

# Lincoln Park & Estabrook Park Milwaukee River Channels Sediment Remediation Project Phase II

Parks, Energy and Environment Committee  
May 13, 2014

# Project Team

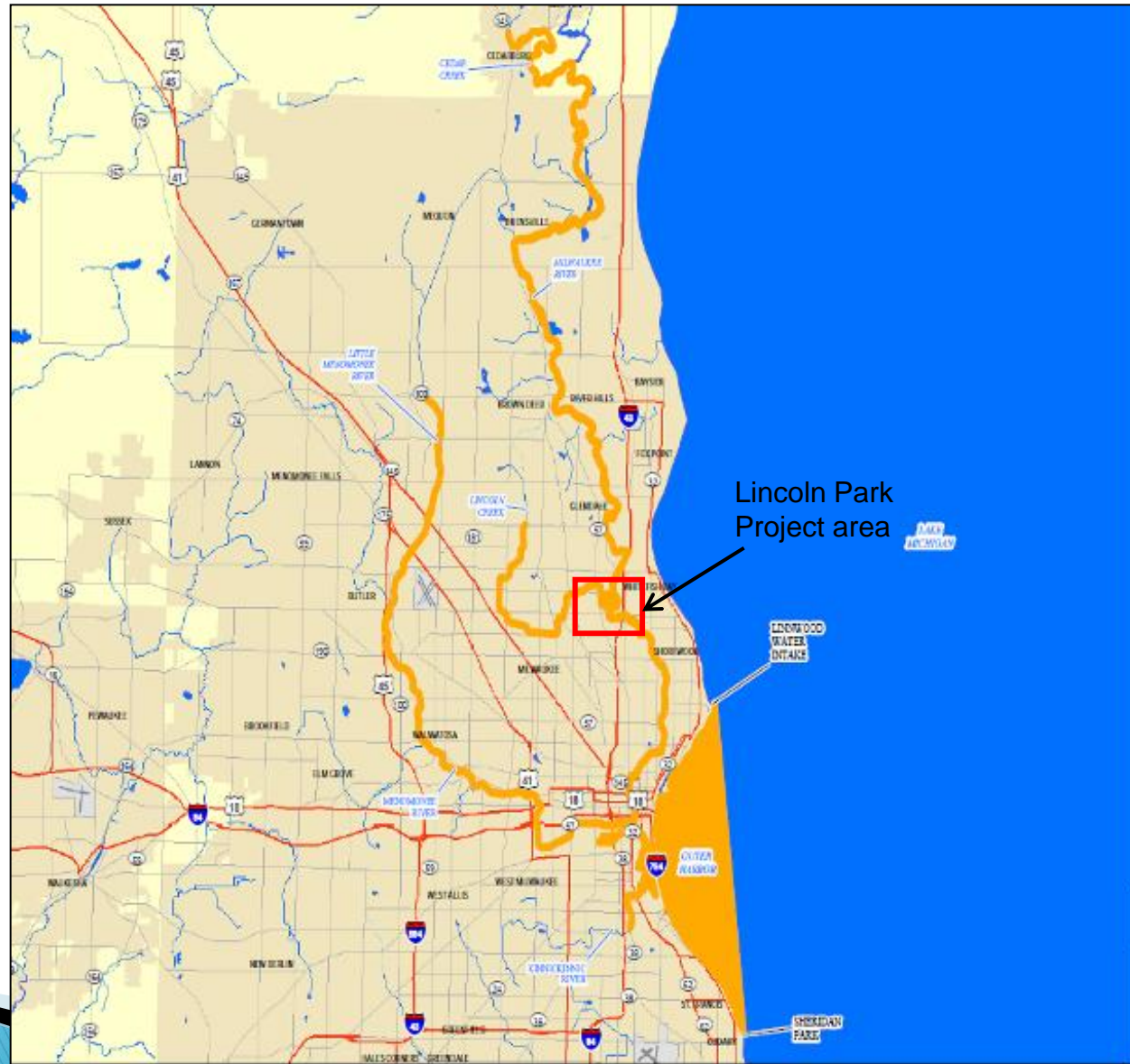
- ▶ US EPA GLNPO
- ▶ Wisconsin DNR
- ▶ Milwaukee County
- ▶ EA Engineering




