanning between the Pier 6 east wall and the Pier 7 west wall (photo 26). Most girder ends exhibit bolted repair plates and angles at the webs and bottom flanges for up to 25'-0" long. There are isolated areas of 1/8" section loss and a 1/2" hole at Girder A to webs beyond the repair plates. See photos 118 through 126 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 19,385.00 | sq.ft | 7,350.00 | 6,300.00 | 5,735.00 | 0.00 |

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

See photos 118 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.

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

*See photos 118 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.*

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Prc* | *3* | *5,735.00* | *sq.ft* | *0.00* | *0.00* | *5,735.00* | *0.00* |

*See photos 118 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 390.00 | ft | 0.00 | 353.00 | 37.00 | 0.00 |

A new 1/2" diameter web hole was noted to Girder A at Pier 6 at the end of the web repair plate (photos 118 and 119).

See photos 118 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1900 | Distortion | 3 | 143.00 | ft | 0.00 | 143.00 | 0.00 | 0.00 |

The bottom flanges exhibit typical 1/8" vertical distortion at the section transitions (photo 126).

Girder A bottom flange exhibits full length x up to 5/16" vertical distortion and minor rotation of the girder (top of girder is rotating towards the north) (photo 125).

Girder K bottom flange exhibits full length x up to 3/8" vertical distortion (photo 120).

See the attached file "070001 Elem 107 Defect Table.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 109 | Pre Opn Conc Girder/Beam | 3 | 14,543.00 | ft | 11,647.00 | 1,397.00 | 1,394.00 | 105.00 |

**The prestressed concrete girders in Spans 1 through 6 and 8 through 14 consist of variable depth post-tensioned cantilevered girder sections over the piers with corbels at the end. The cantilevered girder sections support prestressed concrete suspended beams (photos 23-25, 27-29). The prestressed concrete I-girders in Spans 15 through 18 are simply supported between the substructure units (photos 30 and 31). Rehabilitation construction is on-going and there are multiple defects that have been repaired or are in the process of being repaired (photos 131, 135, 142, 150, 152, 154, 155, 157, 158). Active deck construction results in deck joint leakage and ponding water on the corbel seats. The suspended beams exhibit typical shear cracks at dapped ends. There are scattered cracks, delaminations and spalls with exposed stirrups and prestressing strands at the beam ends, dapped ends and bottom flange undersides. The corbels exhibit cracks, delaminations and spalls with exposed post-tension anchor plates on the suspended beam sides throughout. The remaining corbel surfaces exhibit isolated cracks, delaminations and minor spalls. The cantilever girders exhibit hairline diagonal cracks along the post-tensioned cable lines, some sealed and unsealed, isolated vertical cracks and delaminations over the pier columns and scattered spalls with exposed rebar. The post-tensioned anchor blocks on the underside exhibit delaminations and spalls. The cantilever ends in Span 7 at Pier 6 and Pier 7 (accessed via the catwalks on the interior walls of the piers) exhibit delaminations and spalls up to full height with fully exposed and debonded stirrups and reduced bearing areas. The I-girders in Spans 15 through 18 exhibit scattered hairline cracks with efflorescence, delaminations, spalls and exposed prestressing strands. The back faces of the girder ends exhibit severe spalls with exposed and debonded stirrups. There are scattered cut-outs for repair with exposed rebar in the underside of the bottom flanges. Pigeons on corbels typical throughout (photos 130 and 131). See photos 127 - 161 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details.**

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

The suspended beam dapped ends are coated with a protective sealant which exh bits scattered peeling and cracking throughout (see photos 127 - 161).

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

*The suspended beam dapped ends are coated with a protective sealant which exhibits scattered peeling and cracking throughout (see photos 127 - 161).*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 1,246.00 | ft | 0.00 | 994.00 | 252.00 | 0.00 |

See photos 127 - 161 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 189.00 | ft | 30 00 | 19 00 | 40.00 | 100.00 |

See photos 121 - 167 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1100 | Exposed Prestressing | 3 | 25.00 | ft | 15 00 | 0.00 | 5.00 | 5.00 |

See photos 121 - 167 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1110 | Cracking (PSC) | 3 | 748.00 | ft | 0.00 | 16 00 | 732.00 | 0.00 |

See photos 121 - 167 and the attached files "070001 Elem 109 Shear Crack Table.pdf" and "070001 Elem 109 Defect Table.pdf" for further details.

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

See photos 121 - 167 and the attached file "070001 Elem 109 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7000 | Damage | 3 | 3.00 | ft | 0.00 | 3.00 | 0.00 | 0.00 |

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

- Span 16, Girder E east of midspan: 3'-0" long x up to 1/4" deep scrape.
- Span 18, All girders: Minor impact scrapes (±15'-0" total)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 200.00 | ft | 0.00 | 200.00 | 0.00 | 0.00 |

The suspended beam ends in Span 4 exhibit scattered areas of minor to heavy graffiti.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **110** | **Re Conc Opn Girder/Beam** | **3** | **2,880.00** | **ft** | **579.00** | **1,486.00** | **770.00** | **45.00** |

**The reinforced concrete fascia arch girders in Spans 1 through 6, 8 through 13 and 1R through 3R consist of cantilevered sections at the piers and suspended midspan sections (photos 13-17). The cantilever sections support the suspended sections with concrete keys at shiplap joints with elastomeric bearing pads. Rehabilitation construction is on-going and there are multiple defects that are in the process of being repaired (see photos 99, 100, 105, 108, 109, 111, 113). The arch girders exhibit vertical, transverse and horizontal cracks, delaminations and spalls with exposed/debonded rebar at the shiplap joints and bottom flanges. There is vertical misalignment between the cantilever sections and suspended section in spans 6 and 11 (photo 104). See photos 96 through 117 and the attached file "070001 Elem 110 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 521 | Conc Prot Coating | 3 | 14,800.00 | sq.ft | 14,800.00 | 0.00 | 0.00 | 0.00 |

The arch girder exterior faces and bottom flanges are partially coated with a new protective sealant. See photos 96 , 97, 98, 100, 102, 105, 106, 109, 111, 117) and the attached file "070001 Elem 110 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 830.00 | ft | 0.00 | 630.00 | 200.00 | 0.00 |

See photos 96 through 117 and the attached file "070001 Elem 110 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 103.00 | ft | 0.00 | 18 00 | 50.00 | 35.00 |

See photos 106 through 109, 112 and 113 and the attached file "070001 Elem 110 Defect Table.pdf" for further details.

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

See photo 107 and the attached file "070001 Elem 110 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 918.00 | ft | 0.00 | 538.00 | 370.00 | 10.00 |

See photos 97 through 99, 102, 103, 105, 106, 110 and 114 through 117 and the attached file "070001 Elem 110 Defect Table.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 205 | Re Conc Column | 3 | 92.00 | each | 30.00 | 24.00 | 38.00 | 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 (photos 263, 269, 274, 275). The cantilever girder columns exhibit isolated hairline vertical and map cracks, delaminations and spalls. The pedestals at the top of the columns exhibit typical scattered delaminations/spalls up to full width x full height x 2" deep with exposed edges of steel bearing plates. The pier cap columns exhibit scattered sealed/unsealed vertical cracks and rust stains throughout with isolated hairline map cracks, efflorescence, delaminations and spalls. See photos 255 through 260 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 48.00 | each | 0.00 | 21 00 | 27.00 | 0.00 |

See photos 256 through 260 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.

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

See photo 258 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 9.00 | each | 0.00 | 3.00 | 6.00 | 0.00 |

See photos 258 & 260 and the attached file "070001 Elem 205 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 300.00 | each | 0.00 | 300.00 | 0.00 | 0.00 |

The Pier 3 and Pier 10 columns exhibit heavy graffiti on the lower halves (photo 263).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 210 | Re Conc Pier Wall | 3 | 1,151.00 | ft | 571.00 | 367.00 | 213.00 | 0.00 |

**There are reinforced concrete pier walls at Piers 1 through 13 and 1R through 3R. All pier walls except the east pier wall of Pier 6, the west pier wall of Pier 7 and Piers 1R through 3R are non-structural and act as curtain walls providing architectural (stone façade) and protective elements to the pier columns (photos 261-273). The east pier wall of Pier 6 and the west pier wall of Pier 7 support the cantilever girder ends in Spans 6 and 8 (through cantilever support pedestals) and the steel girders in Span 7. The cantilever girder pedestals can be accessed via the catwalks on the interior portions of Pier 6 and Pier 7; see Access Notes. There are cellular walls at the base of Piers 6 & 7 interiors which are inaccessible (photos 234-236, 238). Pier walls 1R through 3R support the Gano Street off-ramp box girder superstructure (photos 276-279). 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 (photos 13-17). The pier walls at Piers 1 through 3 and 10 through 13 exhibit a protective coating in most locations and all piers exhibit sealed vertical and map cracks throughout with isolated cracks re-opening. Scattered cracks through the pier wall stone facades remain. The pylons remain uncoated and exhibit typical scattered hairline cracks with efflorescence and rust stains. See photos 222 through 243, 261 through 279 and the attached file "070001 Elem 210 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 521 | Conc Prot Coating | 3 | 25,200.00 | sq.ft | 25,200.00 | 0.00 | 0.00 | 0.00 |

The pier walls at Piers 1 through 3 and 10 through 13 have a protective coating. See the attached file "070001 Elem 210 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 200.00 | ft | 0.00 | 97 00 | 103.00 | 0.00 |

See photos 222, 223, 225, 231, 232, 233, 237, 239, 240, 241 & 243 and the attached file "070001 Elem 210 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 80.00 | ft | 0.00 | 40 00 | 40.00 | 0.00 |

See photos 226, 231, 240 & 242 the attached file "070001 Elem 210 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 185.00 | ft | 0.00 | 115.00 | 70.00 | 0.00 |

See photos 225, 226, 227, 229, 230, 231, 232, 233, 237, 240, 242 & 243 and the attached file "070001 Elem 210 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6000 | Scour | 3 | 115.00 | ft | 0.00 | 115.00 | 0.00 | 0.00 |

Evidence of scour is noted in the 2021 Underwater Inspection Report. The pier 8 pile cap is also undermined which was not previously noted in the 2017 underwater inspection report. See both underwater reports for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 400.00 | ft | 0.00 | 400.00 | 0.00 | 0.00 |

The pier walls at Piers 3 and 10 through 13 exhibit isolated moderate to heavy graffiti and anti-graffiti paint (photos 263 & 270 - 273).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 215 | Re Conc Abutment | 3 | 230.00 | ft | 54.00 | 67.00 | 109.00 | 0.00 |

**There are reinforced concrete abutments at each end of the main structure (West Abutment #1 & East Abutment #2) and at the end of the Gano Street off-ramp (West Abutment 1R) (see photos 20, 244 & 246). The abutments all have protective coatings. West Abutment #1 is a stub abutment that is hidden by backfill beyond a retaining wall. There is severe accumulation of pigeon debris and nesting pigeons behind the wall up to the top of the columns preventing the inspection of the stub abutment stem (see photo 245). The retaining wall exhibits scattered hairline cracks. East Abutment #2 is a full height abutment with an electrical utility room built into the abutment in Bays H and I (see photo 289). See Access Notes for access to the electrical room. The abutment exhibits scattered hairline cracks, delaminations, spalls and debris accumulation/pigeon nesting on the beam seats. West Abutment 1R is a semi-stub abutment that sits on the river embankment with slope protection blocks in front. The abutment exhibits scattered efflorescence, rust stains and an isolated spall. See photos 244 through 248 the attached file "070001 Elem 215 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 521 | Conc Prot Coating | 3 | 2,300.00 | sq.ft | 2,300.00 | 0.00 | 0.00 | 0.00 |

The abutments all have protective coatings (photo 244). See the attached file "070001 Elem 215 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 127.00 | ft | 0.00 | 52 00 | 75.00 | 0.00 |

See photo 248 the attached file "070001 Elem 215 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 30.00 | ft | 0.00 | 15 00 | 15.00 | 0.00 |

See the attached file "070001 Elem 215 Defect Table.pdf" for further details.

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

See the attached file "070001 Elem 215 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 50.00 | ft | 0.00 | 50 00 | 0.00 | 0.00 |

The West Abutment 1R has graffiti throughout (photo 246).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 220 | Re Conc Pile Cap/Ftg | 3 | 1,151.00 | ft | 1,146.00 | 1.00 | 4.00 | 0.00 |

**This element was not part of the Routine Inspection performed on 7/21/2023 to inspect the superstructure and substructure. The following notes are from the previous 2021 Underwater Inspection. The exposed pile caps step out from the face of the pier stems at varying widths from 10" wide to 1'-6" wide and are exposed up to full-height with varying measurements from 3'-0" (full-height) at Pier 5 to 10'-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'-0" high. There is an undermining cavity along the south nose of Pier 8 that measures 4'-0" long x 5" high with up to 6" horizontal penetration.**

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

This element was not part of the Routine Inspection performed on 7/21/2023 to inspect the superstructure and substructure. The following notes are from the previous 2021 Underwater Inspection.

