Great Lakes Waterways Conference

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US Army Corps of Engineers
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Agenda

- FY14 Maintenance Dredging
- Key FY14 Needs/Projects
- Duluth-Superior – 21st Ave Pilot
- Green Bay – Cat Island Restoration
- SOO Locks Asset Renewal

FY14 Dredging Funding

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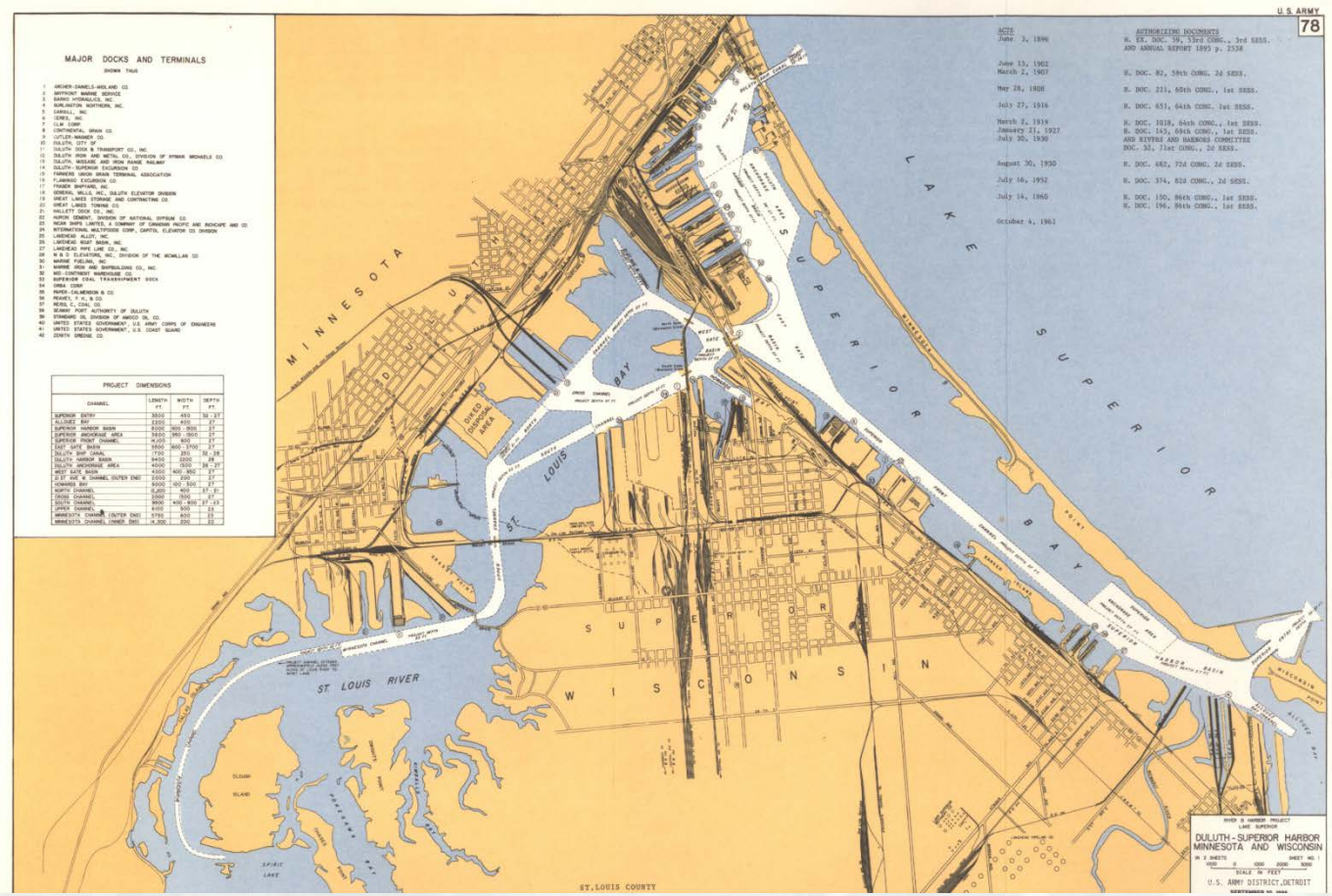
Key FY14 Detroit District O&M Activities

- Duluth Maintenance Dredging w/ 2nd Year of Pilot Project for Disposal at 21st Avenue
- Green Bay Maintenance Dredging and Use of Cat Island Dredged Material Disposal Facility
- Renard Island CDF Closure
- Soo Locks Asset Renewal:
  - Installation of New Poe Lock Hydraulics
  - Installation of New MacArthur Lock Gate Anchorages
  - Replacement of Poe Lock Dewatering Pump Controls
  - Poe Lock Gate 3 Repairs/Recoating

