

Chickamauga Lock Update Inland Waterways Users Board Meeting No. 89

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Chickamauga Lock Replacement

- **Bottom Line Up Front**
 - ▶ **Lock Excavation Construction**
 - Nearing Completion
 - ▶ **Lock Chamber Construction**
 - Concrete Trial Batching Proceeding Well, Developing Plan for Options Exercised in FY2018.
 - ▶ **Project Included in America's Water Infrastructure Act of 2018.**
 - New Authorized Cost = \$757,666,000 (FY18 Price Level)

CHICKAMAUGA LOCK PROJECT OVERVIEW

Road & Bridges - \$6M
Completed Feb 2007

Site Restoration
Award scheduled: Sep '23

Approach Walls & Decommissioning
Award scheduled: Sep '21

Contract Legend

Completed

Current

Future

Lock & Associated Facilities	\$752M
Road and Bridges	6M
Total	\$758M (Oct '17 P.L.)

\$240.2M Expended thru Sep 2018 = 32% completed

Bridge Fabrication - \$400K
Completed June 2011

Gates & Valves - \$17M
Awarded Sep 2009, Comp 2012

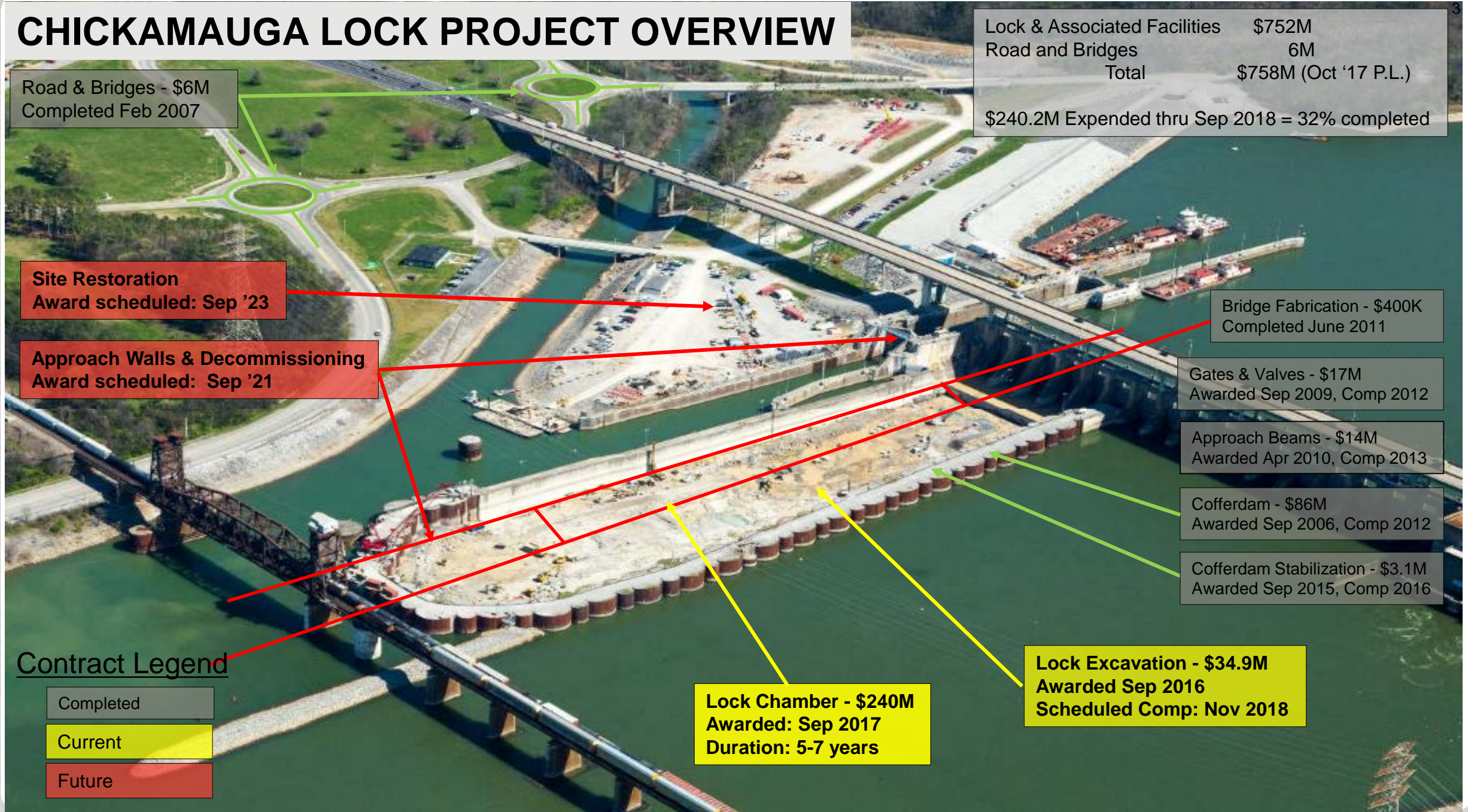
Approach Beams - \$14M
Awarded Apr 2010, Comp 2013