Pier 3R pile cap exh bits a crack 7'-0" high x 3/16" wide extending from the top of the pile cap.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6000 | Scour | 3 | 4.00 | ft | 0.00 | 0.00 | 4.00 | 0.00 |

This element was not part of the Routine Inspection performed on 7/21/2023 to inspect the superstructure and substructure. The following notes are from the previous 2021 Underwater Inspection.

There is an undermining cavity along the south nose of Pier 8 that measures 4'-0" long x 5" high with up to 6" horizontal penetration.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 234 | Re Conc Pier Cap | 3 | 388.00 | ft | 0.00 | 362.00 | 26.00 | 0.00 |

**There are reinforced concrete caps at Piers 14 through 17 (see photos 274 & 275). The caps are covered with remaining chloride extraction materials throughout. The caps and pedestals exhibit isolated hairline cracks, delaminations and spalls. See photos 249 through 254 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 325.00 | ft | 0.00 | 307.00 | 18.00 | 0.00 |

See photos 250, 252 & 254 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

See photo 254 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.

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

See the attached file "070001 Elem 234 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 47.00 | ft | 0.00 | 47 00 | 0.00 | 0.00 |

See photos 249 & 251 and the attached file "070001 Elem 234 Defect Table.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 300 | Strip Seal Exp Joint | 3 | 93.00 | ft | 68.00 | 20.00 | 5.00 | 0.00 |

**There is a strip seal joint in Span 5 at the east side of Pier 4 in the left lanes of I-195 westbound. The joint has been paved over (photo 58).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2310 | Leakage | 3 | 5.00 | ft | 0.00 | 5.00 | 0.00 | 0.00 |

There is evidence of leakage through the joint on the underside due to failing joint seal (see photo 264).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2330 | Seal Damage | 3 | 10.00 | ft | 0.00 | 10 00 | 0.00 | 0.00 |

The deck joint seal is loose/sagging in several locations when viewed from the underside (see photo 211).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2350 | Debris Impaction | 3 | 5.00 | ft | 0.00 | 5.00 | 0.00 | 0.00 |

The joint is paved over full width of the bridge with a transverse crack (see photo 58).

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

The joint is paved over for the full width of the bridge (see photo 58).

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

**There were pourable joint seals on the west side of West Abutment 1 and Piers 1 through 7, on the east side of Piers 7 through 13, at East Abutment 2, and along the gore median in Spans 16 and 17 that were previously installed. There is ongoing link slab construction which has eliminated some of the deck joints (see photos 54 & 59). The joints that remain have been paved over. The wearing surface along deck joint edges exhibits scattered patches and depressed pavement with minor potholes, and random locations of raveling (see photos 57, 60 - 62 & 64).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2310 | Leakage | 3 | 344.00 | ft | 0.00 | 344.00 | 0.00 | 0.00 |

The joints exh bit scattered evidence of leakage along the undersides (see photos 241, 266, 267).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2320 | Seal Adhesion | 3 | 300.00 | ft | 0.00 | 200.00 | 85.00 | 15.00 |

The pourable joint seals exhibit isolated locations of loss of seal adhesion (photos 57, 60, 61, 62, 64).

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

**There are elastomeric bearing pads for the following elements and locations: P/S concrete drop-in girder dapped ends at the corbels in Spans 1 through 6 and 8 through 14 (photo 138), post-tensioned concrete cantilever girder ends at the east wall of Pier 6 and the west wall of Pier 7 (photos 148 and 149), P/S concrete I-girders in Spans 14 through 18 (photos 162, 220 and 221), and concrete fascia arches at the shiplap joints in Spans 1 through 6 and Spans 8 through 13 (photos 104 and 113) and at pier walls in Spans 1R through 3R (photo 116).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2220 | Alignment | 3 | 4.00 | each | 0.00 | 0.00 | 4.00 | 0.00 |

All measurements were recorded at a temperature of 70-95 degrees Fahrenheit.

The suspended beam bearings in Spans 1 through 3, 8, 9, 11 and 13 are typically in contraction up to 1/2". The bearings in Spans 4, 5, 10, 12 and 14 are typically neutral or expanded up to 1". The bearings in Span 6 exhibit contraction and expansion, bearings B & C at East Corbel are expanded 1/2" (photo 144).

The I-Girder bearings in Spans 15 through 18 are typically neutral or expanded up to 1/2".

The fascia arch bearings in Spans 1R through 3R typically neutral or expanded up to 1/2".

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

The bearing pads exhibit random minor tears throughout. Random bearings exhibit minor to moderate bulging and isolated bearings exhibit heavier bulging with up to 1/2" separation at the top or the bottom of the pad (photo 104).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2240 | Loss of Bearing Area | 3 | 61.00 | each | 0.00 | 40 00 | 21.00 | 0.00 |

There are scattered locations of bearing area loss due to spalls undermining the bearings and spalls above the bearings reducing the bearing area (photos 138 and 162). See the attached files "070001 Elem 109 Defect Table.pdf", "070001 Elem 110 Defect Table.pdf" and "070001 Elem 234 Defect Table.pdf" for further details.

In Span 14 at Pier 14, Bearing F overhangs the pedestal 1" due to rotated pad (photo 221). Bearings A and E also have lateral shift and overhang respective pedestals up to 1/2" (photo 220).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 311 | Moveable Bearing | 3 | 11.00 | each | 1.00 | 7.00 | 3.00 | 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. The bearings exhibit light to moderate accumulation of sand and debris.**

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

The bearings have a steel protective coating with areas of peeling paint and light to moderate rust. Bearings A, B, J, and K have no paint remaining (photo 218).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Prc* | *3* | *132.00* | *sq.ft* | *0.00* | *0.00* | *44.00* | *88.00* |

*The bearings have a steel protective coating with areas of peeling paint and light to moderate rust. Bearings A, B, J, and K have no paint remaining (photo 218).*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 9.00 | each | 0.00 | 7.00 | 2.00 | 0.00 |

# RIDOT Bridge Inspection Report



**Bridge Condition** Poor

The bearings and anchor bolts typically have light to moderate rust. Bearings A, B, J, and K exhibit heavy laminated rust on the bearings and anchor bolts with up to 3/8" thick pack rust between the bearing plates (photo 218).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2220 | Alignment | 3 | 1.00 | each | 0.00 | 0.00 | 1.00 | 0.00 |

The bearings exhibit typical minor expansion at 70 degrees Fahrenheit. Bearing A assembly is uneven with no gap at the south end and a 1" gap between the bearing plate and the pedestal at the north end of the restraint plate (photo 219).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2240 | Loss of Bearing Area | 3 | 1.00 | each | 1.00 | 0.00 | 0.00 | 0.00 |

Patched/repaired - Previously Noted: Bearing K is undermined 2" long x 4" wide at northeast corner, 11" long x 1" wide along north face and 3" long x 7" wide at northwest corner (photo 218).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **313** | **Fixed Bearing** | **3** | **11.00** | **each** | **0.00** | **8.00** | **3.00** | **0.00** |

**There are fixed steel bearings 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 (see photos 122 & 123). The bearings exhibit light to moderate accumulation of sand and debris.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 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.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Prc* | *3* | *110.00* | *sq.ft* | *0.00* | *0.00* | *66.00* | *44.00* |

*The 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.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 11.00 | each | 0.00 | 8.00 | 3.00 | 0.00 |

The bearings and anchor bolts typically exhibit light to moderate rust. Bearings A, B, J and K exhibit heavy laminated rust on the bearings and anchor bolts.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **321** | **Re Conc Approach Slab** | **3** | **2,352.00** | **sq.ft** | **0.00** | **2,352.00** | **0.00** | **0.00** |

**The reinforced concrete approach slabs are concealed from view by bituminous concrete wearing surfaces (see photos 1 - 4, 63 & 64).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 510 | Wearing Surfaces | 3 | 2,352.00 | sq.ft | 1,352.00 | 500.00 | 500.00 | 0.00 |

The wearing surfaces exhibit moderate wheel line rutting with sealed and unsealed cracks throughout (see photos 63 & 64).

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

*Wearing surface exhibits scattered locations of sealed and unsealed cracks throughout (see photos 63 & 64).*

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **331** | **Re Conc Bridge Railing** | **3** | **4,108.00** | **ft** | **3,693.00** | **411.00** | **4.00** | **0.00** |

**There are reinforced concrete bridge railings on both sides of the bridge in Spans 1 through 18 and south sides of Spans 1R to 3R (see photos 35 - 39, 45 - 51, 53, 73). There are scattered utility box covers along the interior faces of the bridge railings, many with broken covers (photo 60). Numerous portions of the bridge railing have been replaced as part of the ongoing link slab construction and exhibit transverse cracks (see photos 68, 69). The condition of the tops of the pylons is included in this element (see photos 71 & 72). At Span 7, Pier 7, the joint sealant between the North pylon and the deck overhang is damaged/missing.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 10.00 | ft | 0.00 | 10 00 | 0.00 | 0.00 |

The bridge railings exhibit isolated minor edge spalls along the top of the railing. In Span 7 the north railing exhibits a 4'-10" long x 10" high x 4" deep spall (photo 71). In Span 8 the north railing exhibits a 3" long x 10" high x 5" deep spall. In Span 10 the north railing exhibits a 1'-3" long x 10" high x 5" deep spall.

The pylons exhibit typical scattered hollow areas and spalls with and without exposed rebar (photo 72).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 3.00 | ft | 0.00 | 0.00 | 3.00 | 0.00 |

The pylons exhibit typical spalls with and without exposed rebar (see photos 71 & 72).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | ft | 0.00 | 0.00 | 1.00 | 0.00 |

The pylons exhibit typical scattered cracks with rust staining (photo 72).

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

The bridge railings exhibit typical scattered full height hairline vertical cracks (photo 65). The pylons exhibit typical scattered cracks and rust stains (photo 72).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7000 | Damage | 3 | 50.00 | ft | 0.00 | 50 00 | 0.00 | 0.00 |

The bridge railings exhibit random minor scrapes (photos 65 - 68).

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

**The scupper drainage grates along both shoulders of I-195 Westbound are fully clogged with sand and debris; only isolated grates remain partially open with clean drainpipe openings (see photos 62 & 284). In Span 17 the drainage grate along the north shoulder is fully clogged and missing 2 bars of the drainage grate. In Span 9 the drainage grate along the north shoulder is filled with concrete. At the West Abutment #1, in the south shoulder, the scupper grate is broken (photo 283). At Pier 1, in the south shoulder, the scupper grate is broken. The drainpipe at the north end of Pier 17 has a disconnected section (photo 91).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 4.00 | each | 0.00 | 0.00 | 0.00 | 4.00 |

The scupper drainpipes on the underside of deck exhibit typical light to heavy rust. The Pier 3 drainpipes on the south face of Column A and on the north face of Column F exhibit rust holes and leak onto members below (see photo 255).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8107 | Steel Opn Girder/Beam ENDS | 3 | 110.00 | ft | 0.00 | 0.00 | 110.00 | 0.00 |

**Most girder ends exhibit bolted repair plates and angles at the webs and bottom flanges for up to 25'-0" long, with typical light to heavy rust and up to 1/16" section loss to the repair plates and angles. Remaining areas exhibit scattered areas of heavy rust at the girder ends. The bottom flanges at girder ends exhibit typical heavy rust and section loss with down to 1/4" remaining thickness. See photos 118 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 1,615.00 | sq.ft | 0.00 | 0.00 | 615.00 | 1,000.00 |

See photos 118, 121 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| *3420* | *Peel/Bub/Crack(Stl Prc* | *3* | *1,615.00* | *sq.ft* | *0.00* | *0.00* | *615.00* | *1,000.00* |

*See photos 118, 121 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 110.00 | ft | 0.00 | 0.00 | 110.00 | 0.00 |

See photos 118, 121 through 124 and the attached file "070001 Elem 107 Defect Table.pdf" for further details.

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

**There are reinforced concrete return walls at the north ends of West Abutment #1 and East Abutment #2 and at both ends of West Abutment 1R. The return walls exhibit moderate to heavy vegetation growth (photos 280, 281).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 44.00 | ft | 0.00 | 44 00 | 0.00 | 0.00 |

The top of the northwest return wall at West Abutment #1 exh bits multiple edge spalls along the cope up to 2" deep (see photo 280).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 110.00 | ft | 0.00 | 85 00 | 25.00 | 0.00 |

The return walls exhibit scattered areas of hairline map cracks with isolated efflorescence and rust (see photo 280).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 21.00 | ft | 0.00 | 21 00 | 0.00 | 0.00 |

The return walls exhibit scattered areas of hairline map cracks with isolated efflorescence and rust (see photo 280).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 100.00 | ft | 0.00 | 100.00 | 0.00 | 0.00 |

There is anti-graffiti paint and graffiti on the West Abutment 1R return walls (see photo 280).