Key FY15 Detroit District O&M Needs

- St. Marys River Dredging
- Continuing Soo Locks asset Renewal:
  - Initiate MacArthur Lock Controls Replacement
  - Design of Poe Lock Controls Upgrades
  - Replacement of Lock Dewatering Valves

Project Area in Duluth-Superior



Approximately 110,000 cy of dredged material requiring placement each fiscal year

Limited remaining capacity at Erie Pier

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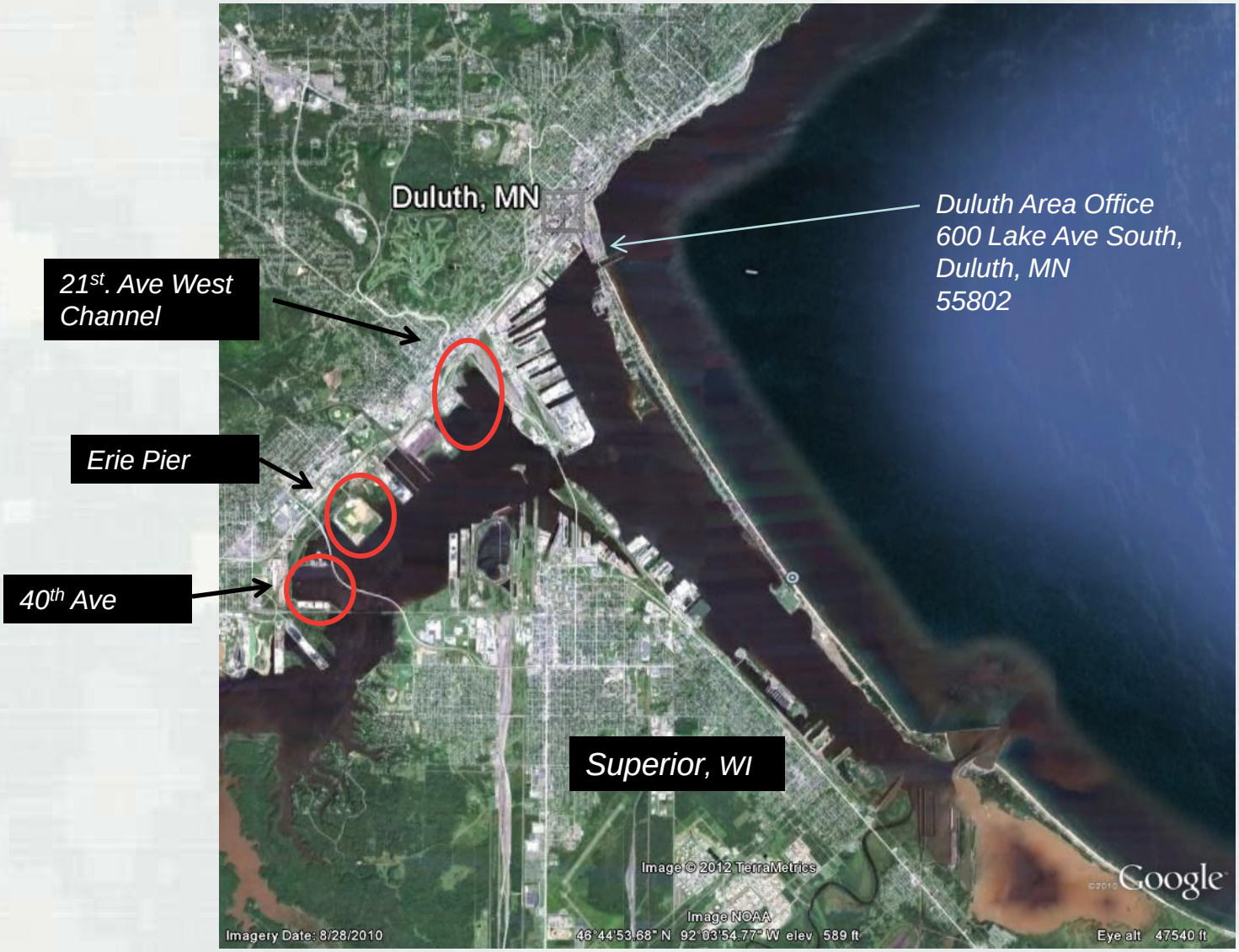
Duluth- Superior Harbor



Duluth-Superior Hbr 21st Avenue Pilot Project:

Potential for three years placement of suitable dredged material

Pilot to demonstrate and monitor placement, dispersion, plant growth, etc.

