

Inner Harbor Navigation Canal Lock Replacement General Reevaluation Report and Supplemental Environmental Impact Statement

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**St. Bernard Parish Government Complex (Council
Chambers)**

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Chalmette, LA 70043

February 23, 2017



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US Army Corps of Engineers

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IHNC Lock Replacement GRR and SEIS

- Facility constructed by the Port of New Orleans (opened in 1923)
- 640 feet long by 75 feet wide by 31.5 feet deep* navigation lock
- 1944 - the federal government leases the lock and a 2.1-mile reach of the Inner Harbor Navigation Canal and assumes operation and maintenance
- 1986 – federal government purchases the lock and 2.1 mile reach in fee



*North American Vertical Datum 1988 (NAVD88)



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IHNC Lock Replacement GRR and SEIS Authorizations

- 1956 – Congress authorized replacement of the existing lock when economically justified
- 1986 – Modified 1956 authority identifying potential location of replacement lock in the area of the existing site or at Violet, LA



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IHNC Lock Replacement GRR and SEIS Plan Development

- Comments and input from a February 4, 2015 scoping meeting were considered in development of the integrated GRR/SEIS.
- Plans from prior reports, studies, etc., were reviewed and included as part of the integrated GRR/SEIS.
- From the scoping meeting input and review of prior or existing information, an initial array of alternatives was developed. See Table 3-1 of the draft report

