

Columbus West, Ohio, Flood Risk Reduction Project Floodwall/Levee Emergency Action Plan

Prepared by the Ohio Department of Transportation
in Cooperation with the City of Columbus and U.S.
Army Corps of Engineers

FRA-70/71-12.68/14.86

Project 4R

PID: 105523/3486-E

DATE: 10/12/20

Statement of Purpose

Within the project work limits the City of Columbus owns and operates a flood protection system that provides protection from flooding for up to a 500 year river event. The City of Columbus maintains an Emergency Action Plan, updated January 2017, outlining roles, responsibilities, and actions to be taken relating to the normal operation and maintenance of the project during a flood event. Attachment A outlines key features of the floodwall/levee system in the project limits and the river elevation that triggers action within that plan.

This plan has been produced at the request of the City of Columbus and ODOT and outlines the Contractor's roles and responsibilities as they relate to the original plan and the Contractor's interim measures to protect the flood protection system. During any and all work in and around the floodwall/levee system the contractor shall comply with the following:

Notifications

At least 2 weeks prior to beginning work in an area adjacent to the floodwall/levee system, Contractor shall notify the people listed on the Notification List below of the work. The notification will include work to be accomplished, plan layout of anticipated work, schedule for accomplishing the work, and 24 hour contact information for primary and secondary contact individuals. Contractor shall allow 6 weeks for review and coordination of the work plan outlining the proposed sequence of construction within the existing floodwall right-of-way. Contractor will also notify all on the Notification List when work actually begins and again when it is complete. Contractor's designated contacts are responsible for ensuring the appropriate provisions are in place prior to commencement of work and in the event of an emergency, the appropriate actions are completed at the designated time including notifications at the prescribed action levels.

City of Columbus shall notify ODOT's designated personnel when an emergency arises at the action levels included under the Emergency Provisions (based on Attachment A). ODOT will notify Contractor's designated personnel when action levels identified in this plan are reached. Contractor shall confirm actions taken in an emergency situation to all on the Notification List.

Work schedule related notifications may be by email. Emergency notifications shall be by email and phone. Confirmation notifications will be by email.

City will be responsible to communicate emergency actions with the public, other agencies and emergency service providers as specified in their emergency action plan.

Contractor shall also contact the people on the Notification List in the event any damage occurs to a flood protection feature that is not part of the contract or scope of work.

Notification List

Emergency notification shall be made to:

Primary

James Howdyshell, City of Columbus

Division of Sewerage and Drainage

Project Manager

(614) 645-7075

JRHowdyshell@columbus.gov

24/7/365 (614) 645-7102

Secondary

Kevin Wood, City of Columbus

Division of Sewerage and Drainage

(614) 645-7503

KHWood@columbus.gov

Melissa Hoffman, ODOT

(614) 507-5059

Melissa.Hoffman@dot.ohio.gov

Informational notifications shall be made to:

John Ferguson, P.G., USACE

Levee Safety Program Manager

Office: 304-399-5072

Cell: 304-402-8992

John.R.Ferguson.ll@usace.army.mil

Steven Spagna, P.G., USACE

Chief, Dam & Levee Safety

Office: 304-399-5805

Cell: 304-360-2228

Steven.S.Spagna@usace.army.mil

August W. Martin, P.E., PMP, USACE
Chief, Engineering & Construction
Office: 304-399-5254
Cell: 304-544-4463
August.W.Martin@usace.army.mil

Clyde "Randy" Campbell, USACE
Civil Emergency Planner
Office: 304-399-5825
Cell: 304-960-0640
Clyde.R.Campbell@usace.army.mil

Jason Freeman, P.E., USACE
Section 408 Technical Lead
Office: 304-399-5171
Cell: 304-563-1083
Jason.B.Freeman@usace.army.mil

Contractor's designated contacts are:
To be Determined
Phone # TBD

To be Determined
Phone # TBD

Emergency Provisions by Contractor

A) Construction of relocated I-wall along I-71 NB

In order to accommodate the required widening and reconstruction for I-71 NB and Ramp A5, approximately 415' of the existing I-wall floodwall will need to be relocated and reconstructed from Sta. 256+73 (I-71 NB) to Sta. 5007+35 (Ramp A5). The existing I-wall falls within the proposed pavement of the new ramp. A new I-wall will be constructed approximately 10' to the east of the existing I-wall alignment and will function in the same manner as the existing. The exposed height of the new I-wall ranges from approximately 2.9' to 5.7'.