# Lincoln Park Project Area



# Location Within Area of Concern



# Beneficial Use Impairments Addressed

- ▶ Restrictions on Fish and Wildlife Consumption
  - ▶ Degradation of Benthos
  - ▶ Restrictions on Dredging Activities
  - ▶ Degradation of Fish and Wildlife Habitat
  - ▶ Degradation of Fish and Wildlife Populations
- 

# Previous Clean up Actions

## ▶ Blatz Pavilion

- 4700 cubic yards sediment removed
- 300 lbs of PCB removed
- Completed 2008 (100% state funded)

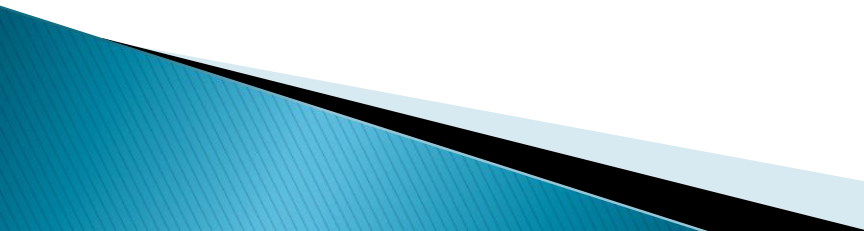


# Previous Clean up Actions



- ▶ Lincoln Park Phase I
  - 120,000 cubic yards sediment excavated
  - >5,000 pounds PCBs removed
  - >4,000 pounds PAHs removed
  - Funded through Legacy Act (65%) and State (35%)

# Sampling Efforts for Phase II Area

- ▶ 2007 and 2010 Sediment sampling behind Estabrook dam fixed crest spillway (Himalayan Consultants (2007) and AECOM (2010) for Milwaukee County Parks)
  - ▶ 2010 Remedial Investigation for Phase II area (CH2M Hill)
  - ▶ 2013 Additional Characterization for FS (EA Engineering)
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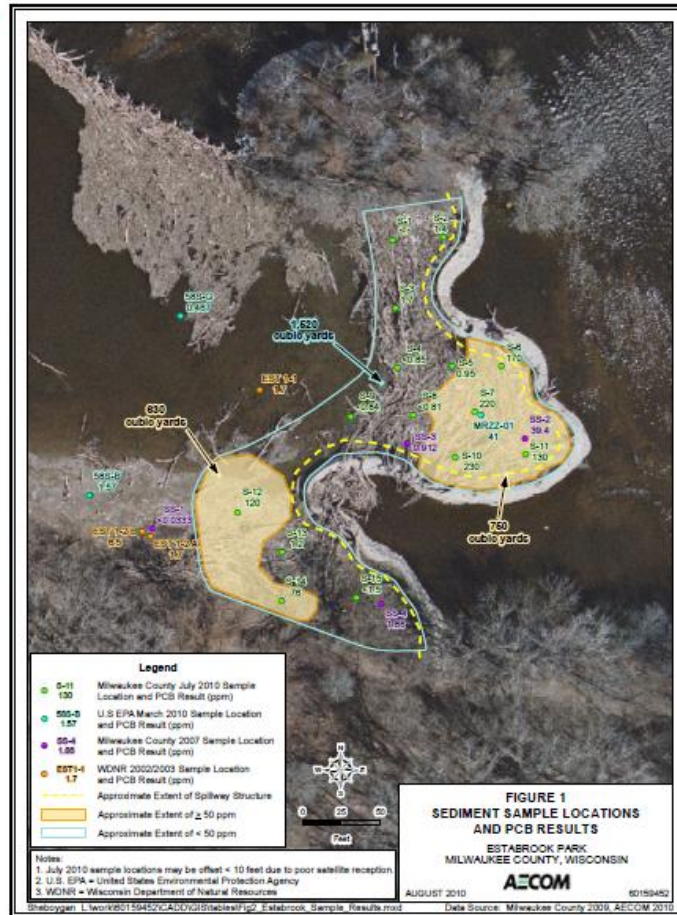


# 2007 Sampling (Himalayan)



- PCB range <1 – 39 ppm
  - Highest PCB concentration at 1-2 foot interval at SS-2
- Total PAH range 10 – 62 ppm
  - Highest PAH at SS-4 at 0-1 foot interval