	MREG New Lock and Connecting Channels Site Selection Report, March 1973	1973 Site Selection Report-post-Scoping	1973 Site Selection Report-1973 Plan List	1973 Site Selection Report-1973 Plan List Central Forward	1973 Site Selection Report Recommended Plan
1973	1973-1: The IHNC Existing Lock Site with Riprap Cutbank/Throttle Weir;				
	1973-2: The IHNC Site—east of old lock;	(a) IHNC Site—east of old lock (1973-2);	1974-1: The Inner Harbor Navigation Canal Site "A"—east of the old lock (1973-2);		
	1973-3: IHNC Site: center channel;	(b) IHNC Site—west of center channel (opposite Gabier St. Wharf) (1973-3);	1974-2: The Inner Harbor Navigation Canal Site "B"—east of channel center—opposite Gabier Street wharf (1973-3);	1974-3: The Inner Harbor Navigation Canal Site "B"—east of channel center—opposite Gabier Street wharf (1973-3);	
	1973-4: IHNC Site east of center channel;				
	1973-5: Savannah Site;				
	1973-6: Upper Site;				
	1973-7: Lower Site;	(d) Lower Site (1973-7);	1974-3: The Lower Site (1973-7);	1974-3: The Lower Site (1973-7);	1975: The Lower Site (Violet Site) (1974-3); 1973-7;
	1973-8: Lower Site barrier plan;				
	1973-9: The Curveson site;				
	1973-10: Savannah Site;	(c) Lower Site with IHNC land bridge (1973-12);	1974-4: The Lower Site with an IHNC land bridge (1973-12);		
	1973-11: Bohanna Site;				
	1973-12: IHNC land bridge with Lower Site;				
1973-13: IHNC land bridge with Curveson Site;					
1973-14: IHNC land bridge with Savannah Site;					
1979	1979 First Mini-Report: Elimination Rationale of the "Lower Site" Plan	1979 First Mini-Report: Plans for Further Evaluation	1992 Second Mini-Report: Alternative Plans	1992 Second-Report: Alternative Plans considered in Detail	1992 Second Mini-Report Recommended Plan
	1975: The Lower Site (Violet Site) (1974-3); 1973-7;	400 feet east of the existing lock; 200 feet east of the existing lock (conventional construction); 200 feet east of the existing lock (framed in w/ steel shell); 200 west of the existing lock (conventional and framed in w/ steel shell); In-situ framed-in lock (concrete); In-situ framed-in (steel shell); Earth chambered lock with framed-in water gates.	Plan 1 - 200-Foot East of Existing Lock-Conventional Construction, with mid-level replacement bridge at St. Claude and Calhoun Avenue; Plan 2 - 200-Foot East of Existing Lock-Steel Plan-In Construction, with mid-level replacement bridge at St. Claude and Calhoun Avenue; Plan 3 - 200-Foot West of Existing Lock-Conventional Construction, with mid-level replacement bridge at St. Claude and Calhoun Avenue; Plan 4 - In-situ Replacement-Revised Deck Construction, with mid-level replacement bridge at St. Claude and the existing Calhoun Avenue Bridge; Plan 5 - North of Calhoun Avenue Location-Steel Plan-In Construction, with mid-level replacement bridge at St. Claude and the existing Calhoun Avenue Bridge; Plan 6 - North of Calhoun Avenue Location-Steel Plan-In Construction, with low-level replacement bridge at St. Claude and the existing Calhoun Avenue Bridge; Plan 7 - North of Calhoun Avenue Location-Steel Plan-In Construction, with low-level replacement bridge at St. Claude and a mid-level replacement bridge at Calhoun Avenue; Plan 8 - North of Calhoun Avenue Location-Conventional Construction, with low-level replacement bridge at St. Claude and existing Calhoun Avenue Bridge;	Plan 1 - 200-Foot East of Existing Lock-Conventional Construction, with mid-level replacement bridge at St. Claude and Calhoun Avenue; Plan 6 - North of Calhoun Avenue Location-Steel Plan-In Construction, with low-level replacement bridge at St. Claude and the existing Calhoun Avenue Bridge;	
2003	1997 Evaluation Report: Plans	1997 Evaluation Report: NEID Plan	1997 Evaluation Report: Recommended Plan/Locally Preferred Plan	2003 Final Supplemental EIS	2003 Final General Reevaluation Report: Plans Considered
	3. No Action/Continued Operation of the Existing Lock (Plans without the project); 4. Construction of a new bridge at St. Claude Avenue (previously referred to as the Bridge Only Alternative); 5. Construct new lock at North of Calhoun Avenue site in IHNC. As part of this alternative, lock sites evaluated at the North of Calhoun Avenue site consisted of various lock dimensions (width from steel structure to concrete structure): a. 900' x 110' x 22' (NGVD); b. 900' x 110' x 22' (NGVD); c. 900' x 110' x 30' (NGVD); d. 1,200' x 110' x 22' (NGVD); e. 1,200' x 110' x 22' (NGVD); f. 1,200' x 110' x 30' (NGVD);	3b. 900' x 110' x 22' (NGVD);	Plan 3 - Revised, 1,200' x 110' x 30', Lock Replacement Plan; Plan 3a - Cast-in-place lock, 1,200' x 110' x 30'; Plan 3b - Plug-in-place lock, 1,200' x 110' x 30'; Recommended Plan A, LPP	Plan 1 - No-Action/Continued Operation of the Existing Lock Plan 2 - No Action/Alternative/Continue to Build the 1,200' x 110' x 30' lock (1997 Evaluation Report Recommended Plan (Alabama Plan VI)); Plan 3 - Revised, 1,200' x 110' x 30', Lock Replacement Plan; Plan 3a - Cast-in-place lock, 1,200' x 110' x 30'; Plan 3b - Plug-in-place lock, 1,200' x 110' x 30'; Recommended Plan A, LPP	3b. No-Action/Continued Operation of the Existing Lock (Plans without the project); 4. Construct a new lock at the North of Calhoun Avenue site in the IHNC at following dimensions: Plan 2 - 900' x 110' x 22' (NGVD); Plan 3 - 900' x 110' x 22' (NGVD); Plan 3a - Cast-in-place lock, 1,200' x 110' x 30'; Plan 3b - Plug-in-place lock, 1,200' x 110' x 30' (NGVD) (2003 Final SEIS Plan 3b);



IHNC Lock Replacement GRR and SEIS Plan Development*

From the initial array, a focused array was developed:

Plan 1: No-action alternative - maintain existing lock

Plan 2: 900 feet long by 75 feet wide by -22 feet
North American Vertical Datum, 1988 (NAVD88)

Plan 3: 900 feet long by 110 feet wide by -22 feet NAVD88

Plan 4: 1,200 feet long by 75 feet wide by -22 feet NAVD88

Plan 5: 1,200 feet long by 110 feet wide by -22 feet NAVD88

Plan 6: 1,200 feet long by 110 feet wide by -36 feet NAVD88
(as described in the 2009 SEIS and Record of Decision)



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*new lock in Plans 2-6 is located between the Claiborne and Florida Avenue Bridges.