Cofferdam - \$86M
Awarded Sep 2006, Comp 2012

Cofferdam Stabilization - \$3.1M
Awarded Sep 2015, Comp 2016

Lock Chamber - \$240M
Awarded: Sep 2017
Duration: 5-7 years

Lock Excavation - \$34.9M
Awarded Sep 2016
Scheduled Comp: Nov 2018



Lock Excavation Contract – Oct 2018



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- Contract Award Sep 2016 – \$34.9M
- Scheduled completion date - Nov 2018

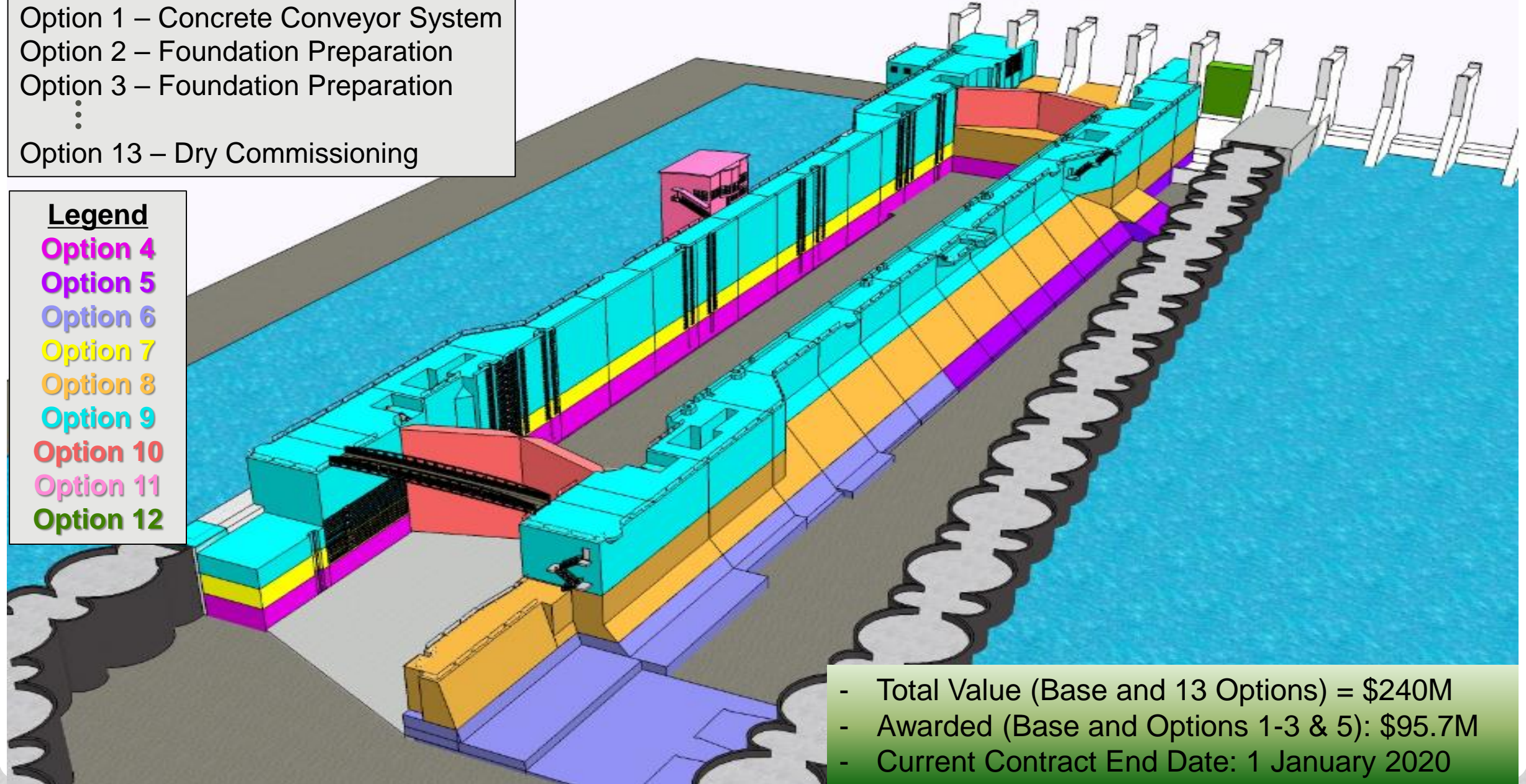


Lock Chamber Construction Contract

Option 1 – Concrete Conveyor System
Option 2 – Foundation Preparation
Option 3 – Foundation Preparation
⋮
Option 13 – Dry Commissioning

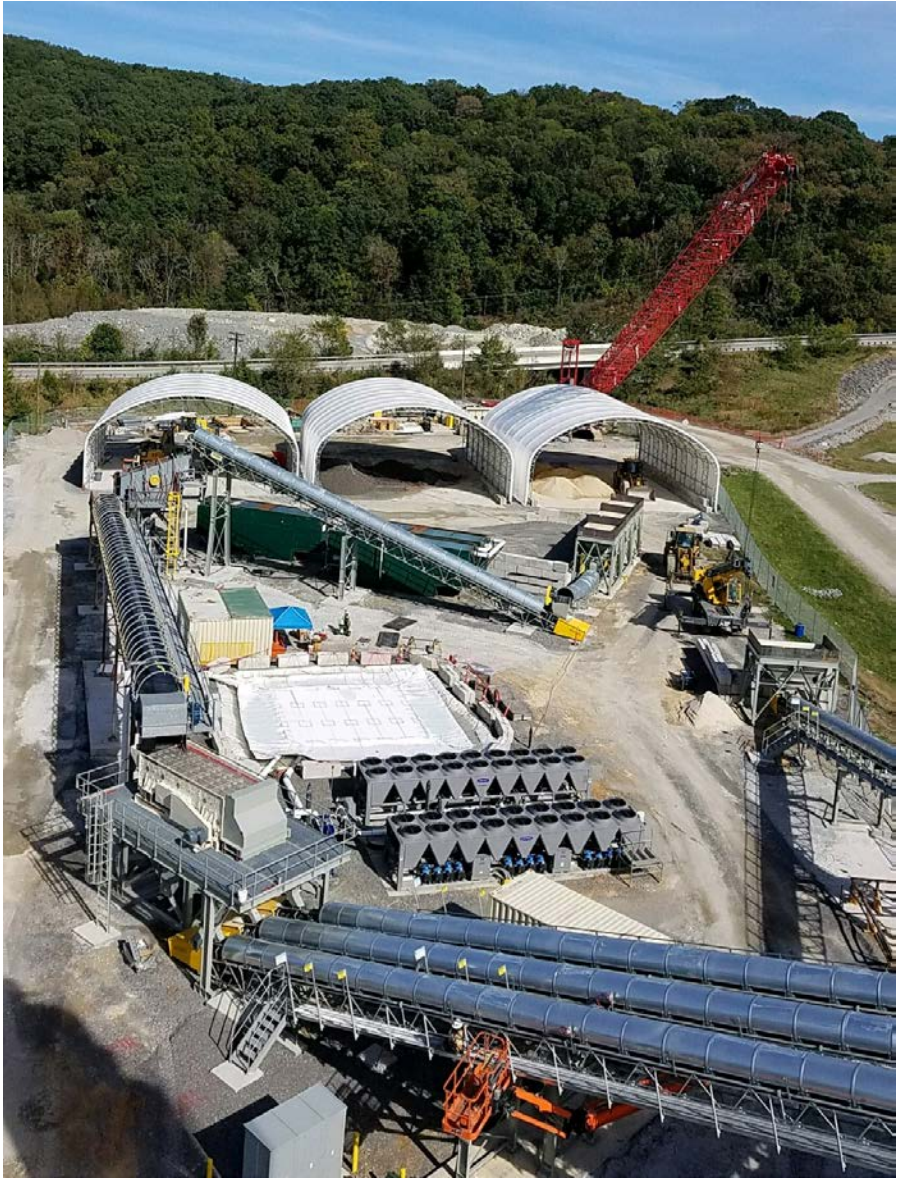
Legend

Option 4
Option 5
Option 6
Option 7
Option 8
Option 9
Option 10
Option 11
Option 12



