

REHABILITATION OF FRANCIS SCOTT KEY BRIDGE
FROM ROSSLYN, ARLINGTON, VIRGINIA TO GEORGETOWN WASHINGTON, DC
DC Contract No.: DCKA-2014-C-0074

FAP No.: BH-1104 (013)

CONSTRUCTION MANAGER'S
WEEKLY PROGRESS REPORT
From 09/03/2017 to 09/09/2017

Project Website: www.keybridgeproject.com



1. EXECUTIVE SUMMARY

Project Description:

The AECOM Construction Management and Inspection team is providing construction and inspection services for the Rehabilitation of the Francis Scott Key Bridge over the Potomac River (Bridge No. 0007). Francis Scott Key Bridge, built in 1929, is a historic 1,781-foot long reinforced concrete, open-spandrel arch bridge consisting of eight spans over the George Washington Parkway, Potomac River, Whitehurst Freeway, and C&O Canal. The bridge not only served as a major commuter route into Washington, DC, but it also was listed on the National Register of Historic Places, which required coordination with the National Park Service since it spanned the C&O Canal and George Washington Parkway. This rehabilitation project is to restore the deteriorated portions of the structure, improving its structural integrity for another 30 years while maintaining those architectural features which contribute to its historical significance. The repair plans include conventional concrete patching repairs as well as strengthening with carbon fiber reinforced polymer reinforcing bars and sheeting materials. The construction cost is estimated to be approximately \$14.5 million.

The scope of the construction work includes the following:

1. Installing pedestrian/bicycle detection loops and warning flashers on the bridge at the ramp to eastbound Whitehurst Freeway.
2. Cleaning and painting the existing steel pedestrian railing on the bridge.
3. Removing the concrete bollards from the east sidewalk at the east ramp exit.
4. Removing and installing new street light poles on the bridge.
5. Removing and resetting a portion of the precast concrete traffic barrier on the bridge.
6. Repairing the precast concrete traffic barrier and grout pads and the northwest concrete traffic barrier end post.
7. Strengthening the deck overhangs with carbon fiber reinforced polymer bars.
8. Repairing the concrete wearing surface on the bridge.
9. Repairing grout pockets at the post-tensioned deck hold down bolts.
10. Replacing the non-armored expansion joint seal (B-0007 and East Ramp).
11. Replacing the armored expansion joint seals (B-0007 and East Ramp).
12. Overlaying the right lanes (inbound and outbound directions) on the bridge with a high molecular weight methacrylate resin (HMWM) overlay; milling and overlaying the Rosslyn approach structure with a very high early strength latex-modified concrete (LMC-VE).
13. Cleaning debris from all bridge deck drainage scuppers and pier chambers and removing and replacing the bridge deck drainage downspout.
14. Rehabilitating the support for a 30-inch Washington Aqueduct water main on the bridge.
15. Repairing portions of the concrete encasement and the reinforced concrete floor beams; cleaning and painting the exposed end of the steel floor beams.
16. Replacing failed concrete deck pedestals and replacing portions of the utility gallery floor slabs full depth.
17. Repairing portions of the concrete superstructure, including but not limited to the following: deck soffit, deck pedestals, spandrel arches, spandrel columns, main arches, diaphragm walls, deck slab, and arch struts.
18. Repairing portions of the concrete substructure, including the piers, abutments, abutment chambers, and wing walls and encapsulating the pier footings with fiber reinforced polymer jackets at the waterline.
19. Removing and replacing the fixed steel access ladder at North abutment and installing a new fixed steel access ladder at the South abutment.
20. Removing and replacing a portion of chain link fencing (bridge access deterrent) on the main arches.
21. Cleaning the bridge fascia with pressurized water and applying an anti-graffiti treatment to portions of the piers.
22. Removing and applying new pavement markings (B-0007 and East Ramp).
23. Maintenance of pedestrian and vehicular traffic during construction of the project, including temporary lane and sidewalk closures necessary to perform the work.

2. STATUS OF CONSTRUCTION / PROGRESS SUMMARY

Progress Summary:

1. Demolition work still in progress for the concrete repairs at Span D, Span C, Pier 3, and Span E.
2. Sandblasting of existing reinforcing steel and installation of anchors and wire mesh for concrete repairs continue in sections at Span C and Pier 4.
3. Contractor continued deck pedestal repairs at Span C.
4. Contractor continued installing scaffold and protection shield system at Pier 3, Pier 2, Span E, and Span F.
5. Contractor continued placing concrete for concrete repair at North Abutment, Span C.
6. PCO-02 still under review by DDOT. Negotiation with Technopref in process for PCO-04.
7. Contractor continued working on painting the existing pedestrian railing.
8. CM continued coordination with Pepco regarding their work schedule on Water St.
9. CM continued coordination with NPS and Greg King of Thompson's Boat Center.
10. CM inspection team continued inspecting the sandblasting and painting operation of the pedestrian railing at the plant.