Basis for pursuing similar sites of interest w/in the harbor

21st Ave. W. View South

Unloading to Area 1

Discharge Line to Area 1

Discharge Diffuser

Agency Sampling-Monitoring

- Barr Engineering (Pete Kero) / MPCA - Bathymetric surveys (4) to monitor stability of sediment cap.

- UMD (Nate Johnson) - Contaminants / mercury.

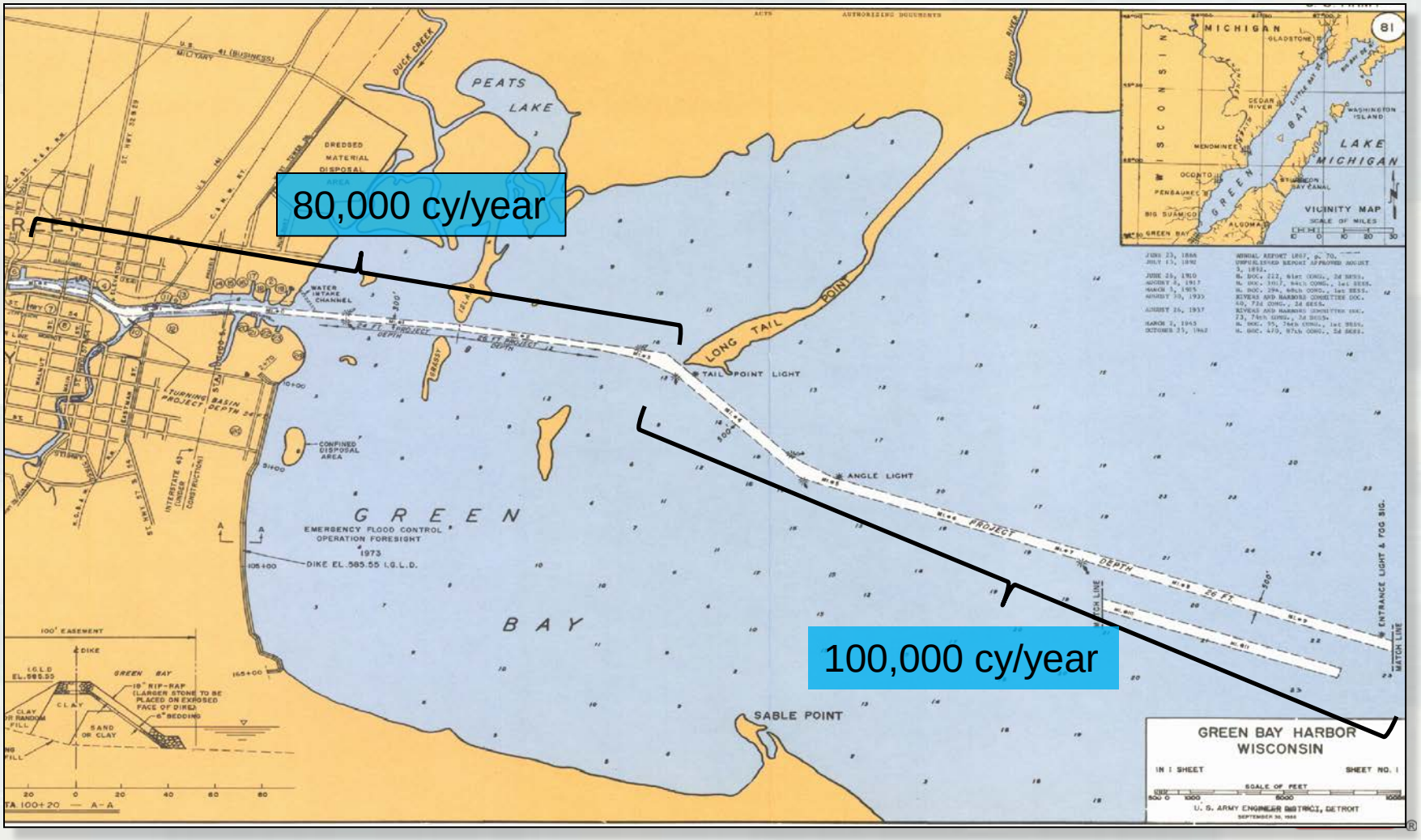
- UMD-NRRI (Carol Reschke) - Benthic macroinvertebrates and aquatic vegetation sampling.

