Olmsted Locks & Dam

Inland Waterways Users Board

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DIRECTOR, Programs

Great Lakes & Ohio River Division

18 November 2014



US Army Corps of Engineers

BUILDING STRONG



Agenda

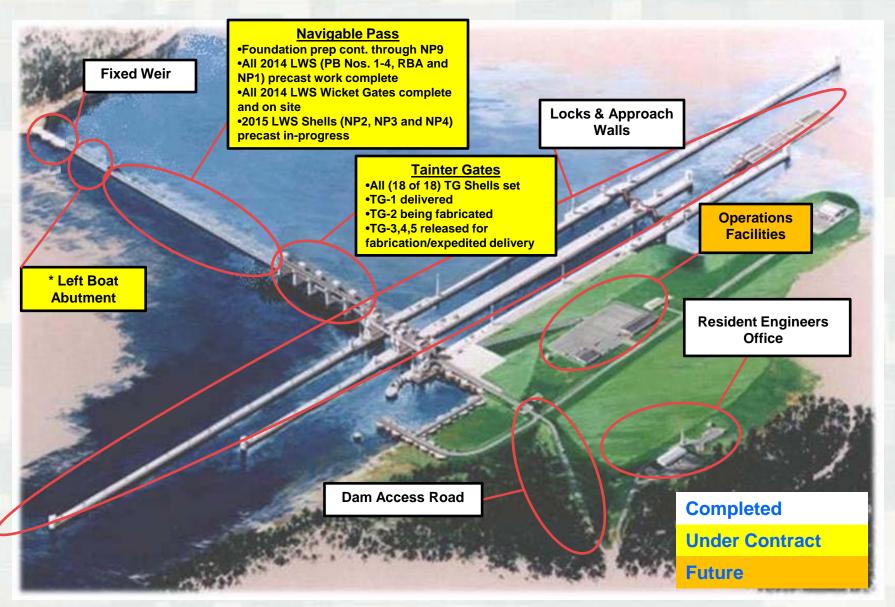
Status

- Overview
- ▶ Dam Re-Baseline Plan
- ▶ 2014 LWS Milestone Update
- ▶ 2014 LWS Summary To Date
- ► 2014 LWS Images
- ▶ Scorecard
- ▶ Deferred Demolition L&D Nos. 52/53
- ▶ Future Challenges

Discussion



Olmsted Project Overview



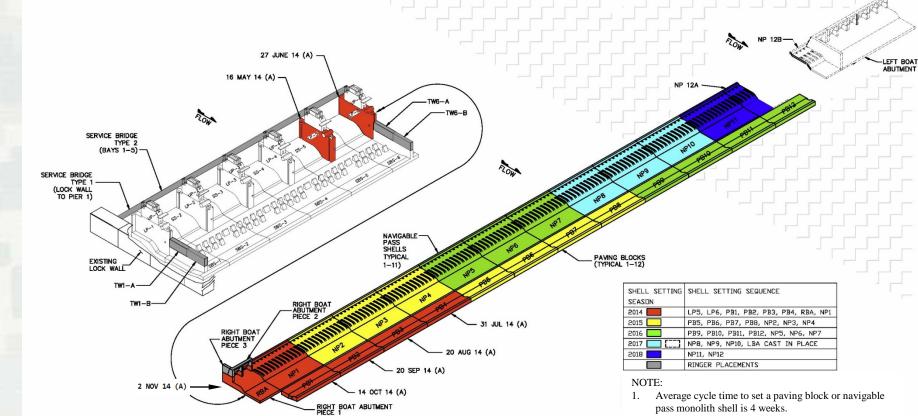
Olmsted Dam - Plan

RINGER BARGE PLACEMENT	2		
SHELL	WEIGHT (TONS)		
RBA PIECE 2	372		
RBA PIECE 3	81.5		
TW1-A	347		
T1-B	302		
TW6-A	308		
TW6-B	316		
SERVICE BRIDGE TYPE 1	118		
SERVICE BRIDGE TYPE 2	283		

11	TOTAL	RINGER	PLACEMENTS
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SHELL	WEIGHT (TONS)
RBA PIECE 1	2511.5
NP 1-11	4955
NP 12A	(4785.7) 1/2
PAVING BLOCKS 1-12	2562

ACI	RONYM LEGEND
LP	- LOWER PIER
TG	- TAINTER GATE
SB	- SERVICE BRIDGE
GM	- GROUT MAT
FΡ	- FOUNDATION PILE
M/:	SP - MASTER/SHEET PILE
RB	A - RIGHT BOAT ABUTMENT
PB	- PAVING BLOCK
NP	- NAVIGABLE PASS (MONOLITH)



