

State of Illinois



Olmsted Locks and Dam

Reconstruction of Southeast IL Shoreline Flood Protection Projects

John T. Myers Locks & Dam Lock Improvements Project

John T. Myers Locks & Dam Major Rehabilitation Project

John T. Myers

Legend

- Project Name
- Locks & Dams
- Levees / Floodwalls
- Interstate Highways
- Major Streams
- Major Cities
- County Boundary
- Louisville District Civil Works Boundary





Olmsted Locks and Dam Project

September 2016

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

Official Title: Locks and Dam 52 and 53 Replacement Project (Olmsted Locks and Dam), IL and KY

Location: The project is located in Olmsted, IL near Ohio River Mile 964.4.

Purpose: Construct the new Olmsted Locks and Dam to replace Ohio River Locks and Dams 52 & 53. Demolish Locks and Dams 52 & 53 once Olmsted is operational.

Project Description and Background: The project consists of two 110' X 1200' locks adjacent to the Illinois bank, and a dam comprised of five tainter gates, 1400' of boat-operated wickets and a fixed weir. The proposed replacement structure will eliminate Ohio River Locks & Dams 52 & 53. Locks & Dams 52 & 53 were completed in 1929 and the temporary 1,200' long lock chambers were added in 1969 at Locks & Dam 52 and 1979 at Locks & Dam 53. The antiquated design and age of these structures make it impossible to meet current traffic demands without significant delays. The existing structures have deteriorated structurally and are overstressed during normal operating conditions. The temporary locks at Locks & Dam 52 & 53 have significantly passed their 15-year design life.

This strategic reach of the Ohio River provides a connection between the Mississippi River, Tennessee River and Cumberland River. More tonnage passes this point than any other place in America's inland navigation system. In 2011, 91 million tons (Locks & Dam 52), traversed this portion of the Ohio River. 25% of all coal shipped on the inland waterways transits Locks & Dam 52, destined for many of the 50 power plants located on the Ohio River System or the 17 power plants located in eight states on the Upper or Lower Mississippi River.

Project Status: The two 110' X 1200' locks and approach walls are complete. The fixed weir on the Kentucky bank is complete. As of 16 September 2016, all eighteen dam tainter gate shells are set and tainter gate #1, #2 and #3 are erected with #4 arriving to the Olmsted site on 14 September 2016. In the navigable pass section, all twelve paving blocks, the right boat abutment, and eight of twelve navigable pass shells have been set in the river. Foundation pile driving operations for the navigable pass will be complete by 30 September 2016. The left boat abutment piling (thin wall cofferdam) was completed 15 September 2016. Current schedule is to be dam operational in October 2018 and project complete in March 2022.

Summarized Financial Data

2012 PACR	\$3,099,000,000
2016 Total Estimated Project Cost (NWW certified)	\$3,059,266,000
Estimated Federal Cost	\$1,940,324,000
Estimated Inland Waterways Trust Fund Cost	\$1,118,942,000
Allocation thru FY16 including ARRA allocation thru 30 Sept 15	\$2,227,402,000
FY 16 Budget	\$268,000,000
FY 17 Budget/Capability	\$225,000,000/\$250,000,000
Benefit to Cost Ratio (at 7%)	3.4
Non-Federal Sponsor	N/A

The Olmsted Locks & Dam project was authorized by Section 3(a)(6) of the Water Resources Development Act (WRDA) of 1988. The project authorization was increased on 17 October 2013 as part of a Continuing Appropriations Act, 2014 for \$2,918,000,000. The project was cost shared 50/50 with the Inland Waterways Trust Fund (IWTF) through FY2013. The FY2014 Omnibus Appropriation Act changed the split of IWTF and federal cost share to 25/75 for FY2014 only. Water Resources Reform and Development Act of 2014 changed the IWTF and federal cost share to 15/85 beginning 1 October 2014.

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As of 01 September 2016, \$2,243,357,078 has been expended on the project. The annual average benefits from the Olmsted project are approximately \$640M.