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

**There are reinforced concrete backwalls at the abutments (photos 244, 246 & 248). West Abutment #1 backwall is inaccessible due to the heavy accumulation of pigeon debris and nesting pigeons on the abutment seat (photos 244, 245).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 80.00 | ft | 0.00 | 70 00 | 10.00 | 0.00 |

West Abutment 1R and East Abutment #2 backwalls exhibit random hollow areas and spalls up to 2'-0" long x 2'-0" high x 2" deep (photo 175).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 23.00 | ft | 0.00 | 10 00 | 13.00 | 0.00 |

West Abutment 1R and East Abutment #2 backwalls exhibit typical scattered hairline vertical cracks, efflorescence and rust staining (see photos 246, 248).

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

West Abutment 1R and East Abutment #2 backwalls exhibit typical scattered hairline vertical cracks, efflorescence and rust staining (see photos 246, 248).

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

**There were asphaltic plug joints on the east side of West Abutment 1 and Piers 1 through 3, 5 and 6 and on the west side of Piers 8 through 13 and at Piers 14 through 17 that were previously installed. There is ongoing link slab construction which has eliminated some of the deck joints (photos 54, 59). The joints that remain have been paved over and typically exhibit reflective cracking in these locations (photos 35 - 51). Asphaltic joints typically exhibit 2'-0" wide patches on either side.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2310 | Leakage | 3 | 430.00 | ft | 0.00 | 430.00 | 0.00 | 0.00 |

The joints exh bit scattered evidence of leakage along the undersides (photos 274 - 279).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2340 | Seal Cracking | 3 | 21.00 | ft | 0.00 | 21 00 | 0.00 | 0.00 |

The asphaltic plug joints have been paved over and exh bit partial separations at joint edges, pavement break up and isolated cracks along the joints (photos 35 - 51).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8335 | Guardrail, Vehicular | 3 | 700.00 | ft | 690.00 | 10.00 | 0.00 | 0.00 |

**There are W-beam steel guardrails at the north side of the west approach for I-195 Westbound (photos 3, 69). There are also W-beam guardrails along the north side of the Gano Street Off-Ramp (photos 4, 52, 53, 64).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 3,150.00 | sq.ft | 3,150.00 | 0.00 | 0.00 | 0.00 |

The guardrails are galvanized.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 10.00 | ft | 0.00 | 10 00 | 0.00 | 0.00 |

The Gano Street off-ramp guardrails exhibit scattered loose connection bolts to the parapets (photos 52, 53 & 64).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8336 | Conc Bridge Parapet | 3 | 350.00 | ft | 75.00 | 245.00 | 30.00 | 0.00 |

**The Gano Street off-ramp exhibits a reinforced concrete bridge parapet with a single metal rail attached to the top face on the north side(photos 52, 53, 62). The south parapet has been replaced with a concrete bridge railing (photo 73).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are3 | | 100.00 | ft | 0.00 | 100.00 | 0.00 | 0.00 |

The parapets exhibit typical scattered cracks, hollow areas and random 1" deep spalls along the top of parapet. The north parapet at midspan of Span 1R exhibits an 8'-0" long x up to 1'-4" high hollow area with 5'-6" long x 9" high x 2" deep spall with multiple exposed rebar (photo 52).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 100.00 | ft | 0.00 | 70 00 | 30.00 | 0.00 |

The north parapet at midspan of Span 1R exhibits an 8'-0" long x up to 1'-4" high hollow area with 5'-6" long x 9" high x 2" deep spall with multiple exposed rebar (photo 52).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 75.00 | ft | 0.00 | 75 00 | 0.00 | 0.00 |

The parapets exhibit typical scattered hairline vertical cracks. The north parapet at Pier 2R exhibits a full height x 1/4" wide vertical crack (photo 62).

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

**There is rip rap along the West Abutment 1R embankment (photo 246). Above the high-water mark there is a level area covered by bituminous concrete pavement and a sloped block revetment to the base of the abutment. The rip rap exhibits random missing stones along the channel embankment and there are several small sinkholes up to 1'-0" deep in the pavement at the top of the slope.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4000 | Settlement | 3 | 60.00 | sq.ft | 0.00 | 30 00 | 30.00 | 0.00 |

The rip rap exh bits random missing stones along the channel embankment and there are several small sinkholes up to 1'-0" deep in the pavement at the top of the slope (photo 246).

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

**There is a sloped block revetment in front of West Abutment 1R (photo 246). The slope block protection exhibits mortar deterioration between the pavers and light vegetation growth.**

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

**There are steel end diaphragms between the steel girders at each pier in Span 7 and intermediate diaphragms numbered from west to east in Span 7 (photos 26, 83 - 85, 122 - 124).**

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

The end diaphragms exhibit typical moderate to heavy rust and corrosion throughout. The intermediate diaphragms exh bit typical paint chalking and random areas of light rust (photos 26, 83 - 85, 122, 123).

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

*The protective coating on the intermediate diaphragms typically exhibits chalking (photos 26, 83 - 85, 122, 123).*

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

*The protective coating on the end diaphragms typically exhibits peeling and bubbling and has failed completely in areas (photos 26, 83 - 85, 122, 123).*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 55.00 | each | 0.00 | 35 00 | 16.00 | 4.00 |

The end diaphragms typically exhibit moderate to heavy rust throughout with down to 1/8" remaining thickness to top flanges and down to 1/4" remaining thickness to bottom flanges (photos 122-124). There is scattered pack rust up to 3/8" thick between the bearing stiffeners and diaphragm connection plates.

The end diaphragm in bay E at pier 7 exhibits 100% section loss x 3/4" wide to the bottom flange of the top channel.

The intermediate diaphragms exhibit random areas of light rust (photo 26).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 2.00 | each | 0.00 | 1.00 | 1.00 | 0.00 |

Span 7, Bay E, Diaphragm 5 at Girder F exhibits one missing lower diaphragm connection bolt. Bay H, Diaphragm 1 exhibits two mis-drilled bolt holes.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8371 | Conc Diaphragms | 3 | 221.00 | each | 6.00 | 86.00 | 129.00 | 0.00 |

**There are reinforced concrete end diaphragms and a midspan diaphragm for the suspended beams, between the corbels and between the cantilever girders over piers in Spans 1 through 6 and 8 through 14 (photos 23 - 25, 27 - 29). There are end diaphragms and a midspan diaphragm for the I-girders in Spans 14 through 18 (photos 30 - 31) and there are interior diaphragms and exterior diaphragms below the box girders at the piers for the Gano Street off-ramp (photos 196, 276 - 279). In Span 5, the east end of suspended beam B bears on an oversized L-shaped diaphragm/transverse support beam that transfers loads to beams A and C. The irregular configuration is due to the Gano Street off-ramp connecting to Span 5. The diaphragms were in varying stages of rehabilitation during the inspection. There are several locations where the diaphragm concrete has been fully removed with only rebar remaining (photo 207 & 215). Scattered formwork remains in place throughout the bridge and the seismic restrainer assemblies that pass through the diaphragms at the deck joints typically have the restrainer rod removed (photo 211 - 214). The diaphragms exhibit scattered hairline map cracks with and without efflorescence and rust stains, hairline to 1/2" wide vertical cracks, random concrete patches, delaminations and spalls with and without exposed and debonded rebar. See photos 205 through 216 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 74.00 | each | 0.00 | 6.00 | 68.00 | 0.00 |

See photos 205 - 216 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1090 | Exposed Rebar | 3 | 13.00 | each | 6.00 | 6.00 | 1.00 | 0.00 |

See photos 205, 206, 208, 210 & 214 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

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

See photos 208, 213 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 123.00 | each | 0.00 | 68 00 | 55.00 | 0.00 |

See photos 209, 212 & 213 and the attached file "070001 Elem 8371 Defect Table.pdf" for further details.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 100.00 | each | 0.00 | 100.00 | 0.00 | 0.00 |

There are scattered areas of heavy graffiti on the diaphragms.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8398 | Curb/sidewalks - Con | 3 | 350.00 | ft | 0.00 | 350.00 | 0.00 | 0.00 |

**There are concrete safety walks and granite curbs along the north side of the Gano Street off-ramp (see photos 4, 52, 53, 64, 73). The safetywalk typically exhibit minor debris accumulation.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 348.00 | ft | 0.00 | 348.00 | 0.00 | 0.00 |

The safety wa ks exhibit scattered hairline cracks and general scaling 1/2" to 1" deep. The curbs exhibit typical rust staining and minor chipping throughout (photo 52). The south curb has been removed as part of new bridge railing construction (photo 73). The approach curbs are shifted up to 6" laterally with typical gaps up to 1" between curb sections (photo 64).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

The north curb exhibits typical rust staining throughout (photo 52).

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

The safety wa k exhibits scattered hairline cracks throughout (photo 52).

## Work History

From completed work candidates.

| Completion Date | Action | Notes |
|---|---|---|

## Work Candidates

### Assigned to Contractor

| Status | Priority | Action | Date Proposed | Notes |
|---|---|---|---|---|
| To_Be_Assigned | 0 | Clean&Flush Deck Drainage | 07/22/2020 | AECOM Update 7/21/2023: No change to condition; ponding water up to 7" deep remains. Previously Noted: Gano off-ramp box girder interiors:There is ponding water up to 6” deep at Pier 2R where the drain holes in the bottom flange remain clogged. This issue was reported last year during the routine inspection via phone and email and was also documented in the official inspection report. The drains should be cleared and cleaned to allow for proper drainage. |
| To_Be_Assigned | 0 | Clean/ Wash Bm Seat&Brg. Areas | 07/22/2020 | AECOM Update 7/21/2023: Access points were closed off and girder interiors were cleaned. Previously Noted: Gano off-ramp box girders: There are multiple unsecured points of access allowing pigeons into the box girders. One access hatch at Abutment 1R in Cell 'C' remains partially open, the access hole in the south web at Pier 3R has a detached screen, and Cell '1B' has a 12" wide x 12" long hole in the bottom flange. This has resulted in numerous areas of nesting pigeons with moderate to heavy debris which will impede future inspections if not cleaned. At a minimum the access points should be secured immediately. |

### Assigned to To be assigned

| Status | Priority | Action | Date Proposed | Notes |
|---|---|---|---|---|
| Assigned_Agency | 1 | Misc-Under Deck Shielding | 07/21/2023 | AECOM recommends removing/cleaning the pigeon debris from the scaffolding in order to safely inspect areas that could not be accessed. |

# RIDOT Bridge Inspection Report

**070001**
**Washington Bridge North**

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

## Equipment

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

| | |
|---|---|
| Poison Ivy | ☐ |
| Heavy Vegetation | ☐ |
| Hurricane Evac Route ? | ☐ |

| | |
|---|---|
| Cones | Yes |
| Traffic Setup Req | Yes |
| Police Req | Yes |
| Night Insp Req | No |
| Signs | Yes |

| | |
|---|---|
| Speed Limit | |
| Prep Time | 8 |
| Crew Slize | 2 |
| Under Insp Vehicle Time | |
| Traffic Control Time | 4 |
| Mile Post | |
| Crew Days | 20 |
| Time Report Time | 140 |
| Bucket Truck Time | 0 |

**Site Access Notes**
See Bridge Notes - Access Notes

| | | |
|---|---|---|
| Avg Curb Reveal North/East | | 2.50 |
| Avg Curb Reveal South/West | | 2.50 |
| 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 | ☐ |

# RIDOT Bridge Inspection Report

**070001**
**Washington Bridge North**

Inspected By AECOM
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Poor

**10/19/2023** **Bat and Bird Observations**

**Bats:**

| BATS_OBSERVED | BATS_VISUAL | BAT_DROPPINGS | BAT_STAINING | BAT_SOUNDS | BAT_PHOTOS |
|---|---|---|---|---|---|
| No | ☐ | ☐ | ☐ | ☐ | ☐ |

BATS_NOTES

**Birds**

| BIRDS_OBSERVED | BIRD_PHOTOS | BIRDS_SPECIES_IDENTIFIED |
|---|---|---|
| Yes | ☐ | ☒ |

BIRD_NOTES

There are pigeons nesting on top of the corbels at the beam ends in Spans 1 through 6 and 8 through 14. The West Abutment #1 bridge seat has severe accumulation of pigeon debris and nesting pigeons. There is severe pigeon debris scattered throughout the scaffolding which restricts access to numerous locations ; see Inspection Notes and Work Items.

