

# KENTUCKY LOCK ADDITION

Inland Waterways Users Board Meeting No.  
104

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Nashville District

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# STATUS: FROM AUGUST 2024 TO PRESENT



- Team was working on the operational contract package, using an integrated design and construction acquisition. Contract award was planned for FY25.
- IDaC requires the following approvals:
  - Acquisition Plan
  - Business Case (Technical)
  - Business Case (Programs)
  - Full Funding
- The preliminary FY24 TPCS Update indicates the cost to complete the project has increased significantly; therefore, the IDaC acquisition strategy is no longer plausible.
- HQUSACE commissioned an Engineering Technical Review (ETR).
- The USACE Inland Navigation Design Center (INDC) is conducting a design review and validation.
- INDC will become Designer of Record for Kentucky Lock

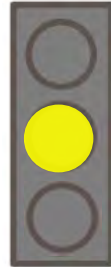
# KENTUCKY LOCK ADDITION–BLUF STATUS / DASHBOARD

## PROJECT SAFETY



Downstream Lock Monolith CT  
*\*Over one-million-man hours  
without a lost time accident*

## PROJECT STATUS SUMMARY

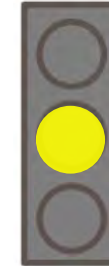


Downstream Lock Monolith  
Construction Complete: **July 2027**

KY Lock Operational  
Lock Operational Date: **TBD**

**Next Major Contract Award(s):**  
Lock Construction Contract – **2025**

## FINANCIAL STATUS SUMMARY



Design is on budget  
Planned: **\$790.4M**  
Earned: **\$782.4M**  
Actual: **\$802.2M**  
Cost Performance Index: **.98**

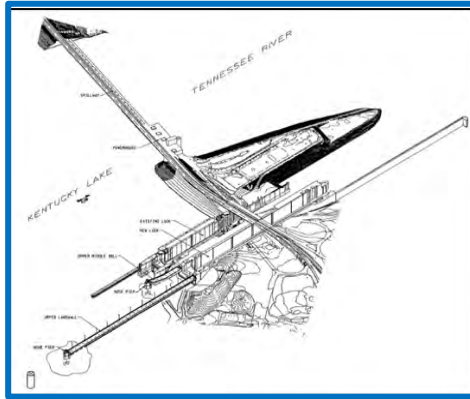
## EXECUTIVE SUMMARY:

- Downstream Lock Monolith – On track to complete in **July-2027**.
- The preliminary FY24 TPCS Update indicates the cost to complete the project has increased significantly.
  - The Team is working to determine impacts to cost, funding and schedule.
    - HQUSACE commissioned an Engineering Technical Review (ETR).
    - The USACE Inland Navigation Design Center (INDC) is conducting a design review and validation.
- Nashville District is no longer pursuing approval to use an integrated design and construction (IDaC) acquisition.
  - The Team is working to determine alternate courses of action utilizing Design Bid Build (DBB) acquisition.
  - Contract award planned for 2025, is dependent on receiving \$218M earmark

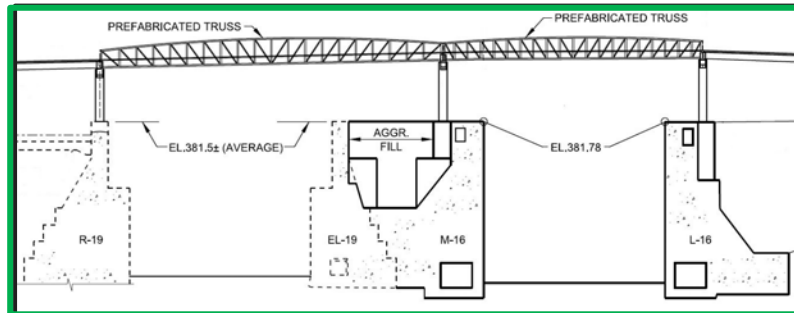




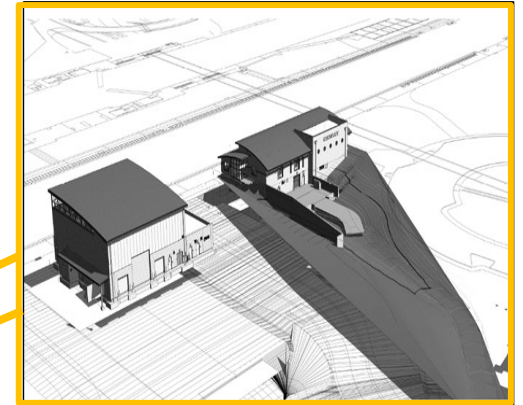
# KENTUCKY LOCK REMAINING SCOPE



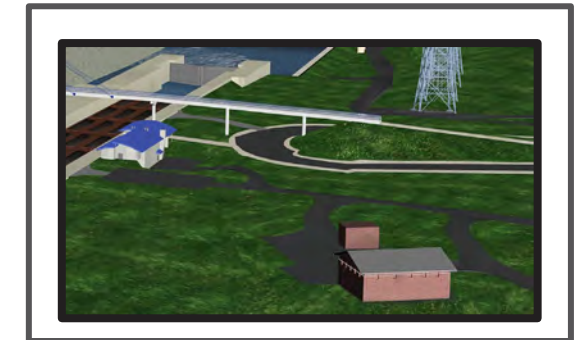
**A/E Tetra Tech Design**  
Downstream Approach Wall: 1200 ft  
Upstream Approach Walls: 350 ft and 1200 ft