# 2010 Sampling (AECOM)

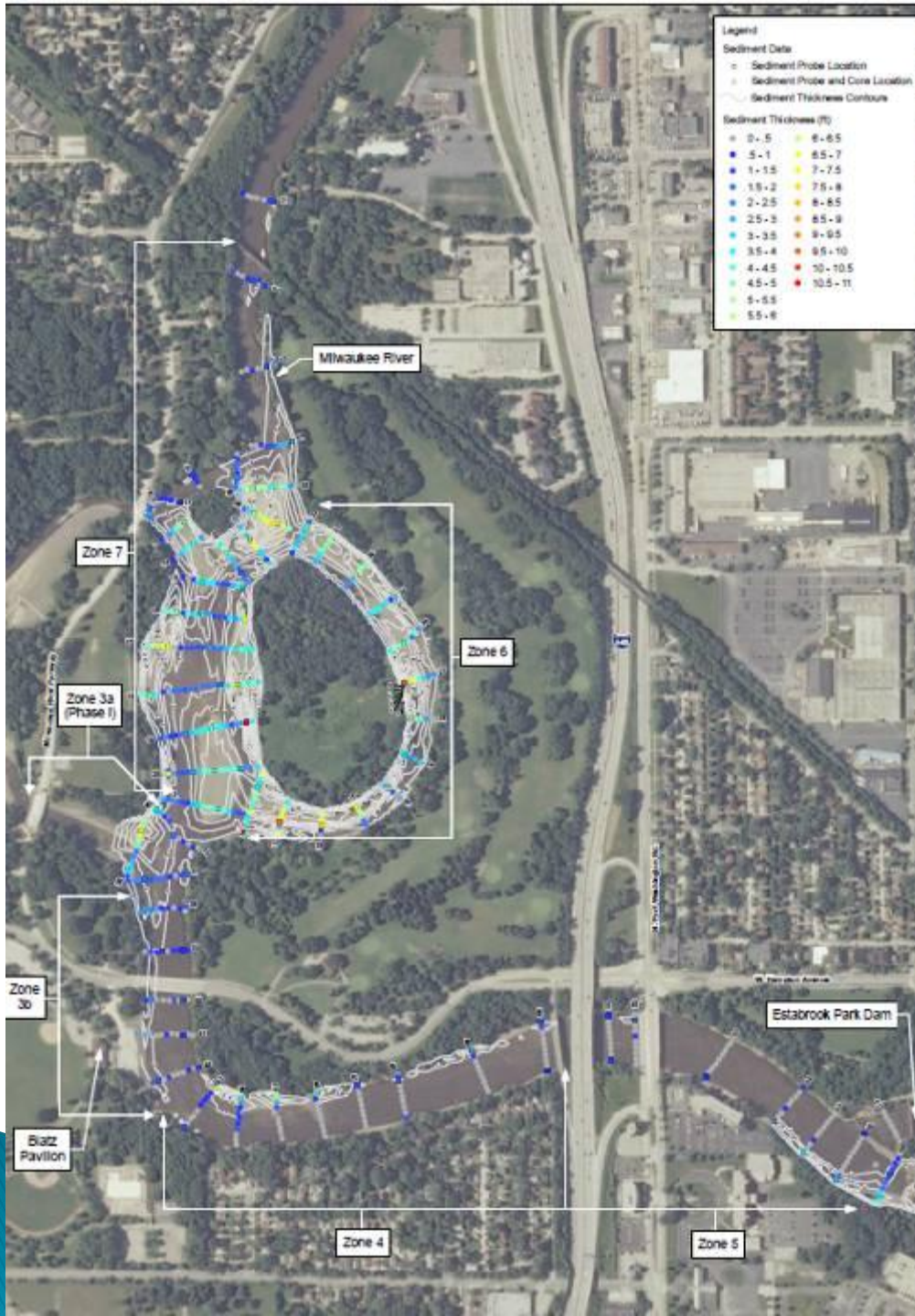


## PCB Results

- 1 400 cubic yards  
TSCA
- 1 800 cubic yards  
<50 ppm
- Volumes do not  
include overburden

# 2010 Sampling (CH2M Hill)





# Sediment Thickness

- Transects spaced 200 ft where known deposits present
- Transects every 400 ft in low deposition areas
- Sediment thickness 0-10.6 feet



## PCB Results

- 88 cores collected
- Concentrations range from <1 to 26 ppm
- 16 core locations with PCB > 1ppm



## PAH Results

- ▶ Total PAH range from 0.02 – 139 ppm
- ▶ Most sample locations below 20 ppm PAH
- ▶ PAH contamination discovered during Phase I excavation examined further for Phase II by FS monitoring (EA)