# EXHIBIT 3

# RIDOT Bridge Inspection Report

**020001**
**Washington Bridge South**

Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Fair

## IDENTIFICATION

| | |
|---|---|
| **Bridge ID:** | 020001 |
| **NBI Number** | Washington Bridge South |
| **Structure Name:** | Washington Bridge South |
| **Location (9):** | 1.0 Mi E of JCT I-95&195 |
| **Carries (7):** | I-195 EB |
| **Type of Service (42A):** | 1 Highway |
| **Feature Crossed (6):** | SEEKONK RVR & STS |
| **Type of Service (42B):** | 6 Highway-waterway |
| **Placecode (4):** | East Providence |
| **County (3):** | Providence |
| **State (1):** | 44 Rhode Island |
| **Station:** | NBI |
| **Region (2):** | District 3 |
| **Latitude (16):** | 41.8190048 |
| **Longitude (17):** | -71.3868191 |
| **Owner (22):** | 01 State Highway Agency |
| **Custodian (21):** | 01 State Highway Agency |

| | | | |
|---|---|---|---|
| **Year Built (27):** | 1930 | Border State: Not Applicable (P) | |
| **Year Recon (106):** | 2008 | Border Number: | |
| **Historical (37):** | 5 Not eligible for NRHP | % Responsibility: | |

## INSPECTION

**Date of Routine Inspection (90):** 7/21/2023
**Frequency (91):** 24
Next Inspection: 7/21/2025

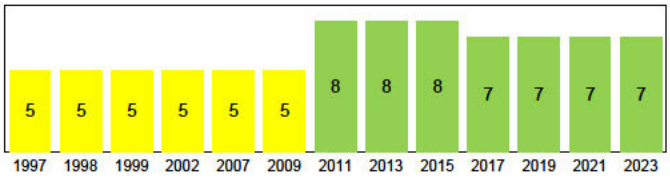
| Inspection Type | Freq (92) | Last Insp (93) | Next Insp |
|---|---|---|---|
| Element | 24 | 7/21/2023 | 7/21/2025 |
| Fracture Critical (A) | | 1/1/1901 | 1/1/1901 |
| Underwater (B) | 48 | 7/23/2021 | 7/21/2025 |
| Special Insp (C) | | 1/1/1901 | 1/1/1901 |

## LOAD RATING AND POSTING

| | |
|---|---|
| **Posting Status (41)** | A Open, no restriction |
| **Posting % (70):** | 5 At/Above Legal Loads |
| **Rating Date:** | 10/7/2019 |
| **Design Load (31):** | 9 MS22.5(HS25)or greater |
| **Opr Method (63):** | 8 LRFR (HL93) |
| **Opr Rating (64):** | 35.30 Tons |
| **Inv Method (65):** | 8 LRFR (HL93) |
| **Inv Rating (66):** | 27.00 Tons |

## DECK GEOMETRY

| | |
|---|---|
| **Deck Geometry (68):** | 4 Tolerable |
| **Deck Area:** | 119,461.50 |
| **Deck Type (107):** | 1 Concrete-Cast-in-Place |
| **Wearing Surface (108A):** | 1 Monolithic Concrete |
| **Membrane (108B):** | 0 None |
| **Deck Protection (108C):** | 1 Epoxy Coated Reinforci |
| **O. to O. Width (52):** | 71.50 |
| **Curb / Sidewalk Width L (50A):** | 0.00 |
| **Curb / Sidewalk Width R (50B):** | 0.00 |
| **Median (33):** | 0 No median |

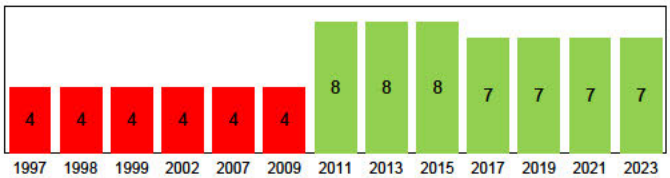



## DECK CONDITION

| | |
|---|---|
| **Deck Rating (58):** | 7 Good |
| **Bridge Rail (36A):** | 1 Meets Standards |
| **Transition (36B):** | 1 Meets Standards |
| **Approach Rail (36C):** | 1 Meets Standards |
| **Approach Rail Ends (36D):** | 1 Meets Standards |

## SUPERSTRUCTURE GEOMETRY

| | |
|---|---|
| **# of Main Spans (45):** | 14 |
| **# of Approach Spans (46):** | 0 |
| **Main Material (43 A):** | 4 Steel Continuous |
| **Main Design (43 B):** | 02 Stringer/Girder |
| **Max Span Length (48):** | 160.37 |
| **Structure Length (49):** | 1,670.79 |
| **NBIS Length (112):** | Long Enough |
| **Temp Structure (103):** | Not Applicable (P) |
| **Skew (34):** | 0 |
| **Structure Flared (35):** | 1 Yes, flared |
| **Parallel Structure (101):** | Right of \|\| bridge |
| **Approach Alignment (72):** | 6 Equal Min Criteria |




## SUPERSTRUCTURE CONDITION

| | |
|---|---|
| **Superstructure Rating (59):** | 7 Good |
| **Structure Evaluation (67):** | 6 Equal Min Criteria |

# RIDOT Bridge Inspection Report

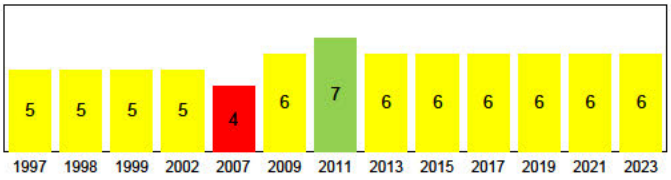
**020001**
**Washington Bridge South**

Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Fair

## SUBSTRUCTURE GEOMETRY

| | |
|---|---|
| **Navigation Control (38):** | Permit Required |
| **Nav Vert Clearance (39):** | 134.52 |
| **Nav Horiz Clearance (40):** | 321.85 |
| **Pier Protection (111):** | 2 In-Place, Functioning |
| **Lift Bridge Vertical Clearance (116):** | |
| **Scour Rating (113):** | 3 SC - Unstable |
| **Waterway Adequacy (71):** | 9 Above Desirable |




## SUBSTRUCTURE CONDITION

| | |
|---|---|
| **Substructure Rating (60):** | 6 Satisfactory |
| **Channel Rating (61):** | 6 Bank Slumping |

## 1ST ROUTE UNDER: Gano Street

### ROADWAY LOCATION

| | |
|---|---|
| **Pos Prefix (5A):** | 1st Route Under |
| **Kind of Hwy (5B):** | 5 City Street |
| **Route Num (5D):** | 0 |
| **LRS Route (13A/B):** | |
| **Milepost (11):** | |
| **Suffix (5E):** | 0 N/A (NBI) |
| **Lanes Under (28B):** | 2 |
| **Detour Length (19):** | 0.00 mi (0.00 km) |

### ROADWAY CLASSIFICATION

| | |
|---|---|
| **Funct Class (26):** | 17 Urban Collector |
| **Level Service (5C):** | 1 Mainline |
| **NHS (104):** | 0 Not on NHS |
| **Defense Hwy (100):** | 0 Not a STRAHNET hwy |
| **Toll Facility (20):** | 3 On free road |
| **ADT (29):** | 81,000 Cars/Day |
| **Pct Trucks (109):** | 13.00% |
| **ADT Year (30):** | 2021 |

### CLEARANCES

| | | |
|---|---|---|
| **Vertical (10):** | 26.50 | |
| **Min Vert Over (53):** | 17.00 | 20.75 |
| **Vert Ref (54A):** | H Hwy beneath struct | |
| **Horizontal (47):** | 89.00 | |
| **Min Lat Left (56):** | 0.00 | |
| **Min Lat Right (55B):** | 14.50 | |
| **Horiz Ref (55A):** | H Hwy beneath struct | |
| **Underclearance (69):** | 9 Above Desirable | |

## 2ND ROUTE UNDER: Water Street

### ROADWAY LOCATION

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

### ROADWAY CLASSIFICATION

| | |
|---|---|
| **Funct Class (26):** | 19 Urban Local |
| **Level Service (5C):** | 1 Mainline |
| **NHS (104):** | 0 Not on NHS |
| **Defense Hwy (100):** | 0 Not a STRAHNET hwy |
| **Toll Facility (20):** | 3 On free road |
| **ADT (29):** | 81,000 Cars/Day |
| **Pct Trucks (109):** | 13.00% |
| **ADT Year (30):** | 2021 |

### CLEARANCES

| | | |
|---|---|---|
| **Vertical (10):** | 27.17 | |
| **Min Vert Over (53):** | 17.00 | 20.75 |
| **Vert Ref (54A):** | H Hwy beneath struct | |
| **Horizontal (47):** | 27.50 | |
| **Min Lat Left (56):** | 0.00 | |
| **Min Lat Right (55B):** | 14.50 | |
| **Horiz Ref (55A):** | H Hwy beneath struct | |
| **Underclearance (69):** | 9 Above Desirable | |

## 3RD ROUTE UNDER: Waterfront Drive

### ROADWAY LOCATION

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

### ROADWAY CLASSIFICATION

| | |
|---|---|
| **Funct Class (26):** | 19 Urban Local |
| **Level Service (5C):** | 2 Alternate |
| **NHS (104):** | 0 Not on NHS |
| **Defense Hwy (100):** | 0 Not a STRAHNET hwy |
| **Toll Facility (20):** | 3 On free road |
| **ADT (29):** | 81,000 Cars/Day |
| **Pct Trucks (109):** | 13.00% |
| **ADT Year (30):** | 2021 |

### CLEARANCES

| | | |
|---|---|---|
| **Vertical (10):** | 20.75 | |
| **Min Vert Over (53):** | 17.00 | 20.75 |
| **Vert Ref (54A):** | H Hwy beneath struct | |
| **Horizontal (47):** | 35.50 | |
| **Min Lat Left (56):** | 0.00 | |
| **Min Lat Right (55B):** | 14.50 | |
| **Horiz Ref (55A):** | H Hwy beneath struct | |
| **Underclearance (69):** | 9 Above Desirable | |

# RIDOT Bridge Inspection Report

**020001**

**Washington Bridge South**

Inspected By AECOM-COMMONWEALTH

Inspector: [redacted]

Inspection Date 07/21/2023

**Bridge Condition Fair**

ROUTE ON STRUCTURE: I-195 EASTBOUND

| ROADWAY LOCATION | | ROADWAY CLASSIFICATION | | CLEARANCES | | |
|---|---|---|---|---|---|---|
| **Pos Prefix (5A):** | Route On Structure | **Funct Class (26):** | 11 Urban Interstate | **Vertical (10):** | 99.99 | |
| **Kind of Hwy (5B):** | 1 Interstate Hwy | **Level Service (5C):** | 1 Mainline | **Min Vert Over (53):** | 17.00 | 20.75 |
| **Route Num (5D):** | 00195 | **NHS (104):** | 1 On the NHS | **Vert Ref (54A):** | H Hwy beneath struct | |
| **LRS Route (13A/B):** | 6600/00 | **Defense Hwy (100):** | 1 On Interstate STRAHNET | **Horizontal (47):** | 83.80 | |
| **Milepost (11):** | 1.43 mi (2.30 km) | **Toll Facility (20):** | 3 On free road | **Min Lat Left (56):** | 0.00 | |
| **Suffix (5E):** | 2 East | **ADT (29):** | 81,000 Cars/Day | **Min Lat Right (55B):** | 14.50 | |
| **Lanes On (28A):** | 5 | **Pct Trucks (109):** | 13.00% | **Horiz Ref (55A):** | H Hwy beneath struct | |
| **Detour Length (19):** | 1.90 mi (3.06 km) | **ADT Year (30):** | 2021 | **Underclearance (69):** | 9 Above Desirable | |

BRIDGE NOTES

Orientation: The Bridge runs West to East, with the spans and piers numbered from West to East. The girders are labeled A through J from North to South in each span. In the Southeast corner of Span 14, there are two additional kicker beams, Kicker Beams K and L, supporting the Exit 4 ramp. The interior diaphragms are numbered from West to East, starting again from 1 in each span.

EQUIPMENT REQUIRED: 60' Manlift, Barge with 60' Manlift for spans over water, Local Police, Traffic Control, and Crash Truck.

TRAFFIC CONTROL INFORMATION: Need traffic control for work in Span 1 over Gano Street, Span 14 over Waterfront Drive and Water Street and for the topside inspection.

POLICE DETAIL NEEDED: Need police detail for work in Span 1 over Gano Street, Span 14 over Waterfront Drive, and for the topside inspection.

INSPECTION NOTES

Routine Inspection Completed by Commonwealth Engineers and Consultants, Inc.
Team Leaders: [redacted]
Final Inspection Date: 7/21/23
Weather: Varied from Rainy/cloudy - 72 degrees Fahrenheit to sunny - 85 degrees Fahrenheit

The scope of work was to perform a routine inspection of the bridge.

No significant changes in the condition of the structure were observed during this inspection, and therefore the NBI condition ratings remain unchanged:

Deck (58) – 7 Good
Superstructure (59) – 7 Good
Substructure (60) – 6 Satisfactory

During the previous Routine Inspection that was completed on 7/23/2021 numerous cross frame welded connection plates to the girders were reported to have defects consisting of incomplete fusion. These “defects” were previously reported to RIDOT and dye penetrant testing was performed on select welds to check for cracks . The tests did not revealed any cracks.

RIDOT made archived fabrication reports and welding reports available for review , however none of these reports mentioned any type of defects to the diaphragm welds. In these reports the summaries to the diaphragm welds stated that the “welding was within approved procedure” or “Welding was within W 33 parameters”. Due to the fact that some of these “weld defects” are located at the painted over girder ends, this indicates that the welds were there during fabrication prior to painting of the girders.