- USACE-ERDC (Joe Kreitinger) - Particle size analysis / modeling.

- USACE-LRE (Pam Horner) - Turbidity levels and suspended solids.

- WDNR (Joe Graham) - Water sampling events (3) for mercury analysis.

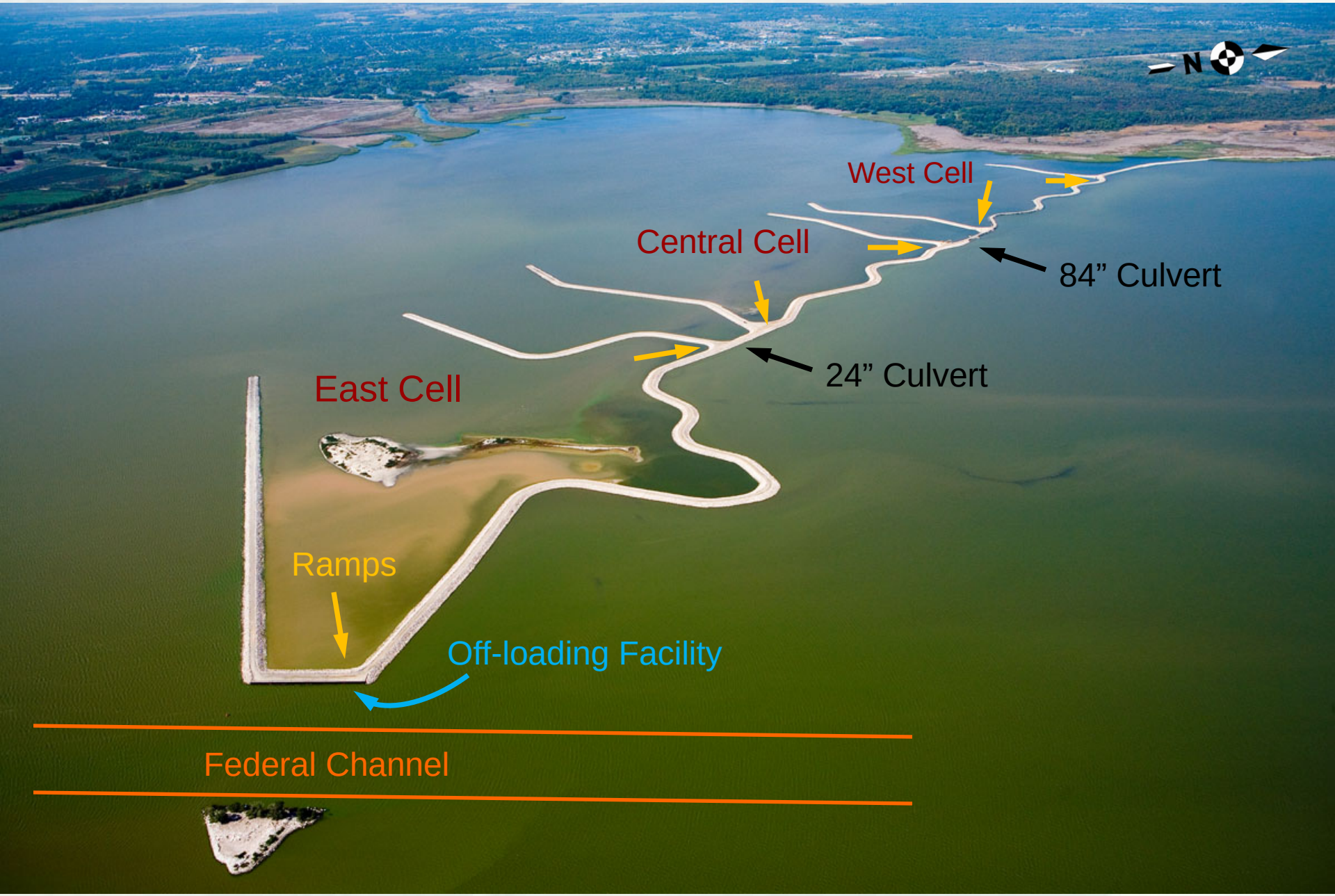
Fox River and Green Bay, Wisconsin

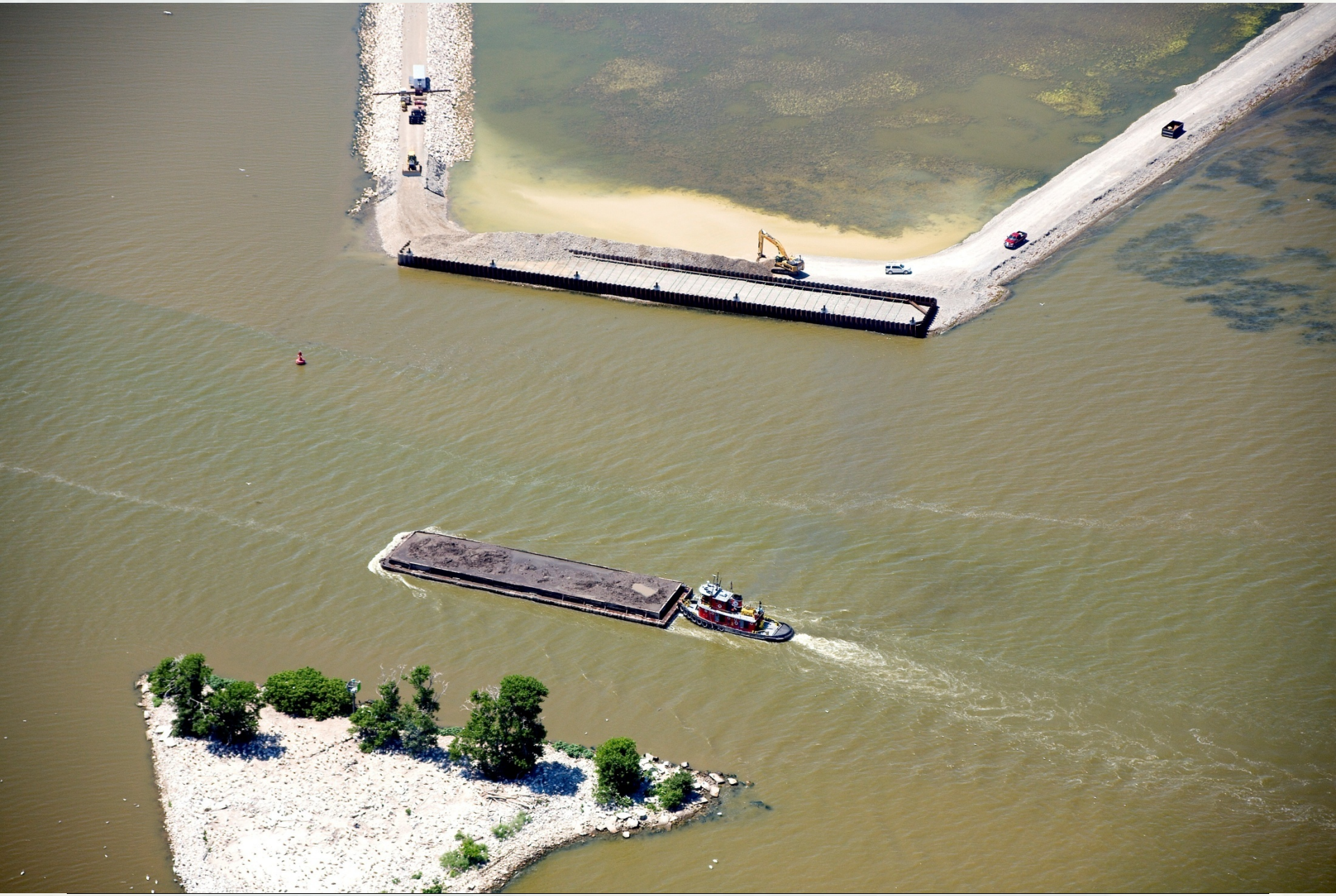


Cat Island Restoration

- Project for navigation:
  - Provides for at least 20 years of disposal capacity for maintenance dredging for the Federal channel
- Environmental benefits:
  - Re-creates the Cat Island chain (274 acres)
  - Restoration of Pete's Marsh and Duck Creek Delta Wetland, providing 1,440 acres of wetland wildlife refuge

Cat Island Construction – Jan 2013


N
West Cell
Central Cell
84” Culvert
24” Culvert
East Cell
Ramps
Off-loading Facility
Federal Channel

