

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 07/23/2017 to 07/29/2017

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 encased 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.

3. STATUS OF CONSTRUCTION / PROGRESS SUMMARY

Progress Summary:

1. Technopref continued rehabilitating 30" water main supports at Span C.
2. Technopref continued sand-blasting deck pedestal repair at Pier 4 Span C.
3. Technopref continued installing scaffold and protection shield system at Pier 3 and Pier 2 Span E.
4. Technopref continued resetting of concrete traffic barriers on the east side of the deck.
5. CO #1 has been completed and awaits execution by the Contracting Officer. CM continued reviewing the processing of PCO-02 and PCO-03.
6. CM continued coordination with Pepco regarding their work schedule on Water St.
7. CM continued coordination with NPS and Greg King of Thompson's Boat Center.

8. 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:

- Coordinated with team to identify upcoming traffic advisories for Key Bridge lane closures
- Developed stakeholder list and outreach strategy for potential sidewalk closure

Notes:

- PEPCO and DDOT coordination is important as PEPCO's contractor Joy Construction is working on the west end of Water St in order to mitigate any community and Capitol Crescent Trail user concerns about construction.
- Updated website including posting weekly reports and updated two-week look-ahead schedule

Key Takeaways:

- We need to continue to manage project communications regarding Technopref construction activity so that any project impacts can be communicated to stakeholders.

4. 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:** NPS issued a Limited Special Use permit and verbally provided access to the river. Contractor has since had access and continues working unimpeded on barges on the river. Hardcopy permit still awaited, although this does not impact progress of the contractor's operations on site. No new actions on this item at this time.
- **New Issues / Items:** None

5. MEETINGS / PROJECT COORDINATION

- Conference call continues to be utilized to communicate with the contractor and engineer of record when a physical meeting is not possible.
- Coordination meetings continue with the DDOT team and bi-weekly project progress meetings continue to be held with DDOT and the contractor.
- Pre-activity Meeting for Blastech was held on 7/24/17.

6. DAILY WORK PERFORMED

Sunday 07/23/17

1. No construction activity performed on this date.

Monday 07/24/17

1. Technopref continued resetting of concrete traffic barriers on the east side of the bridge deck.
2. Technopref continued installing scaffold and protection shield system between Pier 2/Span E.
3. Fibrwrap continued preparing and installing rebar and wire mesh on Pier 4, Level 6 and setting forms for pedestals on Span C, Level 1, Rows D-B, Floor Beams #1 7 to 12.

Tuesday 07/25/17

1. Technopref continued resetting of concrete traffic barriers on the east side of the bridge deck.
2. Technopref continued installing scaffold and protection shield system between Pier 2/Span E.
3. Fibrwrap continued preparing and installing rebar and wire mesh on Pier 4, Level 6 and setting forms for pedestals on Span C, Level 1, Rows D-B, Floor Beams # 7 to 12.

Wednesday 07/26/17

1. Technopref continued resetting of concrete traffic barriers on the west side of the bridge deck.
2. Technopref continued installing scaffold and protection shield system between Pier 2/Span E.
3. Fibrwrap continued preparing and installing rebar and wire mesh on Pier 4, Level 7 and setting forms for pedestals on Span C, Level 1, Rows C-B, Floor Beams # 7 to 10-11.

Thursday 07/27/17

1. Technopref continued resetting of concrete traffic barriers on the west side of the bridge deck.
2. Technopref continued installing scaffold and protection shield system between Pier 2/Span E.
3. Fibrwrap continued preparing and installing rebar and wire mesh on Pier 4, Level 7 and setting forms for pedestals on Span C.

Friday 07/28/17

1. Technopref continued installing scaffold and protection shield system between Pier 2/Span E.
2. Fibrwrap continued preparing and installing rebar and wire mesh on Pier 4, Level 7 and setting forms for pedestals on Span C.

Saturday 07/29/17

1. Technopref continued installing scaffold and protection shield system between Pier 2/Span E.

7. INSPECTION & MATERIAL TESTS PERFORMED

- All concrete delivered to site for use continues to be inspected, tested, and sampled (cylinders) for the lab.