During this routine inspection these previously noted weld area “defects” were visually inspected and observed not to have changed since the previous inspection. Comparison to previous inspections reports, indicates that the “defects” were perhaps undercut weld areas which required additional passes to achieve the minimum weld size required during fabrication.

These weld locations should, however, continue to be monitored for cracks or change in condition during future inspections. Refer to Item 107 and attachment "020001 Table 2 - Weld Defects.pdf" for a detailed description and locations of weld “defects”.

Utilities - In Span 2, Bay G, there are three drain pipes through the concrete deck that exhibit rust. On the exterior face of the South Railing at Pier 9, the electrical conduit flexible coupling at the joint is torn and detached (See photo 103). In Span 12, there is a cable secured along Interior Diaphragm 2 in Bays A through H. The conduit mounted to the underside of Girder G in Span 14 near Interior Diaphragm 3 exhibits moderate rust on the North end.

Under bridge Lights – There are four lights over Waterfront Drive which were on during the inspection and three lights over Water Street which were off during the inspection .

Light Standards – There are ten lights spaced evenly along the north and south side of the bridge . Most of the lights were not on at the time of the inspection and it is unknown if they function. Refer to attachment "020001 Table 3 - Lighting Standard Defects.pdf" (See photos 11, 15 and 17).

There are areas of construction debris/equipment that is for the ongoing construction work for adjacent Br. 070001 that is being stored under Br. 020001 (See photos 113, 114, 117, 118 and 121).

2021 Underwater Inspection Notes:

Fender System – There is a timber fender system in place along the East side of Pier 6 and the West side of Pier 7. The timber fender system members exhibit minor splits and checking along with damaged or missing handrails (See photo 81). The dolphin pile groups at the South (downstream) end of the fenders exhibit no significant

defects.

Navigational Lighting – The navigational lighting system in place exhibits no significant deficiencies . However, the lights were not on at the time of the inspection.

Channel Debris – There are no obstructions or debris accumulation which would affect the hydraulic opening at the bridge.

| Elm/Env | Description | Total Qty | % in 1 | Qty. St. 1 | % in 2 | Qty. St. 2 | % in 3 | Qty. St. 3 | % in 4 | Qty. St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 12/3 | Re Concrete Deck | 119,494.0 | 0% | 1.00 | 100% | 119,493.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 1.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1190/3 | Abrasion(PSC/RC) | 119,491.00 | 0% | 0.00 | 100% | 119,491.00 | 0% | 0.00 | 0% | 0.00 |
| 8382/3 | Stay-in-Place Form | 97,500.00 | 96% | 93,375.00 | 4% | 4,125.00 | 0% | 0.00 | 0% | 0.00 |
| 107/3 | Steel Opn Girder/Beam | 16,364.00 | 100% | 16,334.00 | 0% | 24.00 | 0% | 6.00 | 0% | 0.00 |
| 515/3 | Steel Protective Coating | 247,490.00 | 98% | 242,490.00 | 2% | 5,000.00 | 0% | 0.00 | 0% | 0.00 |
| 1000/3 | Corrosion | 15.00 | 0% | 0.00 | 100% | 15.00 | 0% | 0.00 | 0% | 0.00 |
| 1020/3 | Connection | 12.00 | 0% | 0.00 | 50% | 6.00 | 50% | 6.00 | 0% | 0.00 |
| 7000/3 | Damage | 3.00 | 0% | 0.00 | 100% | 3.00 | 0% | 0.00 | 0% | 0.00 |
| 205/3 | Re Conc Column | 39.00 | 100% | 39.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 8368/3 | Graffiti | 1,190.00 | 100% | 1,190.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 210/3 | Re Conc Pier Wall | 587.00 | 50% | 293.00 | 50% | 292.00 | 0% | 2.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 3.00 | 0% | 0.00 | 100% | 3.00 | 0% | 0.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 472.00 | 62% | 293.00 | 38% | 179.00 | 0% | 0.00 | 0% | 0.00 |
| 1190/3 | Abrasion(PSC/RC) | 10.00 | 0% | 0.00 | 80% | 8.00 | 20% | 2.00 | 0% | 0.00 |
| 4000/3 | Settlement | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 6000/3 | Scour | 100.00 | 0% | 0.00 | 100% | 100.00 | 0% | 0.00 | 0% | 0.00 |
| 8368/3 | Graffiti | 3,240.00 | 0% | 0.00 | 100% | 3,240.00 | 0% | 0.00 | 0% | 0.00 |
| 215/3 | Re Conc Abutment | 171.00 | 98% | 168.00 | 2% | 3.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 2.00 | 0% | 0.00 | 100% | 2.00 | 0% | 0.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 168.00 | 100% | 168.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 220/3 | Re Conc Pile Cap/Ftg | 218.00 | 99% | 216.00 | 1% | 2.00 | 0% | 0.00 | 0% | 0.00 |
| 1190/3 | Abrasion(PSC/RC) | 218.00 | 99% | 216.00 | 1% | 2.00 | 0% | 0.00 | 0% | 0.00 |
| 225/3 | Steel Pile | 6.00 | 100% | 6.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1000/3 | Corrosion | 1.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 234/3 | Re Conc Pier Cap | 920.00 | 99% | 909.00 | 1% | 11.00 | 0% | 0.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 2.00 | 0% | 0.00 | 100% | 2.00 | 0% | 0.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 917.00 | 99% | 909.00 | 1% | 8.00 | 0% | 0.00 | 0% | 0.00 |
| 300/3 | Strip Seal Exp Joint | 68.00 | 0% | 0.00 | 34% | 23.00 | 66% | 45.00 | 0% | 0.00 |
| 2340/3 | Seal Cracking | 45.00 | 0% | 0.00 | 0% | 0.00 | 100% | 45.00 | 0% | 0.00 |
| 2350/3 | Debris Impaction | 23.00 | 0% | 0.00 | 100% | 23.00 | 0% | 0.00 | 0% | 0.00 |
| 301/3 | Pourable Joint Seal | 161.00 | 100% | 161.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 303/3 | Assem Jnt With Seal | 220.00 | 0% | 0.00 | 81% | 178.00 | 0% | 0.00 | 19% | 42.00 |
| 2340/3 | Seal Cracking | 42.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 | 100% | 42.00 |
| 2350/3 | Debris Impaction | 178.00 | 0% | 0.00 | 100% | 178.00 | 0% | 0.00 | 0% | 0.00 |
| 321/3 | Re Conc Approach Slab | 2,212.00 | 26% | 582.00 | 74% | 1,630.00 | 0% | 0.00 | 0% | 0.00 |
| 510/3 | Wearing Surfaces | 782.00 | 62% | 482.00 | 38% | 300.00 | 0% | 0.00 | 0% | 0.00 |

# RIDOT Bridge Inspection Report

020001
Washington Bridge South
Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Fair

| Elm/Env | Description | Total Qty | % in 1 | Qty. St. 1 | % in 2 | Qty. St. 2 | % in 3 | Qty. St. 3 | % in 4 | Qty. St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 3220/3 | Crack (Wearing Surface) | 170.00 | 0% | 0.00 | 100% | 170.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 100.00 | 100% | 100.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1190/3 | Abrasion(PSC/RC) | 1,160.00 | 0% | 0.00 | 100% | 1,160.00 | 0% | 0.00 | 0% | 0.00 |
| 331/3 | Re Conc Bridge Railing | 3,318.00 | 100% | 3,317.00 | 0% | 0.00 | 0% | 1.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 3,309.00 | 100% | 3,309.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 7000/3 | Damage | 9 00 | 89% | 8 00 | 0% | 0 00 | 11% | 1 00 | 0% | 0 00 |
| 8060/3 | Scupper | 26.00 | 31% | 8.00 | 4% | 1.00 | 27% | 7.00 | 38% | 10.00 |
| 8107/3 | Steel Opn Girder/Beam END | 310.00 | 100% | 310.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 515/3 | Steel Protective Coating | 3,710.00 | 100% | 3,710.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 8213/3 | R/C Return Wall | 70.00 | 100% | 70.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 70.00 | 100% | 70.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 8218/3 | Backwall, All Types | 171.00 | 98% | 168.00 | 1% | 1.00 | 1% | 2.00 | 0% | 0.00 |
| 1080/3 | Delamination/Spall/Patched Area | 2.00 | 0% | 0.00 | 0% | 0.00 | 100% | 2.00 | 0% | 0.00 |
| 1120/3 | Efflorescence/Rust Staining | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 1130/3 | Cracking (RC and Other) | 168.00 | 100% | 168.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 8316/3 | Isolation Bearing | 172.00 | 18% | 31.00 | 75% | 129.00 | 7% | 12.00 | 0% | 0.00 |
| 1000/3 | Corrosion | 4.00 | 0% | 0.00 | 100% | 4.00 | 0% | 0.00 | 0% | 0.00 |
| 1020/3 | Connection | 57.00 | 0% | 0.00 | 79% | 45.00 | 21% | 12.00 | 0% | 0.00 |
| 2220/3 | Alignment | 38.00 | 0% | 0.00 | 100% | 38.00 | 0% | 0.00 | 0% | 0.00 |
| 2230/3 | Bulging, Splitting or Tearing | 2.00 | 0% | 0.00 | 100% | 2.00 | 0% | 0.00 | 0% | 0.00 |
| 2240/3 | Loss of Bearing Area | 40.00 | 0% | 0.00 | 100% | 40.00 | 0% | 0.00 | 0% | 0.00 |
| 8370/3 | Steel Diaphragms | 805.00 | 100% | 804.00 | 0% | 1.00 | 0% | 0.00 | 0% | 0.00 |
| 515/3 | Steel Protective Coating | 24,200.00 | 100% | 24,200.00 | 0% | 0.00 | 0% | 0.00 | 0% | 0.00 |
| 1020/3 | Connection | 1.00 | 0% | 0.00 | 100% | 1.00 | 0% | 0.00 | 0% | 0.00 |

ELEMENT NOTES

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 12 | Re Concrete Deck | 3 | 119,494.00 | sq.ft | 1.00 | 119,493.00 | 0.00 | 0.00 |

The top of the grooved reinforced concrete deck is bare, with no wearing surface. The top of the deck was observed to have wheel line rutting, minor sand/debris accumulation, transverse and longitudinal cracks, minor wear, and spalling/minor scaling throughout (See photos 2, 3, 7, 8, 12, 14, 19, 21, 22 and 23). The underside of the deck is covered with stay-in-place forms except for in Bay G and both overhangs. The forms were observed to have areas of light to heavy rust and corrosion with isolated areas of section loss (See photos 46, 57, 69, 71, 79, 86, 98, 109, 110, 111, 112, 116, 120 and 130). The exposed portions of the deck underside were observed to have transverse cracks with and without efflorescence, isolated spalls/scaling and anchor bolt holes (See photos 39, 53, 96, 99 and 131).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are3 | | 1.00 | sq.ft | 0.00 | 1.00 | 0.00 | 0.00 |

Top of Deck:

At the West Abutment in the header adjacent to the pourable joint seal there is a 6” long x 2’ wide x 2” deep spall and two (2) spalls measuring up to 6” wide x 1’ long x 1” deep (See photos 2 and 3).

In Span 5 adjacent to the pier #4 joint in the right lane there is a 1’-3” wide x 3” long x 1” deep spall (See photo 12).

In Span 11 there is a small concrete repair patch with light map cracking (See photo 19).

At the East Abutment in the header adjacent to the pourable joint there are two (2) bituminous patches and a spall up to 1” deep (See photos 22 and 23).

Underside of Deck:

The exposed deck underside throughout Bay G was observed to have evenly spaced anchor bolt holes near Girder G. Some of these holes have been filled while others have not. Some have exposed anchor bolts hanging out of the holes (See photo 39)

Span 4 – In Bay G at Pier #4 there is a 3” long x 8” wide x 1” deep spall along the cold joint (See photo 53).

Span 13- in Bay G near the 1st intermediate diaphragm there is a 3’-6” wide x 2’-5” wide x ½” deep area of spalling/scaling.

Span 14 – In Bay G along the longitudinal cold joint the deck was observed to have areas of chipping concrete (See photo 131).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | sq.ft | 0.00 | 1.00 | 0.00 | 0.00 |

Underside of Deck:

The underside of the exposed deck in Bay G and both overhangs were observed to have scattered transverse hairline cracks with and without efflorescence (See photos 39, 99 and 131).

Throughout the underside of Bay G there are evenly spaced anchor bolt holes near Girder G, some of the holes show signs of leakage.

The following locations were observed to have minor leakage along the longitudinal deck joint in Bay G:

West Abutment #1
Span 4 at Pier #4 (See photo 53).
Span 9 at Pier #9 (See photo 96).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 1.00 | sq.ft | 1.00 | 0.00 | 0.00 | 0.00 |

The top of the exposed deck was observed to have full width hairline cracks spaced every 2’to 3’ in all spans. There are also areas of moderate to wide transverse and longitudinal cracks scattered throughout (See photos 7, 8 and 14).