PAH contamination found in Phase I area near north bridge cutoff wall

Sampling on upstream side of sheet pile showed contamination at depth

Cut sheetpile off at sediment grade after excavation to act as cutoff wall



# 2013 Sampling (EA Engineering)



- ▶ Bathymetry
- ▶ NAPL (North Bridge)
- ▶ Sediment Deposit sampling
- ▶ Habitat Evaluation



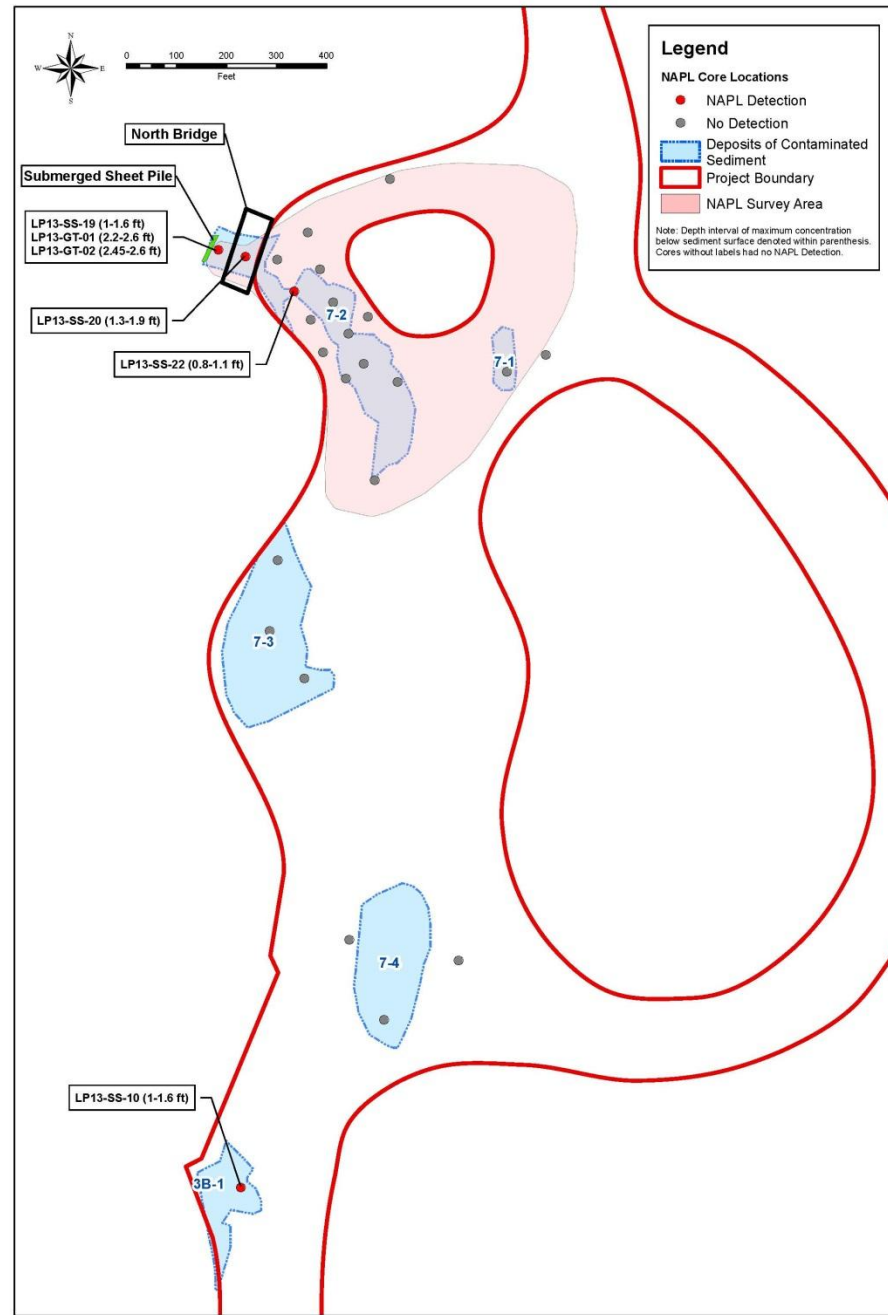


# NAPL Survey



# 2013 Sampling Results

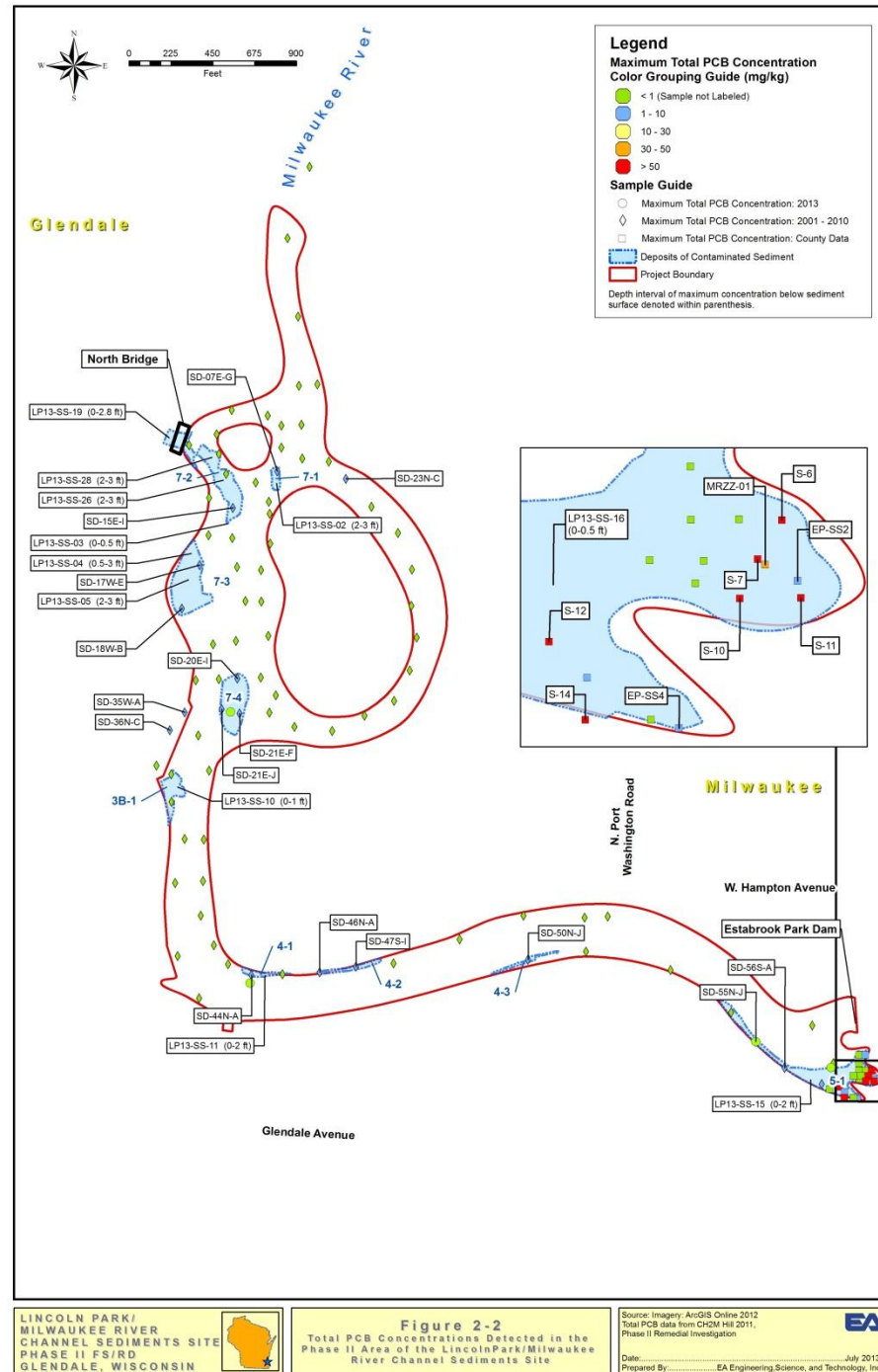
- ▶ NAPL Survey – 15 cores within NAPL area
  - 3 cores observed/confirmed NAPL
  - 1 additional cores tested positive for NAPL, not in NAPL survey area