11. CM Community Outreach Activities

The team communicated with the key stakeholders during the week to give them project status updates and identify any concerns that they might have about the project.

Stakeholder Contact:

- Prepared and updated traffic advisory for Key Bridge sidewalk closures

Notes:

- Updated website including posting weekly reports and updated two-week look-ahead schedule

Key Takeaways:

- Communications team will continue to develop relationships with key businesses near the bridge that can help us distribute project information to their customers.

3. ISSUES / ACTION ITEMS

- Ongoing Issues / Items:

- Pepco Cable on the East Ramp concrete bent columns has now been resolved, but the actual work is yet to be completed. Pepco is to bury the overhead cable underground. The work to relocate the overhead cable underground continues and is in progress on Water St.
- Technopref continues to be reminded of its obligations under the Contract. Official DDOT action is still pending on Technopref's claimed "additional" costs submitted based on DDOT's January 24, 2017 letter. A draft response is currently under review to close this issue with the contractor.

- Action Items: None

- New Issues / Items: None

4. MEETINGS / PROJECT COORDINATION

- Punch list meeting.

5. DAILY WORK PERFORMED

Sunday 09/03/17

1. CM Team performed sounding at Span E.

Monday 09/04/17

1. No work

Tuesday 09/05/17

1. Technopref (General Contractor) was on-site and continued cleaning at the staging area. Miscellaneous work around staging area. Continued installing scaffold and protection shield system at Pier 2.
2. Fibrwrap / Ribeiro / Atlantic (Sub) were on-site and continued the demolition process and sandblasting rebar at Pier 3, Span D, Span E, and Span C for the concrete repairs. Replaced deteriorated rebar and installed anchors and wire mesh for Type 1. Continued working on deck pedestals at Span C.
3. Ward & Associates (Sub) was on-site and prepared for shooting shotcrete on Wednesday.

Wednesday 09/06/17

1. Technopref (General Contractor) was on-site and continued cleaning at the staging area. Miscellaneous work around staging area. Continued installing scaffold and protection shield system at Pier 2.
2. Fibrwrap / Ribeiro / Atlantic (Sub) were on-site and continued the demolition process and sandblasting rebar at Pier 4, Pier 3, Span E, and Span C for the concrete repairs. Replaced deteriorated rebar and installed anchors and wire mesh for Type 1. Continued working on deck pedestals at Span C.
3. Ward & Associates (Sub) was on-site and continued placing shotcrete concrete for the concrete repairs at North Abutment and Span C.

Thursday 09/07/17

1. Technopref (General Contractor) was on-site and continued cleaning at the staging area. Miscellaneous work around staging area. Continued installing scaffold and protection shield system at Pier 2.
2. Fibrwrap / Ribeiro / Atlantic (Sub) were on-site and continued the demolition process and sandblasting rebar at Pier 4, Pier 3, Span E, and Span C for the concrete repairs. Replaced deteriorated rebar and installed anchors and wire mesh for Type 1. Continued working on deck pedestals at Span C.
3. Ward & Associates (Sub) was on-site and continued placing shotcrete concrete for the concrete repairs at North Abutment.

Friday 09/08/17

1. Technopref (General Contractor) was on-site and continued cleaning at the staging area. Miscellaneous work around staging area. Continued installing scaffold and protection shield system at Pier 2.
2. Fibrwrap / Ribeiro / Atlantic (Sub) were on-site and continued the demolition process and sandblasting rebar at Pier 4, Pier 3, Span E, and Span C for the concrete repairs. Replaced deteriorated rebar and installed anchors and wire mesh for Type 1. Continued working on deck pedestals at Span C.
3. Ward & Associates (Sub) was on-site and prepared for shooting shotcrete on Wednesday.

Saturday 09/09/17

1. N Technopref (General Contractor) was on-site and helped Ward & Associates mobilize to Pier 4
2. Ward & Associates (Sub) was on-site and continued mobilization to Pier 4.
3. CM Team performed sounding at Pier 2 and creating Punch list for North abutment.

6. INSPECTION & MATERIAL TESTS PERFORMED

- Performed sounding for concrete demo.
- Performed anchor profile test for pedestrian railing.
- Performed blasting inspection for pedestrian railing according to SP06.
- 24" X 24" X 6" Test Panels for Compressive Strength Test for each day of shotcrete.
- Temperature, Slump, and Air Content were tested for the shotcrete.

