

Headquarters Rd. Bridge

Monitoring Requirement

December, 2020

Corps Permit Number: CENAP-OPR-2020-00382-96

State Permit Number: E0901120-026

Project Name: PADOT 6 Headquarters Road over Tincum Creek Bridge Replacement BU

Location: 40.47089, -75.13633

Purpose. To monitor streambank stability conditions along the western bank of the stream for the first 180 feet immediately upstream and downstream of the Headquarters Road Bridge for severe erosion conditions after construction of the new bridge.

Limits of Monitoring. Monitoring of the western streambank, from the bridge to a distance of 180 feet upstream and downstream, shall occur and will last for a period of 3 years from the date the bridge is opened to the public for use.

Reporting. PADOT shall submit monitoring reports to the Army Corps of Engineers, the PADEP, and the National Park Service. These reports will be publicly available by request. With regard to the Corps, this information is available under the Freedom of Information Act (FOIA). Information on submitting a FOIA request can be found at <https://www.nap.usace.army.mil/Missions/Regulatory/FOIA/>.

Review of Monitoring Reports. The National Park Service will review monitoring reports in consultation with PADEP, Army Corps and PennDOT Engineering District 6-0.

Monitoring Protocol. Monitoring will be in accordance with the following stipulations. Any proposed changes to the monitoring protocol must be submitted to the US Army Corps and PA DEP for review and approval in consultation with the National Park Service:

1.) **Pre-Construction:**

- a. Prior to any earth disturbance, PADOT will establish consistent monitoring locations, a minimum of every 60 feet, with no less than 6 monitoring positions (3 upstream and 3 downstream), along the western streambank. The monitoring positions will start immediately upstream and downstream of the new bridge and continue upstream and downstream for 180 feet. Each position shall have a unique name with a Lat/Lon supplied. All subsequent monitoring events will utilize these established monitoring locations. Any areas of erosion within the 180-foot monitoring area not captured by the established monitoring locations shall be included as supplement data. The preconstruction report shall also include a map or aerial photograph with each the preestablished monitoring location marked on it with the direction of the photograph indicated.
- b. A stretch of Tincum Creek as close as possible to the project area and accessible to observe through PennDOT Right-of-Way, shall be identified and used as a reference reach to establish

base line data and to demonstrate the erosional events in the watershed. This reference reach should include similar vegetative cover, stream bank material and stream bank conditions as the Headquarters Road over Tincum Creek reach.

- c. The observations and photographs of the existing conditions will be summarized in a pre-construction monitoring report. The first monitoring report shall be submitted to the Corps and PADEP no later than 90 days after the start of regulated work in waters of the United States.

2.) During Construction:

- a. PADOT will take photos at the preestablished monitoring locations and any additional areas deemed necessary.
- b. Photos taken and observations of conditions will be summarized in a construction monitoring report.
- c. Field monitoring will occur every 3 months and after 10-year or greater storm events during construction. The bridge will be set up in PennDOT's BridgeWatch program to alert the District if a 10-year or greater event occurs at the bridge site.

3.) Post-Construction:

- a. PADOT will take photos at the preestablished monitoring locations and any additional areas they deemed necessary.
- b. Photos taken and observations of conditions will be summarized in a post-construction monitoring report.
- c. Photos will be taken immediately at the conclusion of construction when the roadway is opened to the public. After this, photos will be taken every 3 months and after 10-year or greater storm events. The bridge will be set up in PennDOT's BridgeWatch program to alert the District if a 10-year or greater event occurs at the bridge site.
- d. Monitoring will continue every 3 months for 1 year past the opening of the bridge to public traffic. If severe erosion is not noted, and with written approval from the US Army Corps office in consultation with the PADEP and National Park Service, the monitoring reports will then be submitted every 6 months and after 10-year storm events for the remaining years of observation.

- 4.) The Monitoring Reports shall consist of a brief written report of observed bank conditions to accompany the photographs. The written report shall relate observed conditions to conditions documented prior to and immediately after construction.

- 5.) The Corps, PADEP, National Park Service and PADOT agree to have annual monitoring meetings to review and discuss the findings of the reports.