2014 LWS Milestones

- Scheduled Milestones
 - Set LP-5 (complete)
 - Set LP-6 (complete)
 - Set PB # 1-4 (12) (complete)
 - Erect TG #1 (underway)
 - Set RBA (complete)
 - Set NP #1 (12) (on schedule for 25 Nov)
- Preparatory Milestones
 - Install Grout Mat (thru NP #9)
 - Drive Foundation Pile (thru NP #2)
 - Drive M/S Pile (thru NP #4 U/S, NP #4 D/S)
- Stretch Goal Milestone
 - Set NP #2 (12)

Legend

LP – Lower Pier

TG – Tainter Gate

SB - Service Bridge

GM – Grout Mat

FP - Foundation Pile

M/S – Master/Sheet

RBA – Right Boat Abutment

LBA – Left Boat Abutment

PB – Paving Block

NP – Nav Pass Shell (Monolith)



2014 LWS Summary

Pre-cast Yard:

- ▶ All TG (Tainter Gate) shells complete (18/18)
- ▶ NP (Navigable Pass) shells RBA and NP1 complete (2/13)
- ▶ PB (Paving Block) Nos. 1 4 complete (4/12)

Heavy Lift:

- ► All TG shells set (18/18)
- ▶ PB Nos.1 4 set (4/12)
- ▶ TG-1 Erection in Progress

Marine:

- ▶ All TG foundation pile and master/sheet pile complete
- ▶ TG/NP transition piling complete
- ▶ D/S M/S pile PB4 through RBA complete, RBA End Wall, U/S Thru M-3
- ▶ NP-1, RBA foundation piling complete
- ► Silt/Sediment mitigation (Dredge Hurley) complete
- ► Foundation/Drainage stone through NP 6 (50% of NP footprint) complete
- ▶ Grout mat through NP 5 (41% of NP footprint) complete

TG Upper Pier:

- ▶ UP (Upper Pier) Nos. 1 and 2 all concrete work complete (machinery house remaining)
- ▶ UP Nos. 3 and 4 trunnion anchorage on-going
- UP Nos. 5 and 6 infill concrete on-going

Off Site Fabrication:

- ▶ TG -1 delivered to site 29 Sep 2014. Erection underway. TG-2 fabrication is 32% complete.
- NP-1 Wicket Gates installed. 36 total Wicket Gates delivered to site (sufficient to support all 2014 LWS scheduled and stretch goal setting milestones)

Legend

LP – Lower Pier

TG - Tainter Gate

SB - Service Bridge

GM – Grout Mat

FP - Foundation Pile

M/S - Master/Sheet

RBA – Right Boat Abutment

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PB – Paving Block

NP - Nav Pass Shell (Monolith)



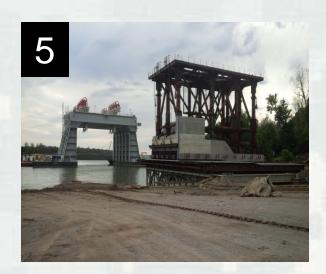
2014 LWS Images













Aerial Photo - August 2014
 TG-1 transitting L&D 52
 Testing NP-1 Wicket Gates
 Setting bulkheads Bay No. 1
 RBA moving down skidway
 Setting RBA/Erecting TG-1



Olmsted Project Time and Cost Scorecard – Sept 2014



Expenditures

Planned (BCWS) \$1.819B Earned (BCWP) \$1.822B Actual (ACWP) \$1.806B

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

Target:

Est. w/risk

3.039

Actuals as compared to Planned: (<1% = Green) (>1% and <3% =

Yellow) and (>3% = Red)

Schedule

Project Complete Dam Operational

(PACR)/(Current) Sep 2024/Mar 2022

Sep 2020/Oct 2018



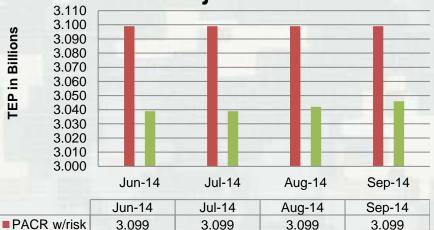
Measures: Planned project completion and Dam contract operational dates

Target:

Green: Current = PACR-12 months

Yellow: Current = PACR-11 months to PACR-7 months Red: Current = PACR-6 months to after PACR date