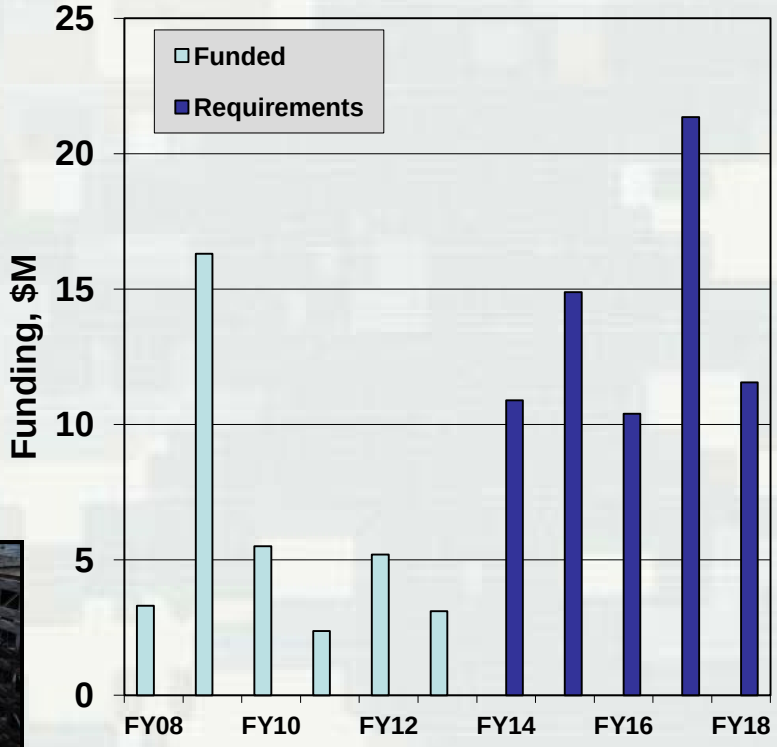


Soo Locks Reliability

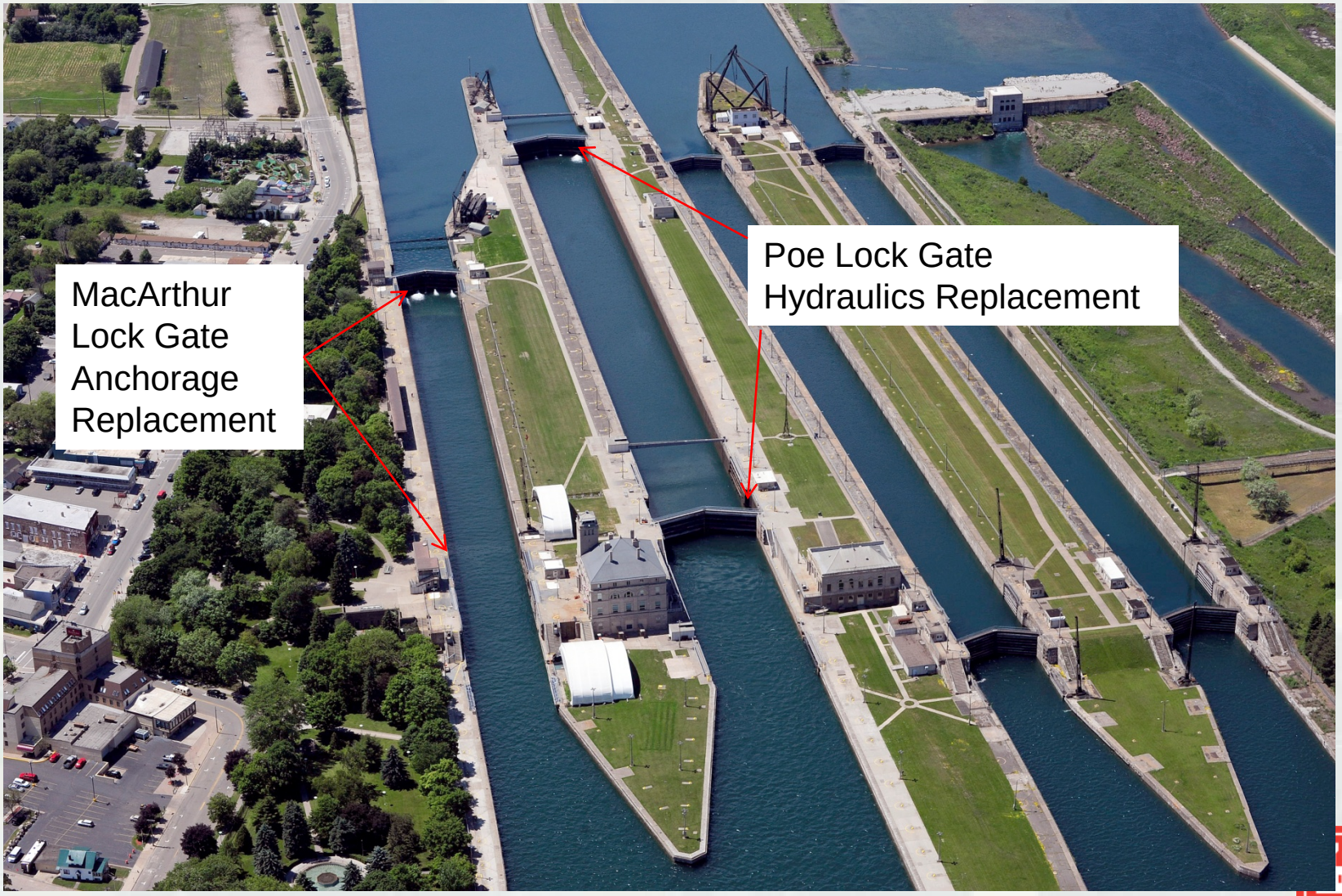
Soo Locks Asset Renewal Long-Term Plan

Asset Renewal Plan will maximize reliability and reduce risk through 2035

- $35.9M funded to date through FY13
  - New hydraulics, stop logs, utilities
  - Crib Dam construction
  - Compressed Air System
  - Mac Lock modernization design
- Remaining funding required $69 million over 5 years
  - Poe and Davis Pump Well Valves
  - Poe Electrical Rehabilitation
  - MacArthur Interlocks and Controls Upgrade