8. RFI's / SUBMITTALS

- **Requests For Information:**
Except as noted below, there are no current unresolved/uncompleted RFI's or Submittals:
- **Submittals:**
 - o Submittal No.134A – Supplement Submittal 74A - MOT Right Lane Closure
 - Forwarded to DDOT/QAQC
 - o Submittal No.146A – MOT Plans - GW Parkway MOT - Rosslyn Approach - Narrow Ramp
 - Forwarded to DDOT/QAQC
 - o Submittal No.142 – NJ 2 HMWMA healer-sealer
 - Forwarded to DDOT/QAQC
 - o Submittal No.148 – Sikacrete 211 - Rosslyn Underpinning
 - Forwarded to DDOT/QAQC
 - o Submittal No.161 – MOT Key Bridge [Right Lane Closure + Detour of Pedestrians + East Ramp Closure]
 - Forwarded to DDOT/QAQC
 - o Submittal No.163 – Temporary Concrete Barrier
 - Forwarded to DDOT/QAQC
 - o Submittal No.164 – WWF (Insteel)
 - Forwarded to DDOT/QAQC
 - o Submittal No.165 – CFRP Shop Drawings
 - Forwarded to DDOT/QAQC
 - o Submittal No.166 – USCP Letter Regarding Air Content and Testing
 - Forwarded to DDOT/QAQC
 - o Submittal No.167 – #4 Alternative Design for Scaffolding
 - Forwarded to DDOT/QAQC
 - o Submittal No.170 – PCC Reflectors
 - Forwarded to DDOT/QAQC
 - o Submittal No.171 – SikaGrout 212 (Rosslyn Underpinning)
 - Forwarded to DDOT/QAQC
 - o Submittal No.172 – Supplement Letter KBP 204 P Seal
 - Forwarded to DDOT/QAQC
 - o Submittal No.173 – Gunitite 7041 - Hand Patch
 - Forwarded to JMT
- **RFI:**
 - o RFI No.061 - Dow Corning 902 RCS Joint Sealant-Sealant Bead Thickness
 - Forwarded to QAQC
 - o RFI No.071 - Additional Reinforcing Steel
 - Forwarded to JMT

9. CHANGE ORDERS/TASK ORDERS

- Change Order #1 only processed to date. Package completed on the field level and currently awaits final execution by the Contracting Office.
- Review in progress by DDOT for possible processing of a change order relating to 'eminent spalls' cost and also the additional DC Water work on the 30" water main repair.
- Change Order # 2 in process.
- Change Order # 3 (additional work for DC Water) in process.

10. DBE or CBE PARTICIPATION SUMMARIES

- AECOM DBE Activity:
 - o CSMI
 - Project Public Outreach
 - o CKI
 - Aid to Construction Management and Inspection Services
- Technopref
 - o Handon Diving Services, Inc.

11. ACCIDENTS / INCIDENTS

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

12. PHOTOS OF WORK PERFORMED THIS PERIOD



Fibrwrap installing rebar on Span D, N Elev, Rows EE-E, Level 4, Floor Beams 49-50



Test specimen sample for Fibrwrap placing Sika 211 concrete to deck pedestals Floor Beams 7-12



Fibrwrap placing Sika 211 concrete Form & Pour to deck pedestals Floor Beams 7-12



Ionion building containment on Level 2 in Pier 4 Bay 2 for 30-inch water main grinding



Fibrowrap demo in Span C near N Abut Spandrel, Level 2, Columns 49-50, Bay 2, W Elev



Fibrowrap placing Sika 211 concrete Form & Pour to deck pedestals Floor Beams 12-15



Fibrowrap Form & Pour placing Sika 211 concrete to deck pedestals Floor Beam 8, Rows B, C, & D



Fibrowrap installing rebar on Pier 4, Levels 5 & 6, S Elev



Fibrwrap placing Sika 211 concrete Form & Pour to deck pedestals Floor Beam 7, Row C



Fibrwrap saw-cutting and demolition on Span C, Row A, Columns 10-11, E face near Pier 4, Level 2



New anchors inserted into the northernmost PCC barrier on the east side of the bridge



Part of the MOT setup