Olmsted Project TEP Trend



3.039

3.042

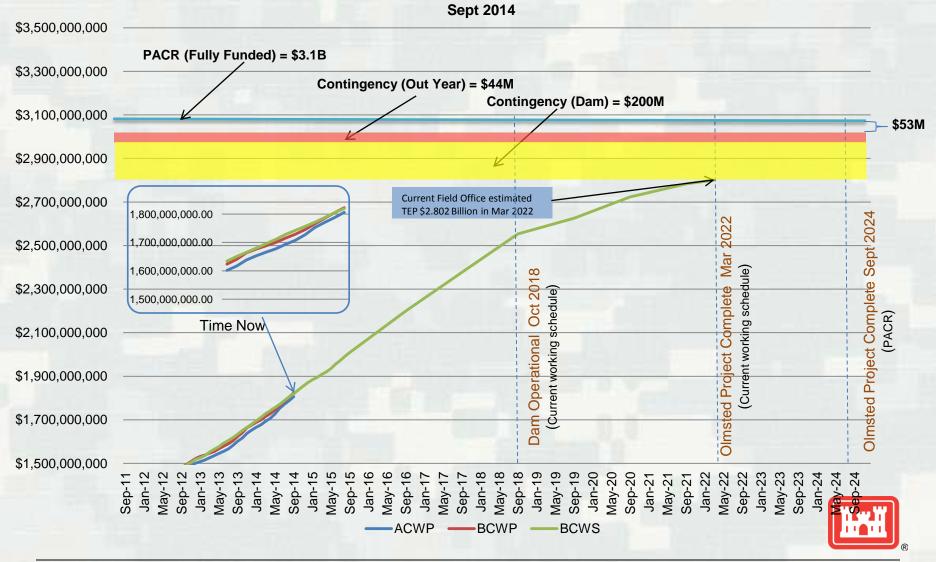
3.046

Olmsted Major Activity Schedule

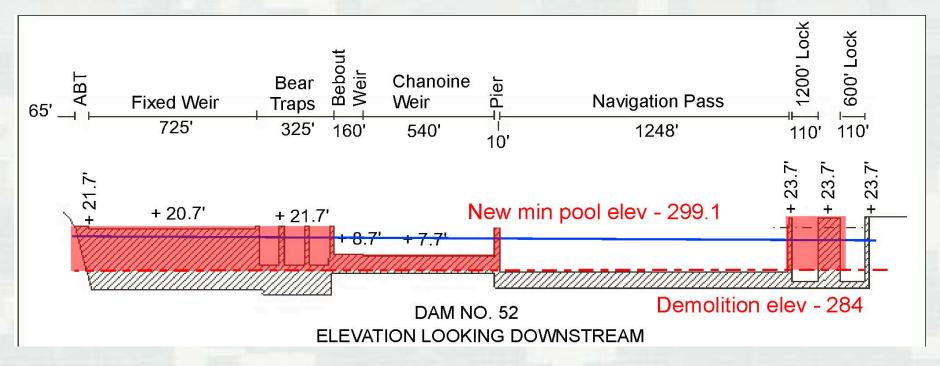
CIPUP-3	23-Dec-14	Nov Dec Jan Feb Mar Apr
DP UP-4	23-Dec-14	CIPUP-4
M-1 Inst Lifting Frame on NP-1	06-Nov-14	M-1 Inst Lifting Frame on NP-1
RBA Clean found site as required	31-Oct-14	BA Clean found site as required
1-2 Inst M&S Piles, U/S 19-30 (69)	30-Oct-14	2 Inst M&S Piles, U/S 19-30 (69)
BA Transfer verticl load of shell from Cat Barge to Landing Pile	02-Nov-14	RBA Transfer verticl load of shell from Cat Barge to Landing Pile
BA Pour Tremie Concr.915 cv +/-	05-Nov-14	RBA Pour Tremie Concr 915 cv/+/-
I-5 Inst Grout Mats with Equip NP 5 Footprint (Ringer)	11-Nov-14	M-5 Inst Grout Mats with Equip NP 5 Footprint (Finger)
BA Attach & pick Lift Frame with Cat Barge	10-Nov-14	RBA Attach & pick Lift Frame with Cat Barge
4-6 Inst Grout Mats with Equip NP 6 Footprint	17-Nny-14	M-6 last Grout Mats with Equip NP 6 Footdrint
1-1 Clean NP-1 found site as required	23-Nov-14	M; 1 Clean NP-1 found site as required:
1-2 Inst M&S Piles, U/S 19-30 (51)	14-Nov-14	■ M-2 Inst M&S Piles, U/S 1B-30 (51)
IP-2 Install Wicket Gates-12 ea	18-Nov-14	■ NP-2 Install Wicket Gates-12 ea
IP-2 Te st Wicket Gates-12 ea	18-Nov-14	■ NP-2 Test Wicket Gates 12 ea
-3 Inst M&S Piles, U/S 31-42	22-Nov-14	M-3 Inst M&S Piles, U/S 31-42
I-7 Inst Grout Mats with Equip NP 7 Footprint (Ringer)	22-Nov-14	M-7 Inst Grout Mats with Equip NP 7 Equip ne 7 Figotorint (Ringer)
1-8 Inst Grout Mats with Equip NP 8 Footprint (Ringer)	01-Dec-14	M-8 Inst Grout Mats with Equip NF 8 Footprint (Ringer)
I-1 Transfer vertid load of NP-1 shell from Cat Barge to Landing Pile	25-Nov-14	M-1 Transfer vertid: load of NP-1 shell from Cat Barge to Landing Pile
1-1 Pour NP-1 Tremie Conar.2.600 cv +/-	29-Nov-14	M-1 Pour NP-1 Tremie Concr. 2.600 cv +/-
I-9 Inst Grout Mats with Equip NP 9 Footprint (Ringer)	06-Dec-14	M-9 Inst Grout Mats with Equip NP 9 Footprint (Ringer)
I-1 Attach & pick NP Lift Frame with Cat Barge	02-Dec-14	M-1 Attach & pick NP Lift Frame with Cat Barge
I-4 Inst M&S Piles, U/S 43-54	11-Dec-14	M-4 Inst M&S Piles, U/S 43-54
I-2 Drive NP 2 Bearing Pile, Rows 18-29	07-Jan-15	M-2 Drive NP 2 Bearing Pile, Rows 18-29
1-5 Inst M&S Piles, D/S 55-66	19-Dec-14	■ M-5 Inst M&S Piles, D/\$ 55-88
-2 As-Build Landing Pile, NP-2	19-Dec-14	M-2 As-Build Landing Rile, NP-2
I-2 As-Build Remaining Field Pile, NP-2	19-Dec-14	M-2 As-Build Remaining Field Pile, NP-2
I-6 Inst M&S Piles, D/S 67-78	31-Dec-14	M-6 Inst M&S Piles, D/S 67-78
PS-3 Placement Complete	23-Dec-14	◆ UPS-3 Placement Complete
PS-4 Placement Complete	23-Dec-14	◆ UPS-4 Placement Complete
-7 Inst M&S Piles, D/S 79-90	12-Jan-15	M-7 Inst M&S Piles, D/S 78-90
-3 Drive NP Bearing Piles, Rows 30-41	27-Jan-15	M-3 Drive NP Bearing Piles, Rows 30-41
I-8 Inst M&S Piles, D/S 91-102	20-Jan-15	M-8 Inst M&S Piles, D/S 91-102
-3 As-Build NP 3 Landing Pile, 1/4" acc. w/Sleeve	29-Jan-15	M-3 As-Build NP 3 Landing Pile, 1/4" acc. w/Sleeve
1-3 As-Build Field Pile NP 3, 2" relative with Multi-Beam	29-Jan-15	M-3 As-Build Field File NP 3, 2" relative with Multi-Beam