Underside of Deck:

The exposed deck underside in Bay G was observed to have scattered transverse hairline cracks spaced 3’ to 6’ apart throughout the bridge (See photos 39 and 131).

The underside of both overhangs was observed to have scattered cracks with and without efflorescence, some of these cracks extend onto the vertical face of the barriers (See photo 99).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1190 | Abrasion(PSC/RC) | 3 | 119,491.00 | sq.ft | 0.00 | 119,491.00 | 0.00 | 0.00 |

The exposed top of deck was observed to have light to heavy wear scattered throughout, minor chips in the concrete and isolated scrapes (See photos 14 and 21).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8382 | Stay-in-Place Form | 3 | 97,500.00 | sq.ft | 93,375.00 | 4,125.00 | 0.00 | 0.00 |

Underside of Deck:

There are stay-in-place forms in all bays except for Bay G throughout the bridge. The forms were observed to have scattered areas of light to heavy rust/corrosion, mainly at the interfaces between the adjacent form sections, especially in Bays A and I. Areas of rust cover up approximately 5% of the bay area in several spans (See photos 46, 57, 69, 71, 79, 86, 98, 109, 110, 111, 112, 116, 120 and 130).

In Span 5, Bay I near Pier 4, the drain connection to the deck exhibits moderate rust and the stay-in-place form around the connection exhibits corrosion.

In Span 6, Bay A near Pier 5, the drain connection to the deck exhibits moderate rust and the stay-in-place form around the connection exhibits corrosion (See photo 69).

In Span 11, Bay A, near Interior Diaphragm 2, the stay-in-place form exhibits a 1'-6" long x 4' wide area of up to 100% section loss (See photo 110).

In Span 11, Bay I at Pier 12, the drain connection to the deck exhibits moderate to heavy rust and the stay-in -place form around the connection exhibits light corrosion/rust (See photo 111).

In Span 14, Bay F, near Interior Diaphragm 3, the stay-in-place form exhibits a 1' long x 3' wide area of rust.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 107 | Steel Opn Girder/Beam | 3 | 16,364.00 | ft | 16,334.00 | 24.00 | 6.00 | 0.00 |

**The superstructure consists of ten weathering steel plate girders, continuous over all piers except Piers 4 and 9. Span 14 is splayed at the East Abutment, with two rolled section kicker beams that support the flared section of deck along the South side of the bridge (See photo 130). At various locations along the girders, primarily at connection points between the diaphragms and girders, there are weld areas that were previously reported as weld defects (See photos 138 through 142). These defects were listed as incomplete fusion. These weld defects have not changed since the previous routine inspection, which was completed on 7/23/21. During the previous routine inspection dye penetrant tests were performed on several of the defective welds to determine if the welds had cracked, and all test results indicated that no cracks were present. For specific locations of weld defects, see attachment "020001 Table 2 - Weld Defects.pdf". These locations should be continued to be monitored in future inspections. There are several locations of concrete overpour on the girder webs and bottom flanges throughout the bridge (See photos 45, 94 and 119). Additionally, the girders typically exhibit a gap between webs at the field splice locations. At random locations throughout the Bridge, the girders exhibit 1/8" high bends in the bottom flanges and a few locations with up to 3/4" high bends (See photos 44 and 94). The following locations exhibit minor defects as follows: There are scattered locations of mis-drilled/unused holes throughout the girders. Spans 4 and 5, Girders A and J - Girders do not exhibit the positive camber exhibited by adjacent girders and same girders in other spans. Span 11, Girders A, B and C - Girders do not exhibit the positive camber exhibited by adjacent girders and same girders in other spans, as previously noted in the 2015 Routine Inspection.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 247,490.00 | sq.ft | 242,490.00 | 5,000.00 | 0.00 | 0.00 |

The weathering steel girders exhibit a normal surface patina with some scattered areas of yellow to orange rust, most common along the top flanges, with isolated locations of patina not forming (See photo 95).

The end 8' to 11' of the girders are painted below the deck joints at the abutments and at Piers #4 and #9. The painted girder ends have isolated locations of chipped, peeling and bubbling paint.

Specific coating deficiencies are as follows:

Span 1, West Abutment, Girder A - Bottom flange exhibits a 1'-6" long x 9" wide area of peeling/bubbling paint (top and underside of flange) extending 4” high on the North Face of the web.

Span 5, Pier 5, Girder A, North Face - Girder exhibits inconsistent coating.

Span 10, Pier 9, Girder G and Girder H - Backside of bearing stiffeners not painted.

Span 12 - Several girders exhibit scattered areas of orange rust.

Span 14, Girder G, near Intermediate Diaphragm 1 - Splice plate exhibits loss of oxidized coating.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 15.00 | ft | 0.00 | 15.00 | 0.00 | 0.00 |

In all spans, Girder A exhibits scattered light areas of laminar rust on the North side and underside of the bottom flange.

In Span 1, the underside of the bottom flange of Girder B has minor laminar rust (See photo 32).

In Span 2, both faces of Girder A at the splice exhibits rust along the bottom flange (See photo 36).

In Span 3, Girder A at the field splice exhibits laminar rust at the base of the girder web (See photo 43). Between Interior Diaphragms 4 and 5, Girder H exhibits 4' long x full width area of laminar rust on the underside of the bottom flange that continues 14' long x 3" high onto the North Face of the web. Girder I at the field splice exhibits rust along the bottom flange splice plate.

In Span 4 at the West field splice, Girder A exhibits 3" high x 1/16" thick laminated rust to the bottom of the web (See photo 51). Near Pier 4, Girder J exhibits corrosion and flaking to the underside of the bottom flange.

In Span 5 at the field splice, Girder A exhibits laminated rust up to 1/16" thick at base of the web and bottom flange around the splice plates and laminated rust to the underside of the splice plate and bolts (See photo 62). On the South Face of Girder H, the top flange exhibits moderate rust between Interior Diaphragms 1 and 2.

In Span 6 , the underside of Girder A near Pier #5 was observed to have laminar rust that extends from the pier to the field splice (See photo 70).

In Span 7, the North Face of Girder A exhibits areas of laminar rust at the base of the web up to 3" high near the West and East Field Splices. The South Face of Girder A also exhibits minor laminar rust on the splice plates at the West Field Splice.

In Span 8 from Pier 8 to the East Field Splice, Girder A exhibits laminated rust along the underside of the bottom flange (See photo 84).

In Span 11 between Interior Diaphragms 1 and 2, Girder A exhibits a 7'-0" long x full height area of moderate to heavy rust/corrosion on both flanges and the web (See photos 108 and 110). Between Interior Diaphragms 2 and 4, Girders A and B exhibit minor to moderate rust.

In Span 13, the North Face of Girder A at the field splice exhibits 3” high x 4’ long x up to 1/8" deep section loss along the bottom of the web.

In Span 14, Girder A at the West field splice was observed to have a 4' long x 3" high area of rust on the girder web (See photo 125). The North Face of Girder A at the East field splice has a 6' long x 4” high x 1/16" deep area of section loss along the bottom of the web (See photo 126).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 12.00 | ft | 0.00 | 6.00 | 6.00 | 0.00 |

In Span 4 at the Girder F field splice, a bolt head on the bottom flange is not flush with the splice plate (See photo 52).

In Span 7, Girder G exhibits three (3) missing bolts in the bottom flange splice plate of the West Field Splice (See photo 77) and one missing bolt in the bottom flange splice plate at the East Field Splice (See photo 78).

In Span 8, on the North Face of Girder G at the East field splice, the splice plate on top of the bottom flange is bent up to 1/8” high (See photo 85).

In Span 9, at the Girder A field splice, there is one loose and undersized bolt in the bottom flange (See photo 93).

In Span 14, on the North Face of Girder B at the field splice - One nut is backed off at the top flange splice plate (See photo 127).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7000 | Damage | 3 | 3.00 | ft | 0.00 | 3.00 | 0.00 | 0.00 |

Span 2, Girder I, near Interior Diaphragm 3 - Bottom flange is bent upward 3/4" high over a 2' length (See photo 38).

Span 2, Girder J near Interior diaphragm 3 – the bottom flange is bent slightly upwards (See photo 37).

Span 14, Girder B, South face, between Interior Diaphragms 3 and 4 - 2" long x 1/4" high gouge in bottom edge of bottom flange (See photo 128).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 205 | Re Conc Column | 3 | 39.00 | each | 39.00 | 0.00 | 0.00 | 0.00 |

**There are three (3) reinforced concrete columns at each pier. Column A (north column) is supported on an independent drilled shaft while columns B and C (center and south columns) are supported by a reinforced concrete pier wall with a stone masonry façade that was part of the original structure (See photos 40, 47, 50, 58, 60, 64, 67, 72, 74, 80, 82, 83, 87, 88, 100, 104, 106, 107, 113, 114, 117, 118, 121 and 123).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 1,190.00 | each | 1,190.00 | 0.00 | 0.00 | 0.00 |

The columns were observed to have areas of graffiti, especially at the piers on land (See photos 50, 80, 82, 83, 87, 106, 107, 113, 114, 117, 118, 121 and 123).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 210 | Re Conc Pier Wall | 3 | 587.00 | ft | 293.00 | 292.00 | 2.00 | 0.00 |

**The reinforced concrete pier walls are part of the original structure and support columns B and C. The piers were observed to have a stone masonry façade from below the water surface to the top of the pier wall. There are scattered areas of missing mortar between masonry stones and random cracked stones (See photos 47, 50, 58, 60, 64, 67, 72, 74, 80, 82, 83, 87, 88, 100, 104, 106, 107, 113, 114, 117, 118, 121 and 123). Note that there is vagrant debris at the base of Pier #6 and #7 (See photo 83). Since much of the pier walls are below the water line, information from the 2021 Underwater Inspection has been included below. For detailed descriptions of underwater deficiencies and related photos, see the 2021 Underwater Inspection Report. Notes from the 2021 Underwater Inspection: The reinforced concrete pier walls are part of the original I-195 Eastbound structure and support Columns B and C and support the arches (Arches E and F) along with the Pedestrian / Bike Path Bridge (Br. No. 020021). For the Underwater Inspection, the pier wall for Bridge No. 020001 and Bridge No. 020021 was inspected and reported as a single structure. Piers 4 through 9 were included in the underwater inspection from the top of the stone masonry facade (bottom of the pier cope) to the channel bottom. The stone masonry has scattered areas of missing mortar, up to 15% with penetrations 3" to 6" deep between the stones, cracked stones and missing stones. The piers also exhibit intermittent areas of footing/pile cap exposure with minor abrasion of the concrete.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 3.00 | ft | 0.00 | 3.00 | 0.00 | 0.00 |

At Pier 6 there are intermittent voids up to 3'-0" long x 6" high x 6" deep along the interface of the stone facade and the concrete pier wall. There is a missing stone 2'-0" long x 2-1/2" high on the East Face (See photo 75).

At Pier 7 on the West Face, there is a missing stone 3'-6" long x 5'-0" high (See photo 81).

At Pier 10, there is a spall 1'-0" high x 1'-0" wide x 2" deep on top of the southwest corner of the pier wall.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

At Pier 13 there are two full height x up to 1/16" wide cracks with moderate efflorescence, one on the West Face and one on the East Face.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 472.00 | ft | 293.00 | 179.00 | 0.00 | 0.00 |

The pier walls typically exhibit scattered vertical hairline cracks. Wider and more extensive cracking is present as follows:

Pier #6 - On the west face of the pier near the north end there is a full-height crack in the stone (See photos 72 and 73).

Pier #9 – The top face and west face between columns B and C were observed to have widespread areas of map cracking throughout (See photo 101).

Pier #10 – South of column C there are three (3) full-width x 1/8” wide transverse cracks across the top of the pier wall that extends down the vertical faces of the wall. There is also a 3’ high x 1/8” wide vertical crack on the northwest corner.

Pier #12 – On the west face below Girder I there is a full height hairline crack. On the east face there is a full height x 1/16” wide crack between columns B and C.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1190 | Abrasion(PSC/RC) | 3 | 10.00 | ft | 0.00 | 8.00 | 2.00 | 0.00 |

Notes from the 2021 Underwater Inspection have been retained below:

The piers typically exhibit abrasion up to 1/2" deep throughout the exposed reinforced concrete below the stone facade and isolated areas of poor consolidation/section loss up to 1" deep. Specific locations of abrasion on the exposed reinforced concrete are as follows:

At Pier 5 there is a band of scaling full width x 3'-0” high x up to 3/4” deep across the North nose.

At Pier 7 there are various locations of scaling/section loss typically between 2-1/2" to 3-1/2 " deep on all four faces of the pier near the channel bottom, and up to 5" deep along the Southwest corner.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4000 | Settlement | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

On Piers 9, 10 and 12 there are some medium to wide vertical cracks in the pier walls, however no signs of settlement were observed (See photo 101).