The intent of the project to construct the new I-wall while the existing I-wall remains in place. However, at the northerly end where the new I-wall ties into the existing I-wall, the existing I-wall must be removed to install the new wall. This will create a gap in the line of protection. To insure the integrity of the floodwall system, the contractor shall have adequate material available to construct an emergency closure for a length of approximately 100 feet. The elevation of the top of the closure shall equal or exceed the elevation of the existing and proposed I-walls immediately adjacent to it. At the contractor's option, the emergency closure may be constructed from Hesco barriers, dumped low-permeability fill with geomembrane or plastic sheeting or other approved method, excluding sandbags, to create a temporary impermeable emergency closure. Temporary materials for this emergency closure shall be stored on site. Side slopes on the temporary embankment shall not exceed 2:1 horizontal to vertical.

The contractor shall be capable of constructing the temporary closure within 4 hours of notification. If the flood stage reaches 20.0' (elevation 699.2) with a forecast to continue to 24.0' (elevation 703.2), the contractor will provide the temporary emergency closure to fill the gap between the existing wall and the new wall. Emergency closure shall be completed and in place by the time the flood stage reaches 24.0' (elevation 703.2).

During construction, the existing I-wall shall be monitored for potential movement. Five (5) survey reference points shall be established along the existing I-wall to be removed (one (1) point at each end and three (3) intermediate points equally spaced). The contractor shall observe each point on a weekly basis, or as directed by the engineer, and record measurements and relative movements. If movement in excess of 0.25 inches in any direction is observed relative to the pre-construction observations, cease work adjacent to the existing I-wall and notify the engineer.

The proposed Type D concrete barrier from I-71 NB Station 252+86 to Station

256+73 (abuts proposed I-wall) is parallel to the existing levee. Contractor shall minimize impacts to the existing levee during construction of the roadway barrier. Existing excavated impervious material or other suitable impervious materials shall be used as backfill. Material shall be stored on site during construction. If the flood stage reaches 20.0' (elevation 699.2) with a forecast to continue to 24.0' (elevation 703.2), the contractor shall backfill the area with the impervious material and have the void filled completely and in place by the time the flood stage reaches 24.0' (elevation 703.2).

The contractor shall maintain and keep access open at all times for the City of Columbus to maintain, inspect and operate the gatewells in the construction zone.

The contractor shall submit a work plan to ODOT, City of Columbus and the Army Corps of Engineers outlining the proposed sequence of construction and temporary flood protection measures for approval prior to beginning construction.

B) Existing Access Drive North along I-71 NB

Contractor shall schedule construction and placement of the 304 aggregate for the access drive on top of the levee when weather forecasts are not predicting an appreciable storm prior to the scheduled completion of the access road when the river level is below 24' (elevation 703.2). Steel sheet piling shall be placed shall be constructed when water is below ordinary high water elevation (El. = 698.3). Contractor shall have equipment and material readily available prior to beginning excavation necessary to complete the access drive. Contractor is to maintain and keep access open at all times for the City to maintain, inspect and operate the gatewells in the construction zone. Existing drainage conduits will remain active at all times with access to the gatewells maintained in case a storm event is forecast. Notifications will be sent 2 weeks prior to beginning work, at the beginning of work and when work is complete.

The contractor shall maintain and keep access open at all times for the City of Columbus to maintain, inspect and operate the gatewells in the construction zone.