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IHNC Lock Replacement GRR and SEIS

Final Array

Plan 1: No-action alternative - maintain existing lock

Plan 2: 900 feet long by 75 feet wide by -22 feet NAVD88

Plan 3: 900 feet long by 110 feet wide by -22 feet NAVD88

Plan 4: 1,200 feet long by 75 feet wide by -22 feet NAVD88

Plan 5: 1,200 feet long by 110 feet wide by -22 feet NAVD88



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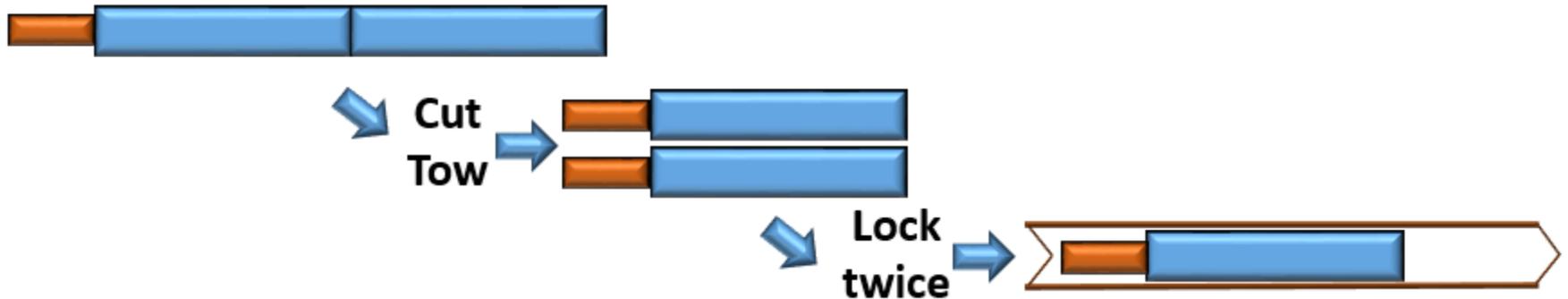
IHNC Lock Replacement GRR and SEIS

Plan 1: Existing Lock

Plan 1: Existing Lock, 640 feet long by 75 feet wide



(35' x 200' barge)



(54' x 300' barge)



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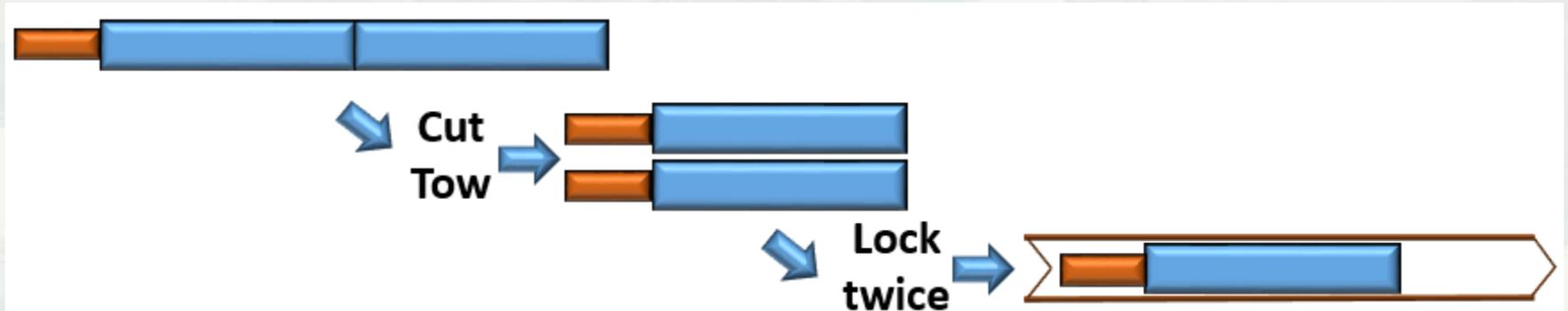
IHNC Lock Replacement GRR and SEIS



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IHNC Lock Replacement GRR and SEIS Plan Comparison

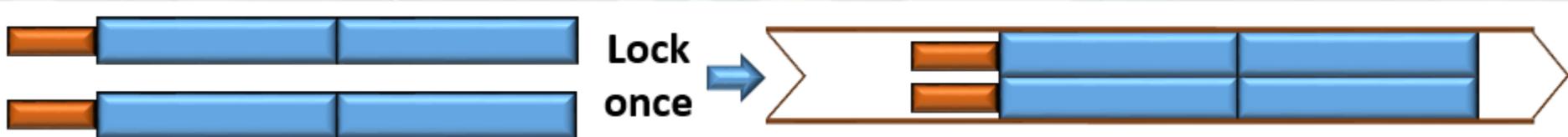
Plan 1: Existing Lock, 640 feet long by 75 feet wide