- Total Value (Base and 13 Options) = \$240M
- Awarded (Base and Options 1-3 & 5): \$95.7M
- Current Contract End Date: 1 January 2020

Lock Chamber Contract – Oct 2018



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Lock Chamber – Concrete Delivery System

Preliminary Plan



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Chickamauga Lock & Dam, Tennessee River, TN

	ARRA	CG	IWTF	Total
Total Project Cost (TPC):				\$757,666,000 ¹
Allocations through FY2014:	\$49,307,619	\$65,349,036	\$68,161,965	\$182,818,620
FY15 Allocation:	\$0	\$1,500,000	\$1,500,000	\$3,000,000
FY16 Allocation:	NA	\$14,800,000	\$14,800,000	\$29,600,000
FY17 Allocation:	NA	\$20,000,000	\$20,000,000	\$40,000,000
FY18 Allocation:	NA	\$38,250,000	\$38,250,000	\$76,500,000
FY19 Budget:	NA	\$0	\$0	\$0
Total Allocations to Date:	\$49,307,619	\$139,899,036	\$142,711,965	\$331,918,620
Remaining TPC Balance:				\$425,747,380
Remaining Balance Change From Last Meeting				\$0

Note: ¹Cost & Schedule data reflect the FY2018 risk based total project cost update, Fully Funded, assuming Dec 2024 completion.

Changes

None

Funding Overview

- Authorized Cost: \$757,666,000 (Oct 17 \$)
- 902 Limit: \$909,199,200 (Oct 17 \$)
- ARRA Funds: \$ 49,307,619 (total FY09-12)
- Engineering & Design Cost: \$ 55,230,000 (thru FY18)
- Supervision & Admin Cost: \$ 9,153,000 (thru FY18)
- Mitigation Cost: TBD

Current Status of the Project

- Lock Chamber contract (Base and Options 1-3 & 5) valued at \$95.7M; 18% financially complete.
- Lock Excavation (LE) contract is 79% financially complete.
- ASA(CW) approved PACR on 12 Oct 2018.
- Project reauthorized in America's Water Infrastructure Act of 2018.

Next Steps

- Complete rock excavation/inspection on LE contract.
- Exercise Lock Chamber contract options in FY19.
- OMB review of PACR.

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Chickamauga Lock & Dam, Tennessee River, TN

Schedule of Remaining Work	Design Initiated	Contract Award	Construction Complete *	Project Benefits**	Capitalized Cost Closeout
Task 1 – Approach Walls Fabrication	30-Mar-04	05-Apr-10	08-Mar-13		
Task 2 – Cofferdam Stabilization	31-Sep-05	25-Sep-15	18-Jul-16		
Task 3 – Lock Excavation	31-Sep-05	26-Sep-16	Nov 2018		
Task 4 – Lock Chamber	11-Aug-05	28-Sep-17	May 2023		
Task 5 – Approach Walls and Decommission	11-Aug-05	30-Sep-21	Dec 2024	Sept 2023	
Task 6 – Site Restoration	11-Aug-05	30-Sep-23	Dec 2024		

*Dates are achievable based on the most efficient funding profile.

**Based on June 2018 Certified cost estimate Cost and Schedule Risk Assessment, the project has an 80% confidence level of being completed by Jan 2027. Primary driver for the 25 months of schedule contingency is the funding stream uncertainty.

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Chickamauga Lock - FY 2018 Work Plan Funding

FY 18 Allocation	Contract Actions	Contract Cost	Contingency Amount	Contract Admin Costs*
\$76.5M	Exercised Lock Chamber Options 1, 2, 3, 5	\$66.5M	\$3.7M	\$6.3M

* Includes \$725K for Lock Excavation Contract

- Project FY19 Carry-in = \$9.3M (Includes funds from FY's 2014-2018)

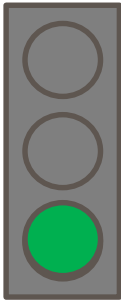
Chickamauga Lock – Future Funding Amounts

- **Efficient Funding: \$77.7M**
 - Exercise Lock Chamber **Options 4 & 6-8**.
 - Progresses mass concrete placements for replacement lock.
- **Capability Funding: \$117.7M**
 - Exercise Lock Chamber **Options 4 & 6-9**.
 - Includes all mass concrete placement options.
 - Allows contractor to complete concrete placements in **most efficient manner, reduces risk of contract delay**.