7. RFI's / SUBMITTALS

- **Requests For Information:**
Except as noted below, there are no current unresolved/uncompleted RFI's or Submittals:
- **Submittals:**
 - o Submittal No.182 – Key Bridge MOT for pothole emergency repair
 - Forwarded to DDOT/MOT
 - o Submittal No.183 – Deck Mix SCC - Full Depth Repair
 - Forwarded to JMT
 - o Submittal No.184 – TRU Abrasive Glass Media
 - Forwarded to JMT
 - o Submittal No.185 – Acorn Nuts for Pedestrian Railing
 - Forwarded to JMT
- **RFI:**
 - o RFI No.075 - Change Order for Design Work of Bearing Support
 - Forwarded to JMT

8. CHANGE ORDERS/TASK ORDERS

- Change Order # 1 was executed on June 12, 2017.
- Review in progress by DDOT for possible processing of a change order relating to 'eminent spalls' cost.
- Change Order # 2 in process.
- Change Order # 3 was executed on August 17, 2017.
- Change Order # 4 (negotiations in process with Technopref).

9. DBE or CBE PARTICIPATION SUMMARIES

- AECOM DBE Activity:
 - o CSMI (subcontractor for AECOM) activity on the project is to project public outreach.
 - o CKI (subcontractor for AECOM) activity on the project is aide to construction management and inspection services.
- Technopref DBE Activity:
 - o No DBE activity for this period.

10. ACCIDENTS / INCIDENTS

There were no reported personnel or safety accidents within the limits of the project during this reporting period.

11. PHOTOS OF WORK PERFORMED THIS PERIOD



Chipping at deck pedestals at Span C, Row D



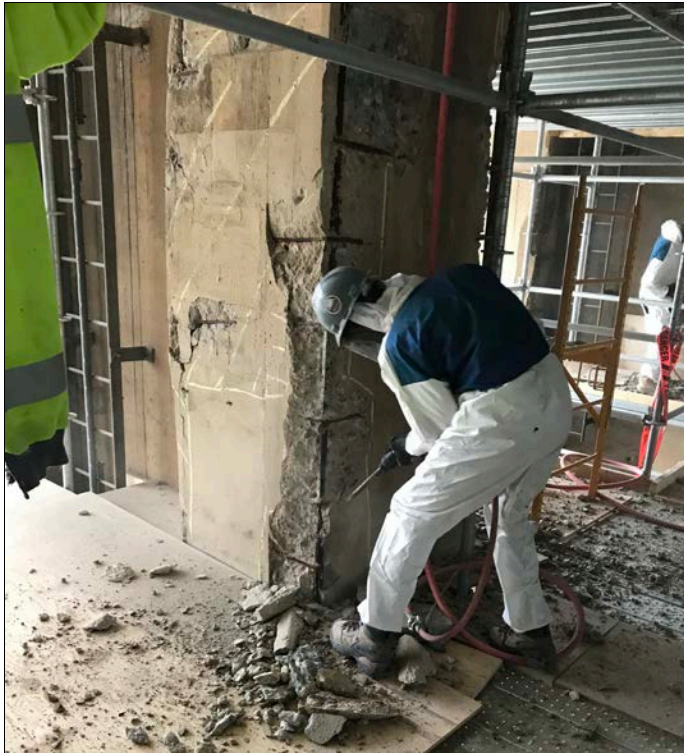
Vibrating concrete in the deck pedestal formwork



Demolded existing deck pedestal for replacement at Span C



Pouring concrete into Span C deck pedestal formwork



Chipping concrete at Span E

Chipping concrete at Span D



Chipping concrete at Span D

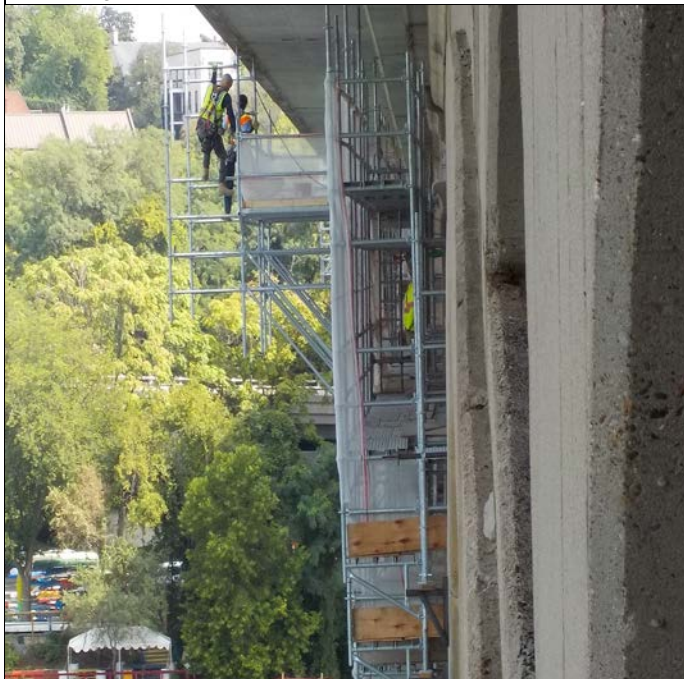
Chipping concrete at Span E



Chipping concrete at Span E



Chipping concrete at Span D



Scaffold erection at Pier 3 to mid-Span E



Primer application using spraying method at the plant