Olmsted L&D Project Earned Value Analysis

(Based on DOD Gold Card)

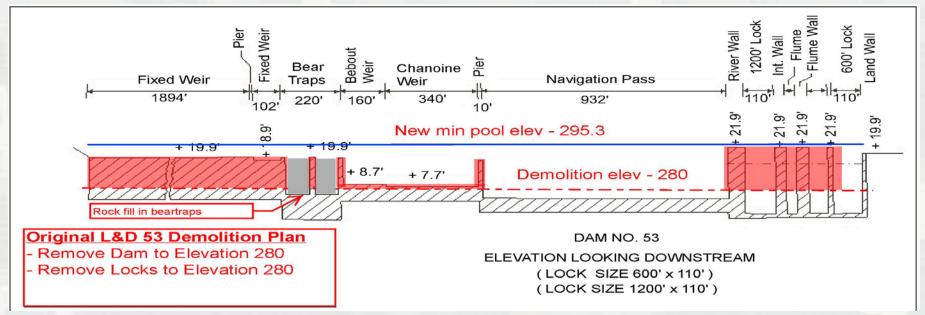


L/D 52 Deferred Demolition



Demo Plan	Scope of Work	Demo Est. Cost	*ROM Instant Savings CG(85%)/IWTF(15%)	Navigation Channel
Original Plan	Remove Locks and Dam	\$69 M	\$0	~3,000'
Alt #1	Locks and Dam remain	\$2 M	\$67 M	~1,200'
Alt #2	Remove bebout and chanoine weirs	\$11 M	\$58 M	~1,900'

L/D 53 Deferred Demolition



Demo Plan	Scope of Work	Demo Est. Cost	ROM Instant Savings CG(85%)/IWTF(15%)	Navigation Channel
Original Plan	Remove Locks and Dam	\$54 M	\$0	~4,000'
Alt #1	Remove bebout & chanoine weirs	\$9 M	\$45 M	~1,400'
Alt #2	Remove 1,200' lock, bebout & chanoine weirs	\$30 M	\$24 M	~1,700'

Future Challenges

- Efficient Funding Stream
 - Minimum of \$150M/year through 2020
 - Less than \$150M would have direct impact on the schedule
 - Optimal Funding of \$180M/year (FY15 /FY16)
- Passing Traffic as Work continues into the Navigable
 Pass Footprint



Discussion