Notes from the 2021 Underwater Inspection have been retained below:

At Pier 7, on both the West and East Faces of the pier, there are up to 1/4" wide vertical cracks extending from the top of the stone masonry facade down to the channel bottom near the midpoint of the pier wall, which may indicate slight settlement of the pier, as previously noted in the 2017 Underwater Inspection Report.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6000 | Scour | 3 | 100.00 | ft | 0.00 | 100.00 | 0.00 | 0.00 |

Notes from the 2021 Underwater Inspection have been retained below:

Since the 2017 Underwater Inspection, the exposure of the pile caps has remained relatively unchanged, with the exception of Pier 8. The pile cap exposure at Pier 8 has increased 1'-6" vertically and there is seal exposure up to 1-3" high. The previously noted exposure of the steps/pile caps at Piers 4 and 5 has remained relatively unchanged, there is no pile cap exposure observed at Piers 6 and 7, and the pile cap at Pier 9 has become exposed along the West side of the pier.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8368 | Graffiti | 3 | 3,240.00 | ft | 0.00 | 3,240.00 | 0.00 | 0.00 |

The pier walls that are on land were observed to have areas of graffiti (See photos 50, 80, 82, 83, 101, 104, 106, 107, 113, 114, 117, 118, 121 and 123).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 215 | Re Conc Abutment | 3 | 171.00 | ft | 168.00 | 3.00 | 0.00 | 0.00 |

**West Abutment #1 is shared between Bridge 020001 and Bridge 070001 to the north, and East Abutment #2 is shared between Bridge 020001 and adjacent Bridge 020021 to the south. Both Abutments were observed to have random hollow areas, minor spalls, hairline cracks with and without efflorescence (See photos 29, 132 and 133). There are locations of bird debris and construction debris on the West Abutment #1 beam seat (See photos 30 and 31) and the East Abutment #2 beam seat (See photo 136).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 2.00 | ft | 0.00 | 2.00 | 0.00 | 0.00 |

On the north face of East Abutment #2 there is an 11” wide x 30” high x 7” deep spall with an adjacent full-height x 12” wide hollow area (See photo 133).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

At the west abutment there are scattered vertical and diagonal cracks, most of which have been sealed. There are random areas of hairline map cracking along the top 10’ of the abutment face. There is a 20’ long horizontal hairline crack with efflorescence (See photo 29)

At the East Abutment, below Bay D there is a 3'-0" long horizontal crack with efflorescence at mid-height and two 5'-0" long diagonal cracks with efflorescence near the base. Below Bays D and F, there are repaired diagonal cracks with efflorescence near the base. Below Girder J in Bay I, there is a 2'-6" long diagonal crack with efflorescence and rust staining at the base. From below Bay J to the South end, there is efflorescence along the horizontal construction joint at the base (See photo 132).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 168.00 | ft | 168.00 | 0.00 | 0.00 | 0.00 |

At the west abutment there are scattered vertical and diagonal cracks, most of which have been sealed. There are random areas of hairline map cracking along the top 10’ of the abutment face. There is a 20’ long horizontal hairline crack with efflorescence (See photo 29)

East Abutment has several areas of repaired diagonal hairline cracks with and without efflorescence and scattered hairline cracks with and without efflorescence (See photo 132).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 220 | Re Conc Pile Cap/Ftg | 3 | 218.00 | ft | 216.00 | 2.00 | 0.00 | 0.00 |

**At Pier #10 there is an area of erosion at the northwest corner of the wall that exposes an approximately 22’ long portion of the pile cap (See photo 106). For the piers in the water, information from the 2021 Underwater Inspection has been included below. For detailed descriptions of underwater deficiencies and related photos, see the 2021 Underwater Inspection Report. 2021 Underwater Inspection: The pier walls are founded on reinforced concrete pile caps with unknown type piles. The sloped concrete step/pile cap steps out 1'-6" to 2’-0" from the pier face then slopes downward at a 45° angle. At the Southeast corner of Pier 8, there are two timber piles protruding up through the pile cap.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1190 | Abrasion(PSC/RC) | 3 | 218.00 | ft | 216.00 | 2.00 | 0.00 | 0.00 |

Notes for the 2021 Underwater Inspection have been retained below:

The pile caps exhibit abrasion up to 1/2" deep on the exposed surfaces.

At Pier 8, the sloped concrete step/pile cap exhibits an area of section loss 2'-0" long x 8" high x 5” deep on the East Face of the pier, located 5’ from the southeast corner.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 225 | Steel Pile | 3 | 6.00 | each | 6.00 | 0.00 | 0.00 | 0.00 |

**This element can only be evaluated from underwater, therefore information from the 2021 Underwater Inspection has been included below. For detailed descriptions of underwater deficiencies and related photos, see the 2021 Underwater Inspection Report. 2021 Underwater Inspection: This element shall be used to rate the condition of the steel encased reinforced concrete caisson piles at the North (upstream) end of the piers. Over the steel casing at the caisson piles, there is a fiberglass jacket in place that extends 13'-6" down from the underside of the concrete cap section, which has no significant deficiencies.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 1.00 | each | 1.00 | 0.00 | 0.00 | 0.00 |

2021 Underwater Inspection Notes:

At Piers 4 through 9, the steel casing at the caisson piles exhibits minor corrosion with pitting up to 1/16" deep below the fiberglass jackets.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 234 | Re Conc Pier Cap | 3 | 920.00 | ft | 909.00 | 11.00 | 0.00 | 0.00 |

**There are reinforced concrete pier caps at each pier that were observed to have minor spalls and randomly spaced cracks (See photos 34, 40, 41, 47, 48, 58, 60, 64, 65, 67, 72, 74, 80, 82, 87, 88, 89, 91, 100, 104, 106, 107, 113, 114, 117, 118, 121, 123 and 124). Some of the piers were observed to have pigeon debris on the beam seats and some areas of construction debris/steel plates. In spans 6 and 8 there are cables hanging down from adjacent Bridge 070001 that crosses over to Bridge 020001. There is pooling water on the pier cap in Bay J at Pier #9 (See photo 97).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 2.00 | ft | 0.00 | 2.00 | 0.00 | 0.00 |

Pier #1 – On the west face there is a 6" long x 3" high x ½" deep spall on the bottom edge between columns A and B (See photo 34).

Pier #13 – On the east face there is a 6" diameter x ¾" deep spall along the bottom edge between columns A and C.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

The pier caps were observed to have scattered vertical and diagonal hairline cracks with light efflorescence (See photos 40 and 88).

The east face of Pier #2 was observed to have two (2) vertical hairline cracks under Girders B and D measuring up to full height with efflorescence (See photo 41).

The east face of Pier #10 was observed to have a 5'-8" high vertical hairline crack with efflorescence that extends down onto the column below Girder B.

The East Face of Pier 11 was observed to have an approximately 5'-0" high vertical hairline crack with efflorescence behind the scupper below Bay A.

The East Face of Pier 13 below Bay I exhibits a full height vertical hairline crack with efflorescence.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 917.00 | ft | 909.00 | 8.00 | 0.00 | 0.00 |

The pier caps were observed to have scattered vertical and diagonal hairline cracks with light efflorescence, Piers #6 and 8 have scattered crescent shaped cracks (See photos 34, 40, 64, 88, 89, 113, 114, 117, 118, 121, 123 and 124).

The east face of Pier #2 was observed to have two (2) vertical hairline cracks under Girders B and D measuring up to full height with efflorescence (See photo 41).

The West Face of Pier #3 was observed to have two vertical hairline cracks beneath Girders E and F that extend onto the underside of the cap See photos 47 and 48). Below Girder E, the vertical crack measures 6'-0" high and continues across the full width of the cap underside. Below Girder F, the vertical crack measures 6'-0" high and continues 1'-0" onto the underside of the cap.

The west face of Pier #5 was observed to have two (2) full-height vertical hairline cracks below Girders B and C (See photo 65).

The south end of Pier #8 was observed to have a hairline crack that extends on top of the pier cap and under the masonry plate (See photo 91).

The East Face of Pier #10 was observed to have a full height hairline crack below Girder C and a 2'-11" high hairline crack below Girder I.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 300 | Strip Seal Exp Joint | 3 | 68.00 | ft | 0.00 | 23.00 | 45.00 | 0.00 |

**There is a strip seal expansion joint at the West Abutment. The seal exhibits several locations of ripped, missing, and depressed neoprene, debris impaction, and cracking of the seal (See photos 2 and 3).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2340 | Seal Cracking | 3 | 45.00 | ft | 0.00 | 0.00 | 45.00 | 0.00 |

There is transverse cracking in the adjacent header measuring approximately 45' wide x up to 1" wide (See photos 2 and 3).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2350 | Debris Impaction | 3 | 23.00 | ft | 0.00 | 23.00 | 0.00 | 0.00 |

There is light to moderate dirt and debris in the joint (See photos 2 and 3).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 301 | Pourable Joint Seal | 3 | 161.00 | ft | 161.00 | 0.00 | 0.00 | 0.00 |

**There is pourable joint sealant at the approach slab joints at both ends of the bridge. At the West Abutment, there are 1'-0" long sections of missing sealant in the Right Lane, Left Center Lane, and Left Lane, and a 2'-0" long section of missing sealant in the Right Center Lane (See photos 2 and 3). At the East Abutment, there is transverse and map cracking throughout the pourable joint with cracks open up to ½" wide (See photos 22 and 23).**

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 303 | Assem Jnt With Seal | 3 | 220.00 | ft | 0.00 | 178.00 | 0.00 | 42.00 |

**There are modular expansion joints at Piers #4 and #9 and at the East Abutment that have several locations of ripped, missing, and depressed neoprene as well as debris impaction (See photos 12, 13, 18, 22 and 23). In Span 4 at Pier 4, there is plow damage to the joint angle in the Right Shoulder (See photos 12 and 13). At the North End of Pier 4, some of the joint elements on the underside of the joint exhibit corrosion.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2340 | Seal Cracking | 3 | 42.00 | ft | 0.00 | 0.00 | 0.00 | 42.00 |

# RIDOT Bridge Inspection Report

**020001**
**Washington Bridge South**
Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Fair

At the Pier 4 joint, there are several areas where the neoprene seal is damaged or missing in the Right Lane and Right Shoulder (See photos 12 and 13).

At the Pier 9 joint, the joint exhibits impact damage in the right lane (See photo 18).

At the East Abutment, there are several locations of ripped, missing, and depressed neoprene seal throughout (See photos 22 and 23).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2350 | Debris Impaction | 3 | 178.00 | ft | 0.00 | 178.00 | 0.00 | 0.00 |

The modular joints typically exhibit light to moderate debris impaction throughout, with heavier impaction in the Right Shoulder (See photos 12, 13, 22 and 23).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **321** | **Re Conc Approach Slab** | **3** | **2,212.00** | **sq.ft** | **582.00** | **1,630.00** | **0.00** | **0.00** |

**There are reinforced concrete approach slabs at each end of the bridge. The west approach slab is paved over with a bituminous wearing surface and is not visible (See photo 1). The east approach slab is bare, with no wearing surface and has minor defects (See photos 24 and 25).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 510 | Wearing Surfaces | 3 | 782.00 | sq.ft | 482.00 | 300.00 | 0.00 | 0.00 |

The west approach slab is paved over with a bituminous wearing surface that was observed to have minor to moderate wheel line rutting, cracking, and bituminous patches (See photo 1).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| *3220* | *Crack (Wearing Surfac* | *3* | *170.00* | *sq.ft* | *0.00* | *170.00* | *0.00* | *0.00* |

*The bituminous wearing surface over the west approach slab was observed to have a long bituminous patch over the previously mentioned seam crack and potholes in the second travel lane from the south railing (See photo 1).*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 100.00 | sq.ft | 100.00 | 0.00 | 0.00 | 0.00 |

The top of the east approach slab was observed to have scattered longitudinal cracks in the off-ramp lane and in the high-speed lane (See photos 24 and 25).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1190 | Abrasion(PSC/RC) | 3 | 1,160.00 | sq.ft | 0.00 | 1,160.00 | 0.00 | 0.00 |

The east approach slab was observed to have areas of minor to moderate wear as well as a few minor gouges and scrapes (See photo 24).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| **331** | **Re Conc Bridge Railing** | **3** | **3,318.00** | **ft** | **3,317.00** | **0.00** | **1.00** | **0.00** |

**There are reinforced concrete bridge railings along both sides of the bridge. The bridge railings/safety barriers extend beyond the approaches. The railings were observed to have scattered vertical cracks, a few isolated scrapes, and minor gouges (Photo 4, 7, 10 and 11). At the Southwest Approach rail, the safety barriers are misaligned and not secured to each other, leaving a gap between barriers.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 3,309.00 | ft | 3,309.00 | 0.00 | 0.00 | 0.00 |

The concrete railings exhibit scattered full height hairline cracks spaced 2’ to 3’ apart on the bridge (See photo 10).

In Span 9 at the 6th light standard from the west end there is an 8” long crack in the barrier that extends underneath the light (See photo 17).

The exterior face of the bridge railing along both sides of the bridge exhibit up to full height vertical hairline cracks throughout.