Upcoming Actions: The Government and navigation industry stakeholders are exposed to significant increased economic risk given the failing condition of Locks & Dams 52 & 53. Accordingly, efficient completion of the Olmsted project construction is the only sustainable mitigation measure available. Continued capability funding is required to meet a dam operational date of October 2018. Without annual capability level funding in place, the dam operational date will likely slip one or more years reverting to the less than optimum operational timeframe of September 2020 contemplated in the PACR forgoing approximately \$1.28B in benefits.



Tainter Gates #1, #2 and #3 erected. Tainter Gate #4 delivered (far left).



SOUTHEAST ILLINOIS SHORELINE

March 2016

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Official Title: Reconstruction of Illinois and Missouri Flood Protection Projects - Ohio River Shoreline, Southeast Illinois

Authorization: Section 5070 of the Water Resources Development Act (WRDA) 2007, subsection (d)(8)

Project Phase: Design

Summarized Financial Data:

Estimated Federal Cost	\$950,000
Estimated Non-Federal Cost	\$0
Total Estimated Project Cost	\$950,000
Allocation thru FY15	\$0
Balance to complete after FY15	\$950,000
FY16 President's Budget	\$0
FY16 Allocation	\$0
FY17 President's Budget	\$0



Brookport, IL Floodwall

Project Location: The projects are located along the Southeast Illinois shoreline of the Ohio River and were constructed approximately 50 years ago to protect developments in Brookport, Shawneetown, Old Shawneetown, Golconda, Rosiclare, Harrisburg, and Reevesville.

Project Description: The projects consist of 20 miles of earthen levees and floodwall as well as 9 pumping stations, protecting commercial, industrial, residential, and agricultural property. These projects have reached their design lives of 50 years. Failure of these projects would result in extensive flood damage and pose a threat to human life, health, and safety. As an example, Brookport was rated Unacceptable and removed from the RIP program under PL 84-99 in 2003. The project was rated as Unacceptable due to the condition of the two 72-inch drainage structures at Sta. 142+64 and unwanted vegetation present on the levee embankment. The WRDA authorization eliminates the need for a feasibility study, but the language requires that the Corps of Engineers make a determination that the reconstruction is not required as a result of improper operation and maintenance.

Project Status: Not yet started.

Non-Federal Sponsor: The State of Illinois has served as the local point of contact for the preliminary discussions on the study.

Where We Are Now: Next step would be to begin work on the determination report and design of reconstruction measures at the project locations once funding was available.

Issues and Other Information: Cost sharing for this work is to be based upon the rules in place at the time of original project construction.



J. T. MYERS MAJOR REHAB

March 2016

U.S. ARMY CORPS OF ENGINEERS

Official Title: John T. Myers Locks and Dam Major Rehabilitation Project

Authorization: Section 6 of the Rivers and Harbors Act, approved 3 March 1909

Project Phase: Feasibility

Summarized Financial Data:

Estimated Federal Cost	\$11,300,000
Estimated Non-Federal Cost	\$0
Total Estimated Project Cost	\$11,300,000
Allocation thru FY15	\$0
Balance to Complete	\$0
FY16 Allocation	\$0
FY17 President's Budget	\$0

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Project Location: John T. Myers Locks and Dam are located at Ohio River Mile 846.0, about 3 miles below Uniontown, KY.

Project Description: The John T. Myers navigation facility consists of a 1200-foot long main lock chamber, a 600-foot auxiliary lock, a high lift dam with 10 tainter gates, and a fixed weir section. In the 1990's the gated-dam was observed to have sustained significant structural damage with repair costs potentially exceeding the current inland waterways navigation major rehabilitation threshold.



A Major Rehab Evaluation study was initiated in 2001. Engineering risk analysis of the observed erosion of the large holes in the reinforced concrete stilling basin, piers, and baffle blocks within several gate bays of the dam determined a high probability of failure by 2020. Failure of a stilling basin could result in loss of the navigation pool which, during low river stages, would cease commercial traffic, disrupt municipal and industrial water intakes, and cause potential damage to marinas and fleeting facilities. This was a major finding in the report and a large part of the proposed Major Rehab scope of work. A draft report was completed in 2005. Comments from USACE HQ required additional analysis.