C) Construction of FRA-70-1321A (Ramp A5/B5/C5 over the Scioto River)

The FRA-70-1321A bridge structure carries relocated Ramps A5, B5 & C5 over the Scioto River. The new structure will consist of a five-span bridge with a total length of approximately 1,030 feet. The bridge starts where the FRA-71-1518A bridge ends, near Sta. 5017+07 (Ramp C5), where they share

a common pier. The proposed structure is approximately 65' south of the existing FRA-70-1321R I-70 EB bridge. This westernmost pier (the shared pier) is partially located within the existing floodwall right-of-way and therefore will be part of the review plan.

The work for construction of new drilled shaft foundations and footing will be located to the east of the line of protection. The drilled shaft construction shall be performed when water is below ordinary high water elevation (El. = 698.3). For footing construction, the excavated material or other suitable impervious material shall be stored on-site adjacent to the excavation until the footing concrete is placed. In the event flood waters are projected to rise above elevation 714, fill the footing excavation with the on-site material and compact in accordance with ODOT CMS Section 203.

To construct and access the causeway for the bridge construction, it is anticipated that the contractor will access the area along the western side of the Scioto River across the existing high ground flood protection located between the existing floodwall (C/L LOP Sta. 227+18) and the existing levee (C/L LOP Sta. 214+52). Contractor shall minimize impacts to the area within the floodwall right-of-way. Temporary access location and treatment including but not limited to restoration, earthwork and erosion/slope protection shall be included in the work plan.

The contractor shall maintain and keep access open at all times for the City of Columbus to maintain, inspect and operate the gatewells in the construction zone.

The contractor shall submit a work plan to ODOT, City of Columbus and the Army Corps of Engineers outlining the proposed sequence of construction and temporary flood protection measures for approval prior to beginning construction.

D) Construction of FRA-70-1301A (Ramp C5 over the Scioto River)

The FRA-70-1301A bridge structure carries Ramp C5 traffic over S.R. 315, then via the bridge over the Scioto River, to downtown Columbus. The new structure will consist of an eight-span bridge with a total length of approximately 966 feet. The rear abutment and all the piers are located outside the existing floodwall right-of-way. Pier 4 is the closest substructure to Pump Station ST1/ST1A, but would not negatively impact the structural integrity of the station. Pier No. 5, Pier No. 6 and Pier No. 7 are placed in a way that would not negatively impact the existing maintenance access. When the bridge is completely constructed, this structure will accommodate one 16-ft lane of traffic.

The work for construction of new drilled shaft foundations and footing will be located to the west of the line of protection. The drilled shaft construction shall be performed when water is below ordinary high water elevation (El. = 698.3). For footing construction, the excavated material or other suitable impervious material shall be stored on-site adjacent to the excavation until the footing concrete is placed. In the event flood waters are projected to rise above elevation 714, fill the footing excavation with the on-site material and compact in accordance with ODOT CMS Section 203.

The contractor shall maintain and keep access open at all times for the City of Columbus to maintain, inspect and operate the gatewells in the construction zone.

The contractor shall submit a work plan to ODOT, City of Columbus and the Army Corps of Engineers outlining the proposed sequence of construction and temporary flood protection measures for approval prior to beginning construction.

E) Construction of FRA-71-1518A (Ramp A5 over the Scioto River) and MSE Retaining Wall 4W11

The FRA-71-1518A bridge structure carries the relocated Ramp A5 over the Scioto River. The new structure will consist of a two-span bridge with a total length of approximately 171 feet. The bridge is approximately 802 feet north of where the new floodwall will tie into the existing floodwall. At the south end of the bridge, the rear abutment is supported in new MSE wall embankment and is within the existing floodwall right-of-way. The embankment for the new rear abutment fill will be higher than the required flood protection elevation. The new piers will be supported on drilled shafts and will have little effect on the Scioto River, but are also partially within the floodwall right-of-way.