**A/E Stantec Design – Middle Wall Access  
& Utility Bridges**



**Louisville District Design  
Maintenance &  
Operations Buildings**



**Nashville District Design  
Mechanical & Electrical  
& Site Development**



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- USACE will have more accurate funding/schedule projections once HQ Engineering Technical Review and Inland Navigation Design Center assessment is complete, and a new cost estimate is certified.



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# KENTUCKY LOCK ADDITION–FUNDING SUMMARY

Allocations:	ARRA (\$M)	CG (\$M)	IWTF (\$M)	BIL (\$M)	Total (\$M)
Prior to FY 2017:	\$88.8	\$229.3	\$189.6	NA	\$507.8
FY18 Allocation:	NA	\$20.6	\$20.6	NA	\$41.2
FY19 Allocation:	NA	\$21.8	\$21.8	NA	\$43.6
FY20 Allocation:	NA	\$30.5	\$30.5	NA	\$61
FY21 Allocation:	NA	\$71.5	\$38.5	NA	\$110.1
FY22 Allocation:	NA	\$0	\$0	\$465.5	\$465.5
FY23 - 24 Allocation:	NA	\$0	\$0	\$0	\$0
Total to Date:	\$88.83	\$373.9	\$301.1	\$465.5	\$1,229.3
Remaining TPC Balance:					TBD

Total Project Cost (TPC)	TBD	FY24 Price
Authorized Cost:	\$1,229 M	WRDA 2020
Escalated Cost:	\$1,397 M	FY22 Price
902 Limit:	\$1,720 M	Nov 2024
PED Cost:	\$9.2 M	FY97
EDC Cost:	\$131.6 M	17 May 2024
S&A Cost:	\$38.4M	17 May 2024

## Fiscal Year Funding Scenario Breakout:

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2036	TOTAL
Efficient	\$332M										TBD
Capability	\$218M	\$114M	TBD	TBD							TBD

\* The minimum funding required to award in 2025 is \$218M

\*\* The Future Annual Efficient funding stream will be updated after the Engineering Technical Review is complete, and cost estimate is certified.



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# KENTUCKY LOCK ADDITION–ISSUES/CHALLENGES



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- **Challenge:** Nashville District's Integrated Project Office identified design assumptions that did not fully address constructability issues. A comprehensive review of outstanding design components identified several inaccuracies that impact the project's timeline and overall cost.
- **Mitigation Strategies:**
  - HQUSACE commissioned an Engineer Technical Review (ETR) to examine cost estimates, including design contingency, and certify delivery plan for the project accounting for new acquisition strategy and updated project schedule.
  - The USACE Inland Navigation Design Center (INDC), is conducting a design review and validation during their transition into the designer of record (DOR).
  - Nashville District has requested an independent construction estimate, external to USACE.
  - Nashville District is developing courses of action for execution and operational date based on anticipated funding scenarios.
  - Follow up with Industry partners to communicate change in acquisition strategy and timing of solicitation.
  - Update 902 Limit



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# KENTUCKY LOCK ADDITION–ISSUES/CHALLENGES



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- **Challenge:** Maintaining July 2029 Lock Operational date with change in acquisition strategy and funding uncertainties
- **Mitigation Strategies:**
  - Finalize TPCS update and certify
  - Continued engagement with Navigation partners to minimize impacts to navigation during construction of new lock





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# KENTUCKY LOCK ADDITION – LOOK AHEAD



- **Progress:** Downstream Lock Monoliths Contract
  - Construction Completion July 2027
  - Concrete Production: 38% Complete, over 141K CY
    - 11,000 CY in November '24
    - 12,000 CY in October '24
  - Offsite Miter Gate Fabrication: 75.8% Complete
  - Drilled shaft installation is underway, with 16 of 20 shafts in progress.
  - Thalle achieved ~1.5 Million manhours without a lost time accident.
  - Topped out first monolith
- **Progress:** KY Lock Construction Contract
  - Scheduled for Award – 2025