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In 2014 the condition of the stilling basin erosion and other components of the J.T. Myers Dam were reassessed. The economic analysis and risk and reliability engineering analyses of the required repairs were updated. Observed stilling basin scour has not progressed in the last 10 years. Accordingly the probability of failure for this significant part of the major rehab scope is low and does not economically justify the cost of repairs to the dam using a dewatering box.

Other areas of concern include seizing of hinged-brackets that attach hoisting cables to the tainter gates and major maintenance needs for operating machinery and associated electrical service and controls still exist. As determined by risk and reliability analyses, various structural, mechanical and electrical components of the navigation dam will be repaired or replaced based on the maintenance priorities of the Ohio River navigation system.

Project Status: The Corps of Engineers Louisville District conducted a Major Rehabilitation Evaluation project in accordance with Appendix E of ER 1105-2-100. The Project Delivery Team (PDT) has verified that the preliminary repair costs of various required repair items that meet risk

and economic viability considerations totals less than the \$20 Million cost thresholds to be included in the Corps Major Rehab program. Operation and Maintenance (O&M) funds are being used to complete the report and the associated reviews.

Non-Federal Sponsor: As a Major Rehab project the cost would be cost-shared 50/50 with the Inland Waterways Trust Fund (IWTF). As major maintenance items future actions will be 100% federal funded under O&M program funds.

Where We Are Now: The PDT will complete a Major Maintenance Report which will consolidate and summarize project findings. The completed report will be provided in March 2016 to the Louisville District Operations Division for their use in preparing future maintenance O&M funded work packages.

Issues and Other Information: A Value Engineering workshop was held in November 2015 that identified the potential scope for capital investments over the next 15 years.



J. T. MYERS LOCK EXTENSION

March 2016

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Official Title: John T. Myers Lock and Dam, Indiana and Kentucky

Authorization: Water Resources Development Act (WRDA) 2000, Public Law 106-541

Project Phase: Construction

Summarized Financial Data:

Estimated Federal Cost	\$226,561,000
Estimated Non-Federal Cost	\$216,239,000
Total Estimated Project Cost	\$442,800,000
Allocation thru FY15 1/	\$19,456,946
Balance to Complete	\$423,343,054
FY 16 President's Budget	\$0
FY 16 Allocation	TBD
FY 17 Present's Budget	TBD



1/ Includes funds (\$10,110,000) provided by the American Recovery and Reinvestment Act of 2009 (ARRA), Public Law 111-5, which are not cost shared with IWTF appropriations.

Project Location: The project is located on the right bank of the Ohio River at river mile 846.0, approximately 3.5 miles downstream of Uniontown, Kentucky, with the lock chambers towards the Indiana shore.