The work for construction of new drilled shaft foundations, MSE wall and footing will be located along the line of protection. The drilled shaft construction shall be performed when water is below ordinary high water elevation (El. = 698.3). For footing construction, the excavated material or other suitable impervious material shall be stored on-site adjacent to the excavation until the footing concrete is placed. In the event flood waters are projected to rise above elevation 714, fill the footing excavation with the on-site material and compact in accordance with ODOT CMS Section 203.

The contractor shall maintain and keep access open at all times for the City of Columbus to maintain, inspect and operate the gatewells in the construction zone.

The contractor shall submit a work plan to ODOT, City of Columbus and the

Army Corps of Engineers outlining the proposed sequence of construction and temporary flood protection measures for approval prior to beginning construction.

F) Reconstruction of Gatewell #5

Gatewell #5 shall be reconstructed/raised to grade between I-71 NB and Ramp A5 (Sta. 5009+96). If sluice gate cannot remain operational during construction, contractor shall have test ball plug on-site to plug the existing 36" rcp conduit when the river elevation reaches the action river level 11.8 (elevation 691.0) for Gatewell #5 listed in Attachment A.

The contractor shall maintain and keep access open at all times for the City of Columbus to maintain, inspect and operate the gatewells in the construction zone.

The contractor shall submit a work plan to ODOT, City of Columbus and the Army Corps of Engineers outlining the proposed sequence of construction and temporary flood protection measures for approval prior to beginning construction.

Emergency Notification Process

ODOT's contact personnel will be notified by the City of Columbus of an emergency by phone, text or email based on the trigger elevations and/or river stage levels listed above. Notifications will be specific as to the level of potential flooding. ODOT shall send acknowledgement of the notice to James Howdyshell by text or email within 15 minutes of receiving notification and take immediate action to protect any breach in the floodwall/levee system as outlined above. Mr. Howdyshell, and/or the City of Columbus, shall provide acknowledgement/confirmation that they have received ODOT's acknowledgement.

ATTACHMENT A

| WCLPP Features found on FRA-70/71-12.68/14.86 | | | |
|--|---------------------------------|------------------------------|------------------|
| Floodwall Feature | Closed/Start River Gage Reading | Completed River Gage Reading | Plan page number |
| Gatewell #5 | 11.8 (el 691.0) | | 310, 318 |
| Gatewell #7 | 17.2 (el 696.4) | | 304 |
| approximate 1 year river elevation | 19.2 (el 698.4) | | |
| Gatewell #4 | 24.8 (el 704.0) | | 312, 322, 344 |
| Gatewell #6 | 28.4 (el 707.6) | | 308, 316 |
| ST1/1A Pump Station | 37.3 (el 716.5) | | 342 |
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| <p>All river gage readings are based on measurements taken at the Frank Rd. USGS/Corps Scioto river gauge south of SR104</p> <p>Frank Road Gauge Level 0 ft = El. 679.18</p> <p>OHWEI. = 698.3</p> | | | |
| <p>current river gage readings and prediction can be found at:</p> | | | |
| <p>http://water.weather.gov/ahps2/river.php?wfo=iln&wfoid=18787&riverid=204340&pt%5B%5D=142904&allpoints=142945%2C144958%2C149007%2C142407%2C151775%2C142904%2C146317%2C141505%2C143018%2C144593&data%5B%5D=all</p> | | | |
| <p>Surcharging in the collection system upstream of the gatewells will occur when the gates are closed</p> <p>The construction work area and access may be flooded as a result of surcharging in the collection system during a flood event</p> <p>Anticipated rate at which the river rises is 0.8 ft/hr</p> <p>Q(10) = 36,800 cfs (10% annual chance)</p> <p>Q(50) = 62,100 cfs (2% annual chance)</p> <p>Q(100) = 75,000 cfs (1% annual chance)</p> <p>Q(500) = 114,000 cfs (0.2% annual chance)</p> | | | |