



## Case Study: Flood Levee System Improvements Washington, DC

**To prevent water from the Potomac and Anacostia rivers from flooding downtown Washington, D.C., the U.S. Army Corps of Engineers (USACE) is improving the levee system along the north side of the National Mall, running from the Lincoln Memorial to the Washington Monument. A levee system was originally erected to protect the District in 1939, following a major flood event in 1936. This project will improve the levee system through a series of upgrades: a permanent closure at 23rd Street and Fort McNair, and the installation of a more robust removable wall, which will provide flood protection but also allow for traffic flow on 17th street between flood events. Although the levee project was not specifically designed based upon climate projections, the project was designed to provide protection against a greater than 100-year flood event, which was allowed under the initial Congressional authorization for the levee project.**

The critical levee across 17th Street will not only protect the structures and landmarks in the Federal Triangle area, but will also prevent the flooding of Constitution and Pennsylvania Avenues, removing impediments to transportation. Once complete, the 17th Street project will use a removable post-and-panel barrier that connects to earthen berms through permanent masonry walls. The barrier will be a total of 380 feet long, with two permanent stone walls leading up to the street on either side and a temporary structure made up of a series of 1200 pound posts placed 16.5 feet apart and connected by 3-high stacks of 3 foot tall aluminum panels, each weighing 900 pounds. It

is anticipated that assembly of the temporary barrier should take less than eight hours.

These improvements were inspired by an extreme rainfall event and updated floodplain maps for the District. In June 2006, six hours of intense localized rainfall caused a 200-year flood event flooding the headquarters of key federal agencies, historic landmarks, and tourist destinations within the Federal Triangle. The National Archives, the Internal Revenue Service, the U.S. Department of Commerce, the U.S. Department of Justice, the Environmental Protection Agency, numerous Smithsonian Museums, the National Gallery of Art and Metrorail all suffered damage and interruptions in operations. The levee improvements were also driven by updates to the District's floodplain maps in 2010, which added the Federal Triangle area into the 100-year floodplain. By improving the levee system, the Federal Triangle area can be exempted from floodplain regulation and insurance requirements imposed by the National Flood Insurance Program.

A number of federal and local agencies have been involved in funding and advancing the project. The District Department of Transportation managed the initial design process and provided \$2.8 million for project design. The National Park Service contributed \$700,000 to complete the NEPA and Section 106 work and to begin concept design, and will provide an additional \$1.5 million to the USACE to provide the stone cladding for the retaining walls, sidewalk improvements, and landscaping. It will also be responsible for maintaining the erecting and maintaining the 17th Street closure, which is currently underway. The USACE provided \$4.6 million in American Recovery and





Reinvestment Act funds for a contract to construct the levee improvements. Finally, the National Capital Planning Commission convened and coordinated the various agencies and approved the levee design.

The project was originally scheduled to be completed by the summer of 2011, but there have been substantial delays and the project was put on hold in May 2013. The project is currently 75 to 80 percent complete, but it is not clear when work will resume.

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**For More Information:**

[http://www.ncpc.gov/ncpc/Main\(T2\)/Planning\(Tr2\)/flooding.html](http://www.ncpc.gov/ncpc/Main(T2)/Planning(Tr2)/flooding.html)

**Resources:**

NCPC Levee Fact Sheet:

<http://www.ncpc.gov/DocumentDepot/LeveeFactSheet.pdf>

Stormy Weather: NCPC's Climate Adaptation Initiatives (2012):

[http://www.mwcog.org/environment/climate/adaptation/Presentations/6-%20Koster\\_Online.pdf](http://www.mwcog.org/environment/climate/adaptation/Presentations/6-%20Koster_Online.pdf)

NCPC Report on Flooding and Stormwater in Washington, DC (2008):

<http://www.ncpc.gov/DocumentDepot/Publications/FloodReport2008.pdf>

Potomac Park Levee Project Environmental Assessment:

<http://parkplanning.nps.gov/document.cfm?parkID=427&projectID=22260&documentID=25644>

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