# RIDOT Bridge Inspection Report

**020001**
**Washington Bridge South**
Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition Fair**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7000 | Damage | 3 | 9.00 | ft | 8.00 | 0.00 | 1.00 | 0.00 |

Both bridge railings were observed to have scattered impact scrapes along the barriers (See photo 4, 7 and 11).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8060 | Scupper | 3 | 26.00 | each | 8.00 | 1.00 | 7.00 | 10.00 |

**Scupper Grates: The scupper grates consist of a combination of original grates with bolted connections and replacement grates with welded connections (attachment "020001 Table 1 - Scupper Grate Defects.pdf"). Several scupper grates exhibit cracked and broken original grates and replacement grates with broken welds. As a result, portions of some grates, particularly those in the Left Lane, are loose and can be removed by hand. The scupper grates in the Left Lane at Piers 3 and 5 make a loud banging noise when vehicles pass over it. For locations of broken and loose grates, see attachment "020001 Table 1 - Scupper Grate Defects.pdf". Additionally, a majority of the grates are partially to 100% clogged with mud and debris. At some locations, standing water was observed at the time of inspection. For specific locations of significant clogging and standing water, see attachment "020001 Table 1 - Scupper Grate Defects.pdf". See photos 4 thru 7, 9, 14, 16 and 20). Scupper Downspouts: The downspouts are clogged in the following locations: West Abutment South side, Pier 1 North side, Pier 2 South side, Pier 5 South side, Pier 6 South side, and Pier 7 South side. There is also a clogged catch basin at the base of the East Abutment that has caused standing water around the drain pipe at the time of the inspection. Mud along the base of the East Abutment indicates standing water previously extended up to full length of the abutment. The downspout in Span 1, Bay I exhibits moderate rust (See photo 33).**

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8107 | Steel Opn Girder/Beam ENDS | 3 | 310.00 | ft | 310.00 | 0.00 | 0.00 | 0.00 |

**The girder ends are painted below the deck joints at the abutments and at Piers 4 and 9. The girder ends were observed to be in good condition with isolated locations of chipped/peeling paint and light surface rust (See photos 33, 54, 56, 63 and 97). There were also isolated locations of concrete overpour (See photo 92). There are several locations at girder ends throughout the bridge where there are unused/mis drilled bolt holes (See photo 33 and 63).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 3,710.00 | sq.ft | 3,710.00 | 0.00 | 0.00 | 0.00 |

The painted girder ends were observed to be in overall good condition with isolated areas of chipped paint/peeling paint with light rust (See photos 33, 54, 56, 63, 92 and 97).

In Span 4 at Pier #4, the north face of Girder H was observed to have peeling paint with light rust on the bottom flange and bottom of the web (See photo 54).

In Span 5 at Pier #4, the north face of Girder A was observed to have corrosion to the bottom flange at the bearing and a 1'-1" long x 3" high area of corrosion to the web east of the bearing stiffener.

In Span 5 at Pier #4, the south face of Girder J was observed to have an area of light to moderate rust on the bottom flange (See photo 63).

At Pier #9, the South Face of Girder J in Span 9 and 10 was observed to have moderate surface rust on the bottom flange and up to 1' high on the bearing stiffener (See photo 97).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8213 | R/C Return Wall | 3 | 70.00 | ft | 70.00 | 0.00 | 0.00 | 0.00 |

**There is a reinforced concrete return wall at the northeast corner of the bridge that has an architectural finish with vertical hairline cracks (See photo 133). There is minor vegetation growth along the base of the wall.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 70.00 | ft | 70.00 | 0.00 | 0.00 | 0.00 |

The northeast return wall was observed to have vertical hairline cracks that extend from the weep holes up to 10' high in the architectural finish (See photo 133).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8218 | Backwall, All Types | 3 | 171.00 | ft | 168.00 | 1.00 | 2.00 | 0.00 |

**There are reinforced concrete backwalls at both abutments. The backwalls were observed to have an isolated spall and scattered vertical cracks with and without efflorescence (See photos 30, 31, 134, 136).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1080 | Delamination/Spall/Patched Are | 3 | 2.00 | ft | 0.00 | 0.00 | 2.00 | 0.00 |

At the north end of East Abutment #2 there is a 2' wide x 7" high x 1' deep spall behind Girder A at the top of the backwall (See photo 134).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1120 | Efflorescence/Rust Staining | 3 | 1.00 | ft | 0.00 | 1.00 | 0.00 | 0.00 |

Both backwalls were observed to have scattered full-height vertical hairline cracks with efflorescence (See photos 30, 31 and 136).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1130 | Cracking (RC and Other) | 3 | 168.00 | ft | 168.00 | 0.00 | 0.00 | 0.00 |

Both backwalls were observed to have scattered full-height vertical hairline cracks with and without efflorescence (See photos 30 and 136).

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8316 | Isolation Bearing | 3 | 172.00 | each | 31.00 | 129.00 | 12.00 | 0.00 |

**There are isolation bearings at the piers and both abutments. Several of the bearings exhibit light to moderate rust and concrete debris/over-pour from construction. There are widespread locations of misalignment and approximately 50% of all connections exhibit deficiencies (See photos 35, 42, 49, 55, 56, 61, 66, 68, 76, 90, 97, 102, 105, 115, 122, 135 and 137).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1000 | Corrosion | 3 | 4.00 | each | 0.00 | 4.00 | 0.00 | 0.00 |

There are widespread areas of light surface rust on the bearing assembly throughout the bridge (See photo 35, 55, 56, 63, 90, 97, 115 and 122).

At Pier 4 in Span 4, Girder A bearing exhibits corrosion to the masonry plate. The Girder C bearing and the Girder H bearing exhibit light rust (See photo 55). Additionally, Girder J bearing exhibits moderate rust on the masonry plate (See photo 56).

At Pier 5, the Girder H bearing exhibits scattered areas of moderate rust (See photo 61).

At the East Abutment, Girder A bearing exhibits moderate rust (See photo 135). Additionally, the Kicker Beam L bearing exhibits moderate to heavy surface rust on the masonry plate (See photo 137).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 57.00 | each | 0.00 | 45.00 | 12.00 | 0.00 |

The bearing connection hardware consists of anchor rods, nuts, bolts and washers. Approximately 50% of all connections are either loose, tilted, backed off, or missing. The anchor bolts nuts are typically backed off from 1/16" up to 1-1/2", but in some isolated locations they are backed off up to 1-5/8". For specific locations of anchor bolt deficiencies, see attachment "020001 Table 4 - Bearing Defects.pdf" (See photos 35, 42, 49, 76, 90, 105, 115, 122, 135, 137,).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2220 | Alignment | 3 | 38.00 | each | 0.00 | 38.00 | 0.00 | 0.00 |

Several bearings throughout the structure exhibit misalignment. For specific misalignment locations and measurements, see attachment "020001 Table 4 - Bearing Defects.pdf".

In addition, some girder bottom flanges are not seated flush with the sole plates. Specific deficiencies are as follows:

At Pier 2 in Span 2, the Girder J bearing exhibits a 1/4” gap between the bottom flange and sole plate at the Southwest corner and tapers flush at the Northwest corner of the bearing.

At Pier 5 in Span 6, the Girder H bearing exhibits a 1/16” gap between the bottom flange and sole plate on the East Face of the bearing (See photo 68).

At Pier 9 in Span 10, the Girder A bearing exhibits a 1/16” gap between the bottom flange and the sole plate.

At Pier 12 in Span 13, the Girder J bearing exhibits a 1/16” gap between the bottom flange and the sole plate at the Southeast corner and tapers flush at the Northeast corner of the bearing.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2230 | Bulging, Splitting or Tearing | 3 | 2.00 | each | 0.00 | 2.00 | 0.00 | 0.00 |

Several bearings throughout the structure exhibit compressed bearing material (See photo 66). For specific deficiency locations and details, see attachment "020001 Table 4 - Bearing Defects.pdf".

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2240 | Loss of Bearing Area | 3 | 40.00 | each | 0.00 | 40.00 | 0.00 | 0.00 |

Several of the bearings exhibit gaps between the masonry plate and the top surface of the concrete pedestal along the edges of the plate. The gaps between the masonry plate and the concrete bearing pedestal are up to 1/4” high at several locations and up to 3/4” high in a few locations (See photo 68). The gaps are the result of the top surface of the concrete pedestal having an uneven finish at these locations. See attachment "020001 Table 4 - Bearing Defects.pdf" for specific locations of bearing area loss.

| ELEM | ELEMENT NAME | ENV | QUANTITY | UNITS | QTY CS 1 | QTY CS 2 | QTY CS 3 | QTY CS 4 |
|---|---|---|---|---|---|---|---|---|
| 8370 | Steel Diaphragms | 3 | 805.00 | each | 804.00 | 1.00 | 0.00 | 0.00 |

**The interior diaphragms are numbered from West to East, starting again from 1 in each span. The interior diaphragms and end diaphragms were observed to have scattered areas of yellow to orange rust with scattered locations of concrete debris/over-pour from construction and isolated locations of connection deficiencies. The end diaphragms below the deck joints at the abutments and at Piers #4 and #9 are painted. However, the end diaphragm at Pier 9 in Span 10 is not painted on the West Face (See photos 31, 53, 54 and 96).**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 515 | Steel Protective Coating | 3 | 24,200.00 | sq.ft | 24,200.00 | 0.00 | 0.00 | 0.00 |

The interior diaphragms and end diaphragms are protected by a weathering steel patina. The weathering steel diaphragms exhibit a normal surface patina with some scattered areas of yellow to orange rust. The end diaphragms below the deck joints at the abutments and at Piers #4 and #9 are painted. However, the end diaphragm at Pier 9 in Span 10 is not painted on the West Face (See photos 31, 53, 54 and 96)..

In Span 1, at West Abutment #1 in Bay G there is light rust on the end diaphragm bottom flange (See photo 31).

In Span 4 at Pier #4, the end diaphragm in Bay G exhibits corrosion at the top flange and light rust on the bottom of the connection plate to girder H (See photos 53 and 54).

In Span 9 at Pier #9, the top flange of the end diaphragm in Bay G was observed to have peeling paint and light rust/corrosion due to leakage from the cold joint in the deck (See photo 96).

In Span 14, Bay H, Interior Diaphragm 7 exhibits minor peeling paint (See photo 129).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1020 | Connection | 3 | 1.00 | each | 0.00 | 1.00 | 0.00 | 0.00 |

In several spans, the interior diaphragms in Bay G exhibit plate washers overlapping adjacent washers and slightly bent washers.

At Pier 9 in Span 10, the bolts at the end diaphragm connections to Girder G and H in Bay G are loose or not fully engaged. There is also a 1/2" gap between the bearing stiffener plate and the end diaphragm at both connections.

In Bay G of Span 11, the connection plate from Interior Diaphragm 4 to the North Face of Girder H was observed to have a 7-3/4" high x up to 1/8" bend to the West.

In Span 14, several interior diaphragms were observed to have random filler plates installed at the connections to the girders.

Work Candidates

Assigned to To be assigned

| Status | Priority | Action | Date Proposed | Notes |
|---|---|---|---|---|
| Assigned_Agency | 1 | Clean&Flush Deck Drainage | 07/21/2023 | [CE&C]: Most of the scupper grates and downspouts are either partially or fully clogged. We recommend that these areas be cleaned/flushed to help with the deck drainage. |

# RIDOT Bridge Inspection Report

**020001**
**Washington Bridge South**
Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Fair

## 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 | 50.00 |
| Prep Time | |
| Crew Slize | 2 |
| Under Insp Vehicle Time | |
| Traffic Control Time | 2 |
| Mile Post | |
| Crew Days | 9 |
| Time Report Time | |
| Bucket Truck Time | |

**Site Access Notes**

| | |
|---|---|
| Avg Curb Reveal North/East | |
| Avg Curb Reveal South/West | |
| Posted Weight Limit | |
| Posting Sign ? | ☐ |
| Post Signs Legible | -1 |
| Post Sign Rec | -1 |
| Adv Min Vert Clear Sign | 02 |
| Min Ver tClear Signs Leg | 01 |
| Min Vert Clear Post Vales | |
| 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 | ☐ |

# RIDOT Bridge Inspection Report

**020001**
**Washington Bridge South**
Inspected By AECOM-COMMONWEALTH
Inspector: [redacted]
Inspection Date 07/21/2023

**Bridge Condition** Fair

**8/22/2023** **Bat and Bird Observations**

**Bats:**

| BATS_OBSERVED | BATS_VISUAL | BAT_DROPPINGS | BAT_STAINING | BAT_SOUNDS | BAT_PHOTOS |
|---|---|---|---|---|---|
| No | ☐ | ☐ | ☐ | ☐ | ☐ |

BATS_NOTES

**Birds**

| BIRDS_OBSERVED | BIRD_PHOTOS | BIRDS_SPECIES_IDENTIFIED |
|---|---|---|
| Yes | ☒ | ☒ |

BIRD_NOTES

Pigeons and pigeon debris was observed throughout the bridge and on beam seats (See photos 30 and 33).