Soo Locks Asset Renewal - Ongoing

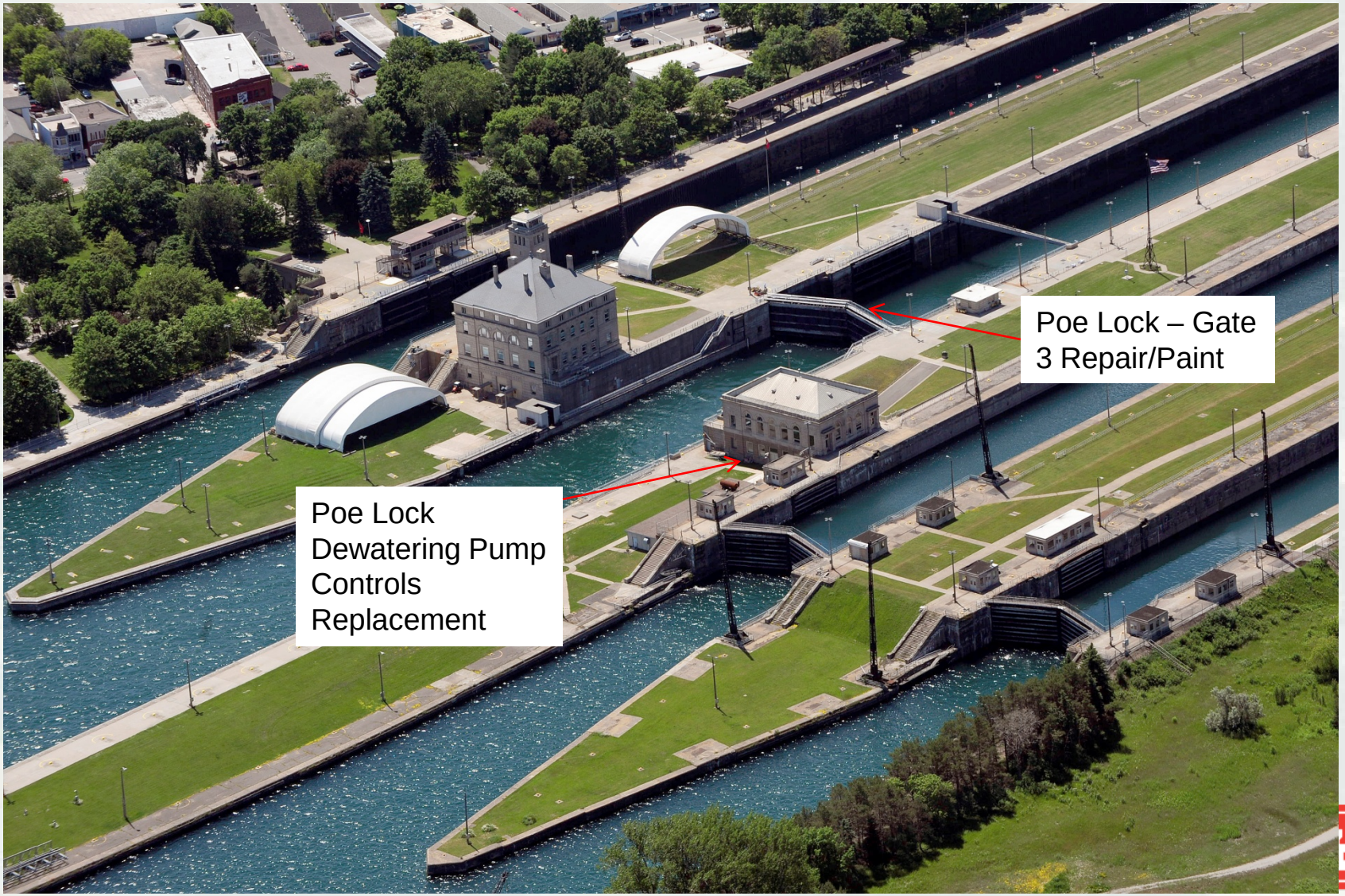


Poe Lock Hydraulics

New Cylinder at Gate 2N

MacArthur Lock Gate Anchorages

Soo Locks Asset Renewal - FY14 Spending Bill



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