Efficient Funding					
FY19	FY20	FY21	FY22	FY23	FY24
\$77.7M	\$104.3M	\$71.5M	\$65.0M	\$78.2M	\$25.8M

Chickamauga Lock Project

Time and Cost Scorecard



Expenditures	30 Sep
Planned (BCWS)	\$240.2M
Earned (BCWP)	\$240.2M
Actual (ACWP)	\$240.2M

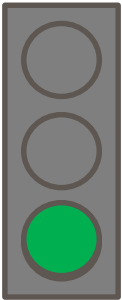
BCWP: Reports the value (based on % complete) of the work performed to date.

Target:
Actual as compared to Planned: (<1% = Green) (>1%and <3% = Yellow) and (>3% = Red)

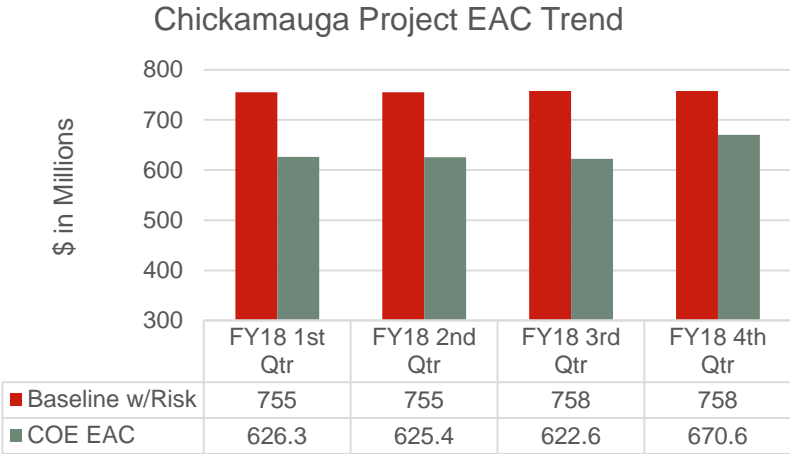
Schedule	30 Sep
	(Baseline)/(Current)
Project Complete	May 2028 / Dec 2024
Lock Operational	Nov 2027 / Sept 2023

Measures: Planned project completion and Lock operational dates

Target: PACR Anticipated in FY18.



Budget



Major Activity Schedule

Activity	Baseline	Current
PACR – ASA (CW) Approval	18 Oct 2018	12 Oct 2018 (A)
PACR – OMB Approval	16 Jan 2019	16 Jan 2019
Lock Excavation – Contract Complete	2 Nov 2018	6 Nov 2018
Lock Chamber – Current Contract Completion Date	1 Jan 2020	1 Jan 2020

Chickamauga Lock Project Schedule

Major Project Activity	Start/Award	Complete ¹
Lock Excavation Construction Contract	Sep 2016	Nov 2018
Lock Chamber Construction Contract	Sep 2017	May 2023
Approach Walls & Decommission Contract	Sep 2021	Dec 2024
Site Restoration Contract	Sep 2023	Dec 2024
Updated Certified Total Project Cost Estimate	N/A	21 June 2018 (A)
PACR Approved at ASA(CW)	N/A	12 Oct 2018 (A)
Reauthorization in AWIA of 2018	N/A	23 Oct 2018 (A)

Note: **Red** indicates revised date from previously report.

¹ Assumes no risk. 80% confidence schedule adds 25 months to project completion date.

Chickamauga Lock Summary and Challenges

- Lock Excavation contract is nearing completion.
- Lock Chamber contract ramping up.
 - **Efficient annual funding is CRITICAL in FY19 and beyond** to maintain viable Lock Chamber contract.
- **Post Authorization Change Report**
 - Approved by ASA (CW) 12 Oct 2018.
 - AWIA of 2018 included project re-authorization at \$757,666,000 (FY18 Price Level).
 - OMB approval anticipated in Jan 2019.