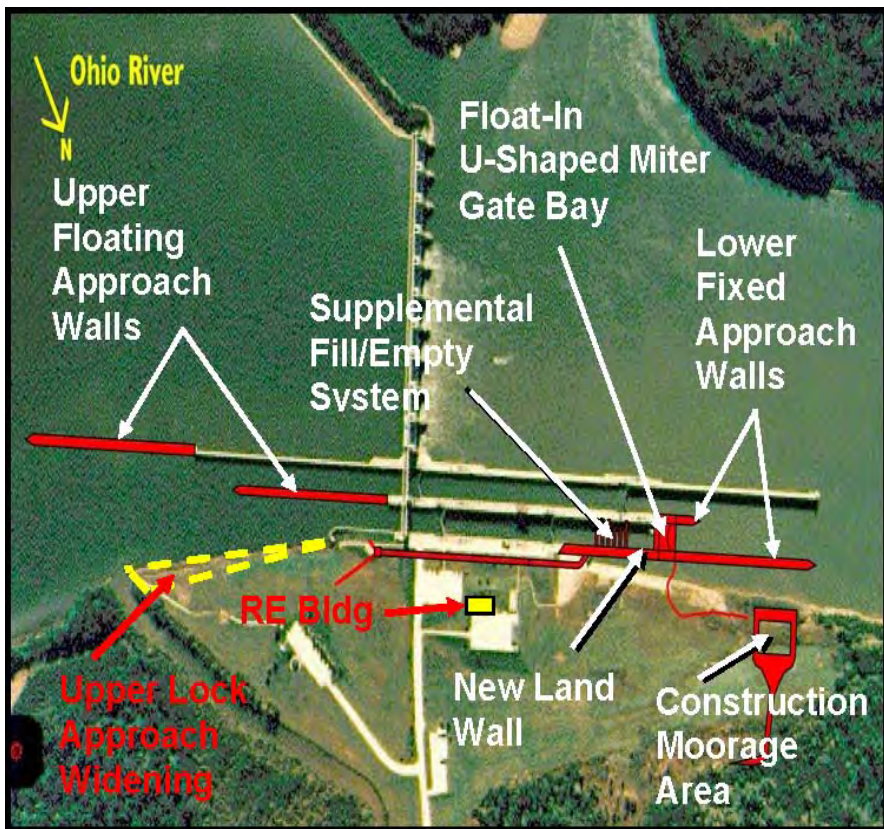
Project Description: The John T. Myers Lock Extension Project will extend the existing 600-foot long auxiliary lock chamber to a 1,200-foot long lock chamber. This effort will give the navigation facility twin 1,200-foot locks for inland navigation tow traffic. This additional lock capacity will enable the facility, in operation since 1969, to manage tow traffic during planned and unscheduled main lock closures without significant delays to inland navigation. Many contracts are required to design and construct the project. Preconstruction, Engineering and Design (PED) efforts since 2000 have included hydraulic model studies and engineering analysis and foundation explorations towards preparation of project plans and specifications.

In September 2004, the Corps awarded the first site preparation contract for construction of an Operations Support Facility. Those construction activities were completed in late 2005. The remaining site preparation contracts will include: a) excavation of the river bank to widen the upper lock approach; b) construction of a Resident Engineer's building; c) miter gate storage area, with spare gate; and d) implementation of aquatic mitigation. Based upon physical modeling, it is necessary to widen the upper approach area for downbound entry of commercial towing vessels into the extended auxiliary lock chamber. The spare miter gate will allow the Corps to expedite both scheduled maintenance activities and emergency repairs to the existing lock miter gates. Environmental mitigation will involve installation of a series of in-water features, over three consecutive summer and fall low water seasons, to enhance aquatic habitat in the nearby vicinity of the project. Upon receipt of additional funding the Corps would proceed towards award of the remaining contracts. The Corps plans to award two contracts to construct the lock extension and its new approach walls.

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Project Status: The Corps of Engineers has suspended design of the project until receipt of additional funds. The American Recovery and Reinvestment Act of 2009 provided the Corps of Engineers with funding to award the contracts for construction of the upper lock approach widening and Resident Engineer's building. The approach widening contract was awarded on December 17, 2009 and was substantially complete in July 2012. The Resident Engineer's Building was awarded on March 31, 2010, and was substantially complete in December 2011.

The construction of the remaining work will be accomplished by award of both fully and incrementally-funded contracts. The schedule will be developed upon receipt of additional funds.

<u>Award FY</u>	<u>Contract Funding</u>	<u>Description of Contract Work</u>
2010	Fully Funded	Upper Bank site prep and Access Road (ARRA-funded)
2010	Fully Funded	Construction of Resident Engineer's building (ARRA-funded)
TBD	Fully Funded	Spare miter gate and storage area
TBD	Fully Funded	Aquatic mitigation
TBD	Incremental	Construction of lock extension
TBD	Incremental	Construction of lock approach walls

Non-Federal Sponsor: The project is cost shared 50/50 with the Inland Waterways Trust Fund.

Where We Are Now: Awaiting funds to continue design and construction of the lock extension project.

Issues and Other Information: The John T. Myers project passes the highest tonnage of all the Ohio River high lift locks with a 600-foot auxiliary chamber. Currently, approximately 73 million tons of commodities were shipped through the J. T. Myers locks in 2010. The project authorization was a product of the Ohio River Mainstem Systems Study, which used a regional systems approach to address the investments needed to provide an efficient navigation system on the Ohio River mainstem through 2060. This project represents a reinvestment in the river transportation infrastructure.