# 2013 Sampling Results

## ▶ PCB Survey

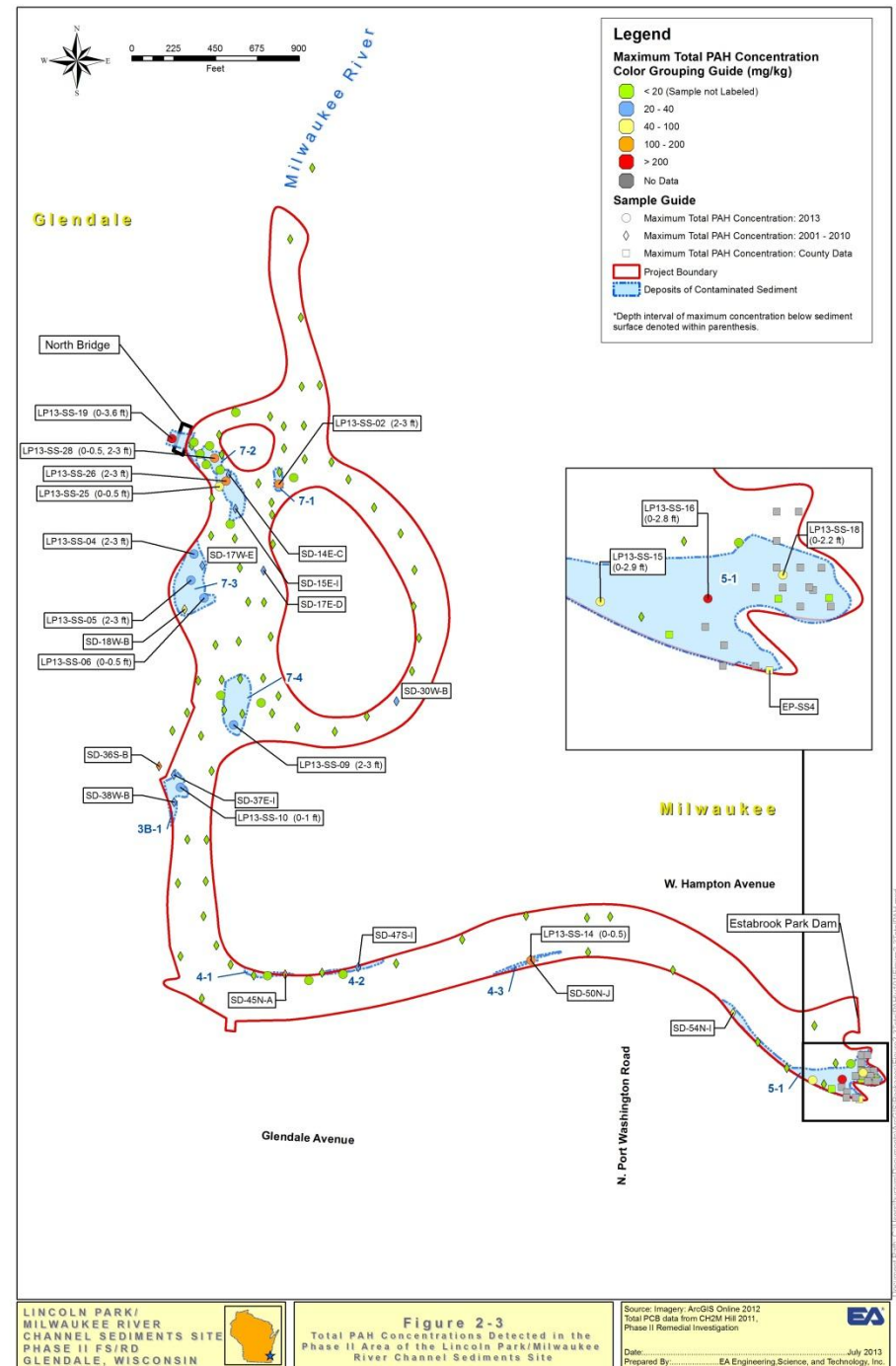
- 137 samples
- Non-TSCA range  
1.17ppm – 33.1 ppm
- TSCA found in NAPL area  
in 3 samples range 79.7  
ppm – 162 ppm