Plan 2: 900 feet long by 75 feet wide



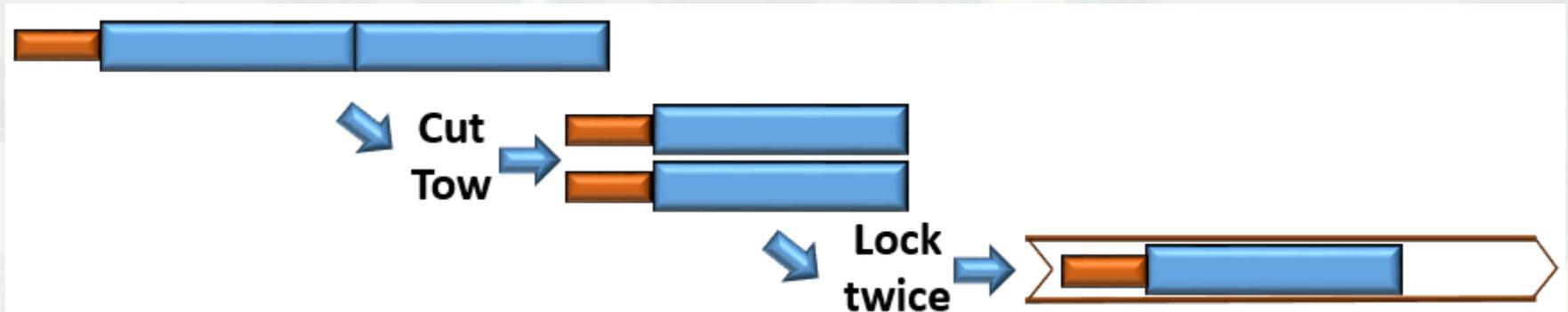
Plan 3: 900 feet long by 110 feet wide



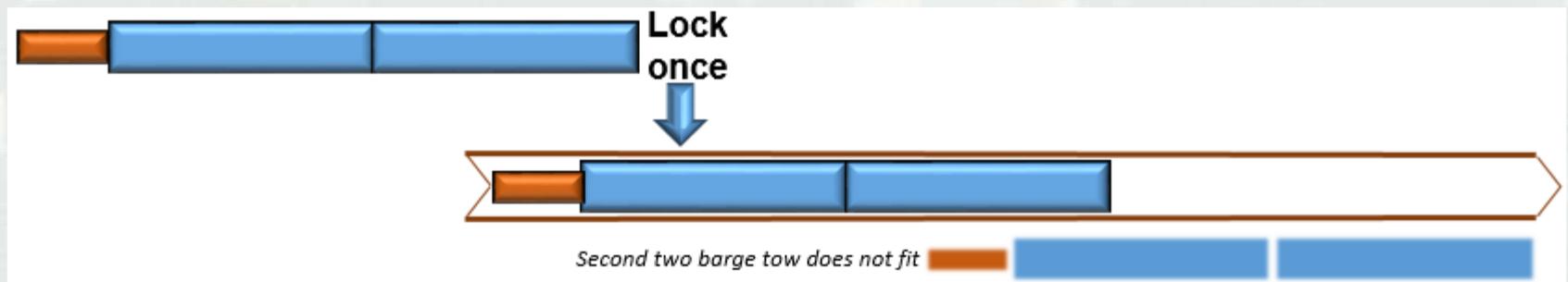
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IHNC Lock Replacement GRR and SEIS Plan Comparison