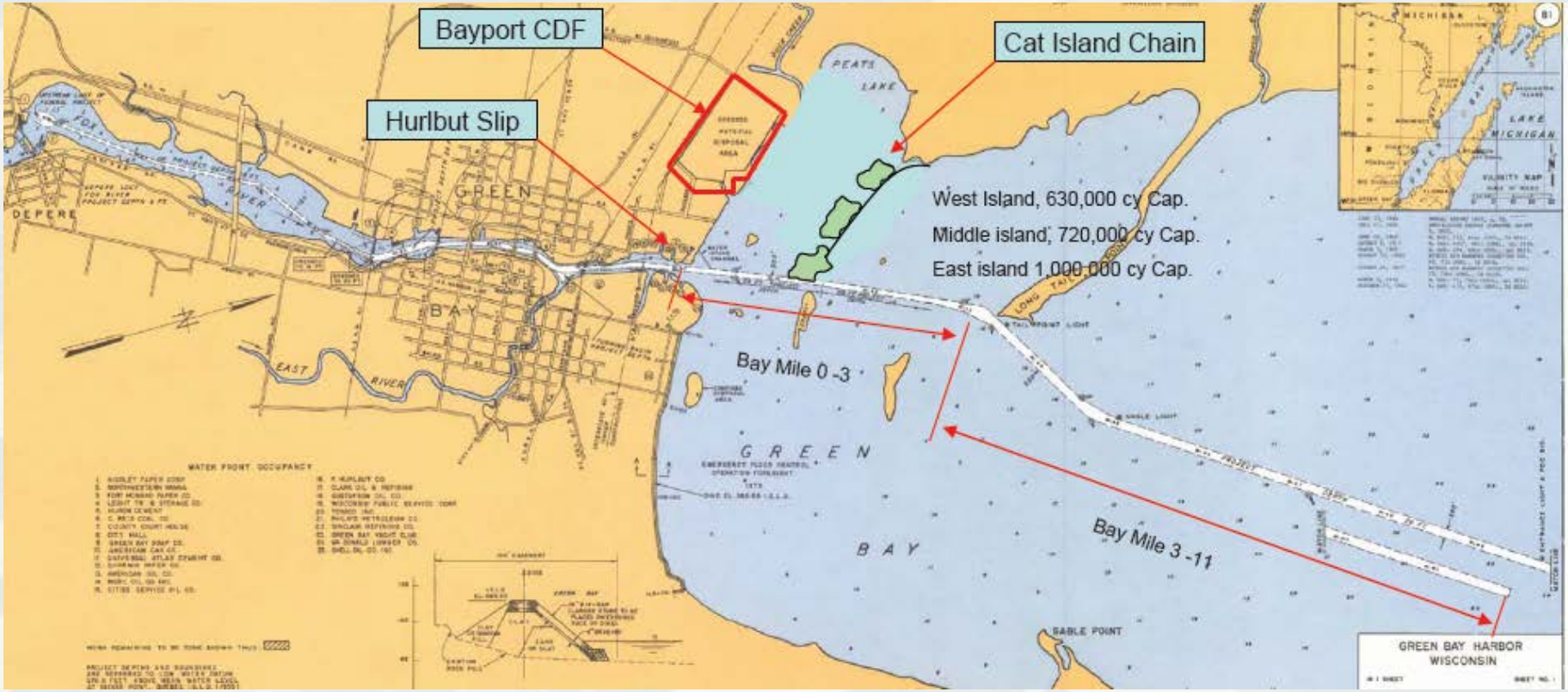
www.lre.usace.army.mil/greatlakes/navigation

Project Area in Green Bay



Renard Island Closure – Dec 2013

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Looking North at Bay Port Cell#7