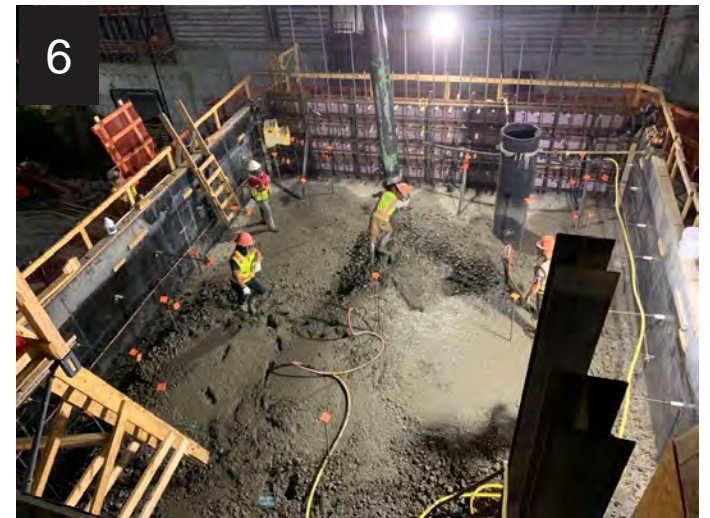
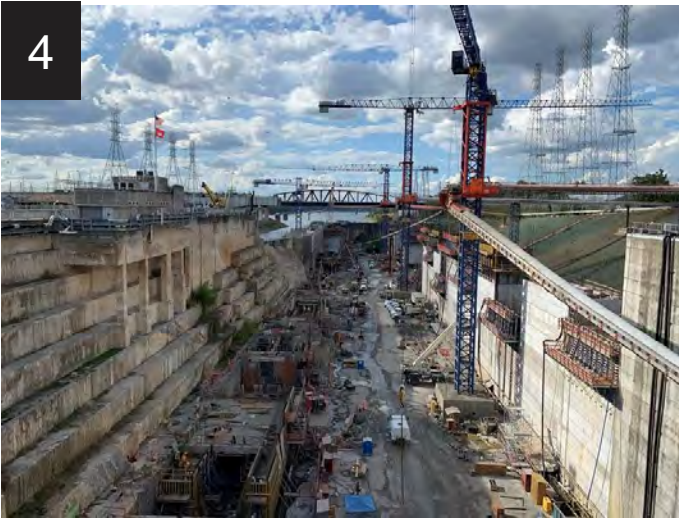


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# KENTUCKY LOCK ADDITION-PROGRESS



1. Drilled Shaft Installation – M20-P3   2. Top-Out of Monolith L31   3. Concrete Placement – L25-7  
4. Downstream Monolith Progress   5. Phase II Excavation of Checkerboard   6. Concrete Placement – L10-17





# KEY TAKEAWAYS

- USACE understands the importance of delivering a reliable project which will increase efficiency and reliability of the inland navigation system as quickly and cost effectively as possible
- We are seeking every opportunity to achieve the earliest possible operational date of the new lock to provide return on investment to the industry
- We will continue to engage and communicate with industry partners to minimize negative impacts to navigation throughout the remainder of the construction process





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# THANK YOU

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company





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# BACKUP SLIDES



# KENTUCKY LOCK - OVERVIEW



## Authorization:

- Water Resources Development Act (WRDA) of 1996 (P.L 104-303)
- Reauthorized in WRDA 2020 (P.L. 116-260)

## Purpose/Description:

Construction of a new 110' x 1200' lock addition at Kentucky Lock. The existing navigation lock is too small to meet current and future traffic demands without significant delays. The new Lock will accommodate 15 barges (Max amount allowed on TN river) per lockage as opposed to the existing 110 ft x 600 ft lock's 9 barge per lockage Kentucky Lock's delays are among the highest in the country.

## Schedule:

	Original	Current
Lock Operational (Online)	SEP-2025	JUL-2029
Project Completion Date (Base Schedule)	MAY-2028	SEP-2030
(80% Confidence Level) Project Completion Date = March 2033		

## Cost:

Cost Estimate = \$1,561,073,000 (FY2022 Price Level). Certified 21-Apr-2022

Note: LRN performed an interim Total Project Cost Estimate (Not Certified) on 25-May-2023. No significant changes were identified. LRN plans to conduct a full certified Cost Estimate in 4<sup>th</sup> Quarter 2024.

Section 902 Limit = \$1,630,303,000 (FY2022); \$1,720,858,000 (FY2024\*)



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# KENTUCKY LOCK ADDITION - SCOPE

Total Project Cost Estimate – \$1,561M (2022 TPCS)  
\$769,990,556 Expended thru 30 June 2024



## Remaining Project Scope:

Approach Walls (AWC)  
E/M, Buildings, Bridges, Utilities (EMBC)  
East Bank Development (EBSD)

## Current Contracts:

**DS Monoliths (\$380M) – CCD July 2027**

**DS Excavation (\$54.8M) – Complete OCT 2022**

**DS Cofferdam (\$67.1M) – Complete MAR 2021**

## Closed Contracts:

**Bridge Substructures (\$44M) – Complete MAR 2006**

**US Cofferdam (\$17M) – Complete NOV 2006**

**Bridge Superstructures (\$104M) – Complete JUL 2014**

**US MG Fab (\$5.6M) – Complete DEC 2016**

**US Lock (\$110M) – Complete FEB 2017**

**Site Demo Utilities (\$4.6M) – MAR 2019**

Completed

Current

Future