Plan 1: Existing Lock, 640 feet long by 75 feet wide



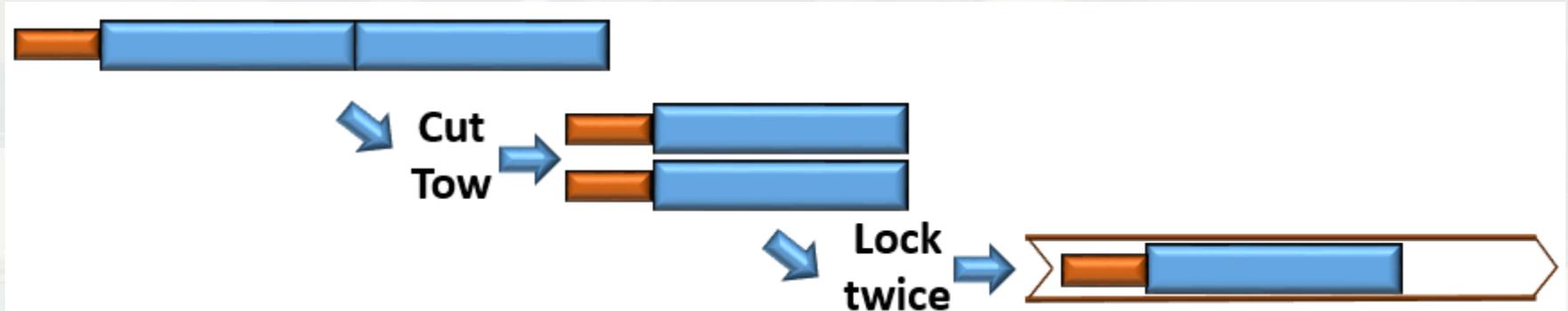
Plan 4: 1,200 feet long by 75 feet wide



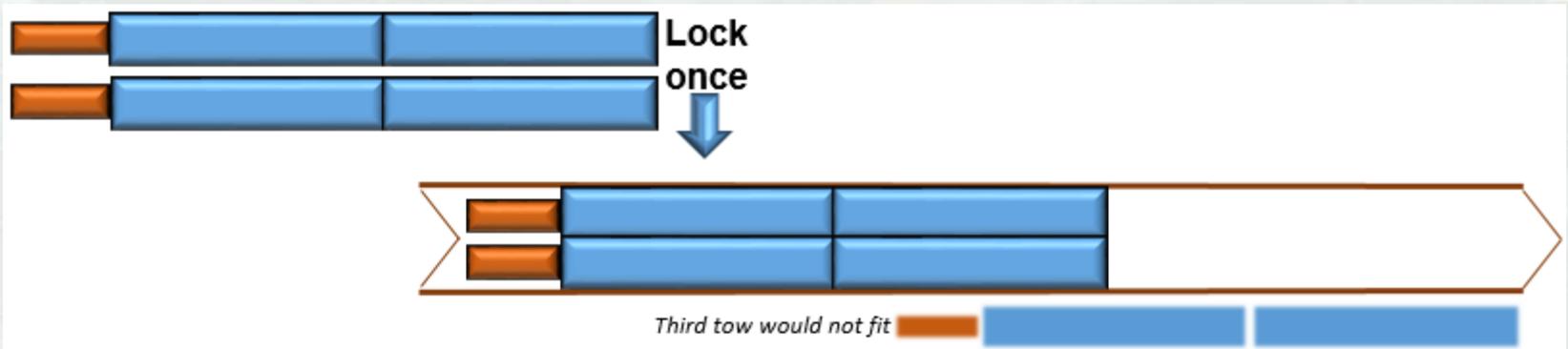
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IHNC Lock Replacement GRR and SEIS Plan Comparison

Plan 1: Existing Lock, 640 feet long by 75 feet wide



Plan 5: 1,200 feet long by 110 feet wide



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IHNC Lock Replacement GRR and SEIS

Project Benefits

	Plan 2: 900' x 75'	Plan 3: 900' x 110'	Plan 4: 1,200' x 75'	Plan 5: 1,200' x 110'
First Cost of Construction	\$936,900,000	\$951,300,000	\$972,100,000	\$1,001,700,000
Net Annual Excess Benefits	\$169,800,000	\$172,400,000	\$170,200,000	\$170,300,000
B/C Ratio	4.78	4.78	4.65	4.55

Tentatively Selected Plan:

Plan 3: 900 feet long by 110 feet wide by -22 feet NAVD88

Plan 3 generates the greatest net excess benefits



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IHNC Lock Replacement GRR and SEIS

Project Funding

- Funding is 100% federal
- Study and construction funding is split 50 percent general treasury and 50 percent Inland Waterways Trust Fund (IWTF) monies
- Operation and Maintenance is 100% federal



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IHNC Lock Replacement GRR and SEIS

Determination of -22.0 feet NAVD88 Sill Depth

Adequate Clearance for Design Vessel: Per EM 1110-2-1604, a sill depth that is 1.5 to 2 times the vessel draft allows for a safe entrance into and exit from the Lock. The design draft for a fully loaded liquid tank barge is 11 feet

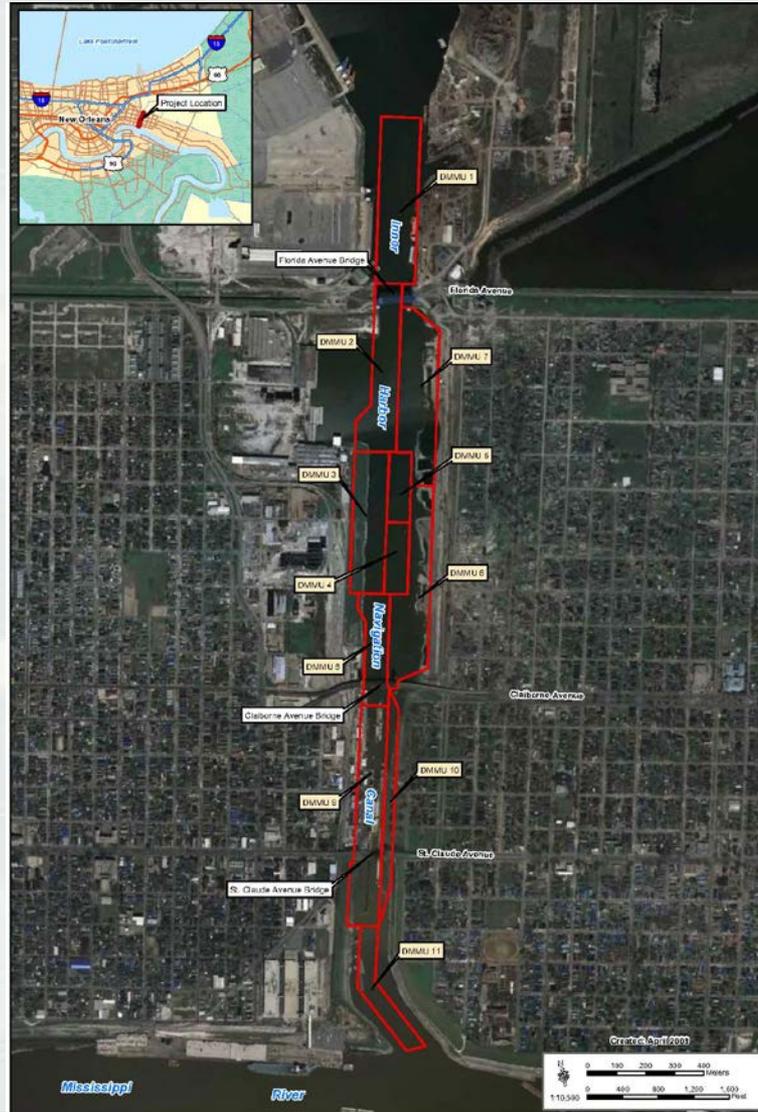
Constructability: The existing IHNC channel is approximately EL. -32.0 at the site of the new lock. By setting the sill of the new structure at EL. -22.0, minimal excavation or backfill will be required for construction of the new lock



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IHNC Lock Replacement GRR and SEIS

IHNC Sediment Quality



Location of Dredged Material Management Units



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IHNC Lock Replacement GRR and SEIS Sediment Quality

Contaminants of concern found in sediment and soil sampling:

- Metals
- Organotins
- Semi-volatiles
- Volatiles
- Petroleum Hydrocarbons
- Pesticides
- Herbicides



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IHNC Lock Replacement GRR and SEIS Community Impact Mitigation Plan

WRDA 1996 – Section 844 of 1986 was amended directing implementation of a “Community Impact Mitigation Plan”:

SEC. 326. MISSISSIPPI RIVER-GULF OUTLET, LOUISIANA.

Section 844 of the Water Resources Development Act of 1986 (100 Stat. 4177) is amended by adding at the end the following: “(c) COMMUNITY IMPACT MITIGATION PLAN.—Using funds made available under subsection (a), the Secretary shall implement a comprehensive community impact mitigation plan, as described in the evaluation report of the New Orleans District Engineer dated August 1995, that, to the maximum extent practicable, provides for mitigation or compensation, or both, for the direct and indirect social and cultural impacts that the project described in subsection (a) will have on the affected areas referred to in subsection (b).”.



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IHNC Lock Replacement GRR and SEIS Community Impact Mitigation Plan

- Re-visit/re-evaluate the Community Impact Mitigation Plan to determine what elements remain implementable post Katrina impacts and post MRGO de-authorization; in relation to existing conditions
- Identify new measures, if any, to mitigate the impacts to the communities as they currently exist
- Public input is encouraged
- There has to be a relation between the communities surrounding the project site that are affected by construction of and operation and maintenance of the lock



IHNC Lock Replacement GRR and SEIS

Community Impact Mitigation Plan

- A sample of current items in the plan that could remain, but is not limited to:
 - Soundproofing residential structures
 - Synchronized traffic signals
 - Community based job training
 - Incident management plan
 - Cultural Resources
 - Landscaping
 - Business assistance program



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Four Neighborhoods in Vicinity of IHNC Lock



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IHNC Lock Replacement GRR and SEIS

Transportation Mitigation Program

WRDA 2007, Sec. 5083. Inner Harbor Navigation Canal Lock project, Louisiana

(2) develop and maintain a transportation mitigation program relating to that project in coordination with—

- (A) St. Bernard Parish;
- (B) Orleans Parish;
- (C) the Old Arabi Neighborhood Association;
- and
- (D) other interested parties



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IHNC Lock Replacement GRR and SEIS Tentative Construction Sequencing

Subject to Change:

- 1) Cofferdam section parallel to new lock and bypass channel constructed;
- 2) Area between cofferdam & westbank of IHNC dredged. Dredged material hauled away or disposed in Mississippi River;
- 3) Bypass channel between cofferdam & eastbank of IHNC dredged. Dredged material disposed in Mississippi River;
- 4) Cofferdam around new lock construction area completed & area dewatered;
- 5) Construction of floodwalls & temporary St. Claude bridge will be concurrent with new lock construction;
- 6) Upon completion of new lock & backfill, a portion of the cofferdam will be removed. The new lock will be placed into operation.





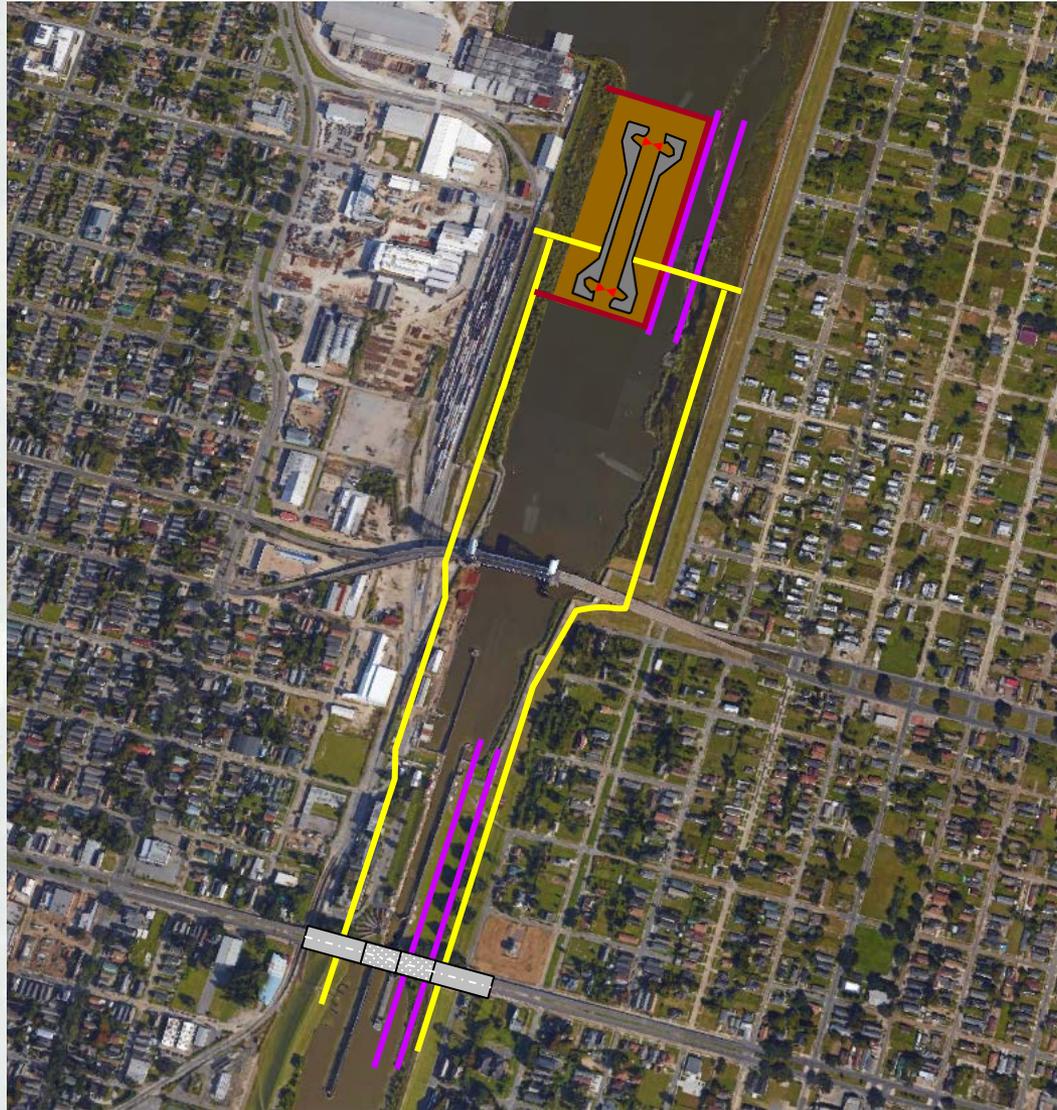
IHNC Lock Replacement GRR and SEIS Tentative Construction Sequencing, cont'd

Subject to Change:

- 7) Once new lock is operational, a portion of the cofferdam will be relocated & the remainder of T-Walls & backfill of the temporary bypass would be completed;
- 8) The bypass channel parallel to the existing lock will be completed once the temporary St. Claude bridge is operational;
- 9) Existing lock is demolished;
- 10) Existing St. Claude bridge is demolished;
- 11) New St. Claude bridge is constructed & begins operation. Temporary bridge is dismantled;
- 12) Lock replacement project is complete. Normal operations begin.



IHNC Lock Replacement GRR and SEIS Tentative Construction Sequencing



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IHNC Lock Replacement GRR and SEIS Completed Project



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IHNC Lock Replacement



Overall Project View.

GIS Development/ Production Team
EGIS ID No. 17-022 Date: 2/23/2017



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IHNC Lock Replacement GRR and SEIS

Operation of bypass channel adjacent to new lock site



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IHNC Lock Replacement Construction Sequence



Temporary bypass channel and cofferdam.

GIS Development/ Production Team
EGIS ID No. 17-022 Date: 2/22/2017



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New lock site de-watered



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IHNC Lock Replacement Construction Sequence



Temporary bypass channel with cofferdam dewatered and excavated.

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EGIS ID No. 17-022 Date: 2/22/2017



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IHNC Lock Replacement GRR and SEIS

New lock constructed



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IHNC Lock Replacement Construction Sequence



Cofferdam with sector gate and lock constructed.

GIS Development/ Production Team
EGIS ID No. 17-022 Date: 2/22/2017



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New lock completed and in operation



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IHNC Lock Barge Capacity



New 900 feet long by 110 feet wide IHNC Lock, with a sill elevation of -22.0 feet NAVD88.

GIS Development/ Production Team
EGIS ID No. 17-022 Date: 2/22/2017



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IHNC Lock Replacement GRR and SEIS

Existing lock



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IHNC Lock Replacement GRR and SEIS

Existing lock demolished with new St. Claude Bridge



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IHNC Lock Replacement Construction Sequence



Existing IHNC Lock removed with New St. Claude Avenue bridge.

GIS Development/ Production Team
EGIS ID No. 17-022 Date: 2/22/2017



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IHNC Lock Replacement GRR and SEIS Take Aways

- Dredged material unsuitable for open water disposal would be placed in a solid waste landfill
- Potential temporary relocation of some residents
- Construction not necessarily throughout the entire site at one single time
- Larger lock, but no widening of the existing IHNC footprint
- St. Claude Bridge will be replaced
- Existing flood risk reduction will remain
- Community Impact Mitigation Plan re-formulation will continue beyond the end of the public comment period on the draft GRR/SEIS



Milestone	Dates
Initiate GRR	January 1, 2015 (Actual, (A))
Alternatives Milestone	March 31, 2015 (A)
TSP Milestone	October 11, 2016 (A)
Draft Report Submittal to EPA	December 30, 2016 (A)
Public Review	January 6, 2017 (A) – March 14, 2017
Agency Decision Milestone	April 3, 2017
Civil Works Review Board	March 8, 2018
Final SEIS NOA in Federal Register	March 23, 2018
Chief's Report	June 22, 2018



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Comments may be submitted to:

Mr. Mark Lahare

U.S. Army Corps of Engineers

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IHNC Lock Replacement GRR and SEIS Next Public Meeting

March 7, 2017

Andrew P. Sanchez

and Copelin-Byrd Multi-Purpose Center

1616 Caffin Avenue

New Orleans, LA 70117

6 to 6:30 p.m.: Open House

6:30 p.m.: Presentation and public comments



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