# 2013 Sampling Results

## ▶ PAH Survey

- 131 samples
- Range 0.01 ppm–469 ppm



# Phase II FS

## ▶ Feasibility Study

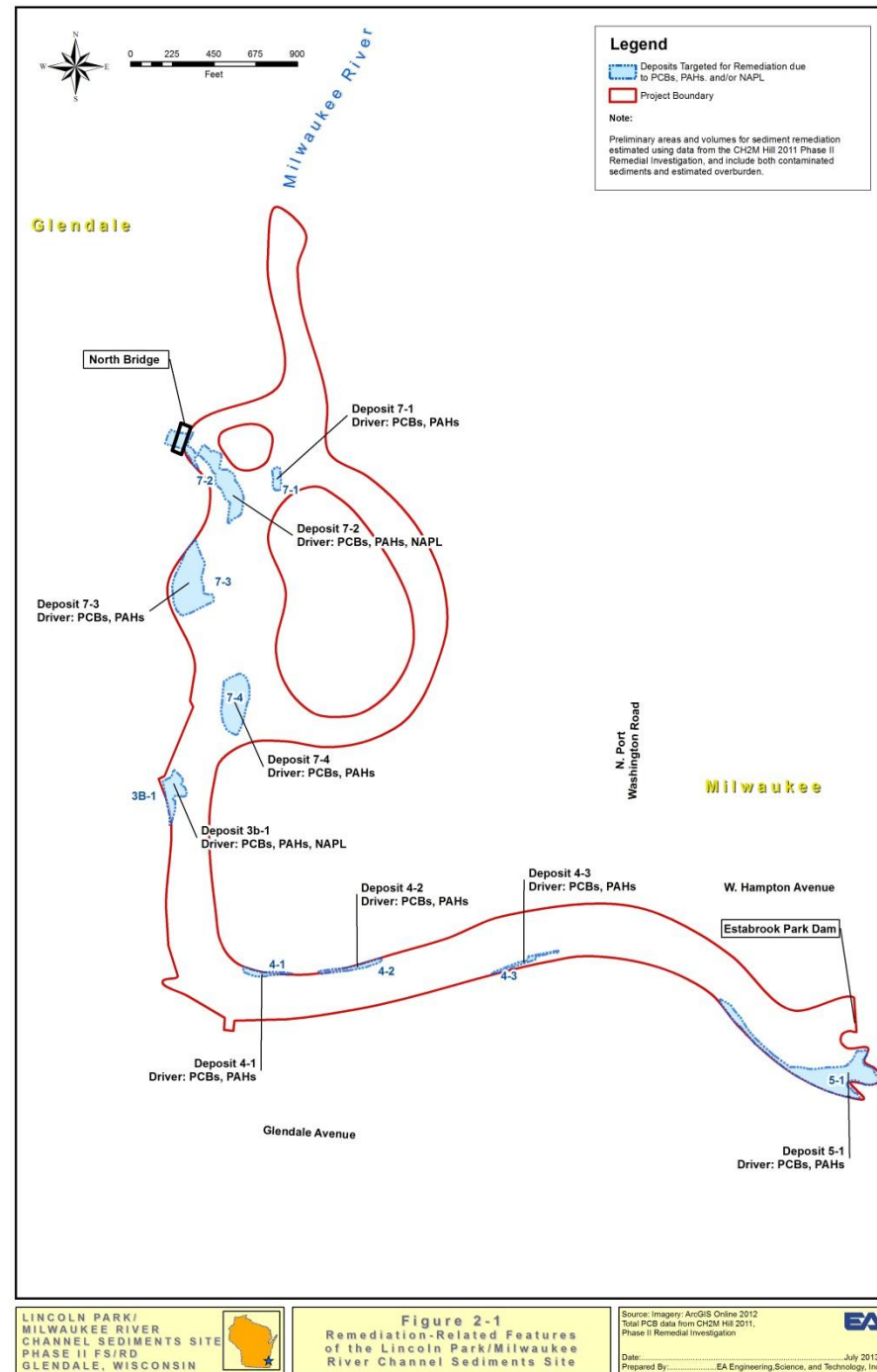
- Focused FS – Used Phase I FS to focus Phase II
- Remedial Action Options the same as for Phase I
- Selected remedial alternative in conjunction with stakeholder involvement

# Phase II Feasibility Study

- ▶ 7 alternatives evaluated, including no-action
- ▶ Recommended Alternative 4a:
  - Dry Excavation, targeted hydraulic dredging and offsite disposal
  - FS Cost estimate about \$15 million
- ▶ Public Information Open House held August 20, 2013
  - Received concurrence with recommended alternative

# Excavation Targeted Deposits

- Approximately 35,000 cubic yards of non-TSCA sediment from 9 main deposits
- About 500 cubic yards TSCA
- No remediation needed in east oxbow, or north of the oxbows
- Mechanical (dry) excavation for all deposits except:
  - Southern portion of 7-4 and deposit 4-3

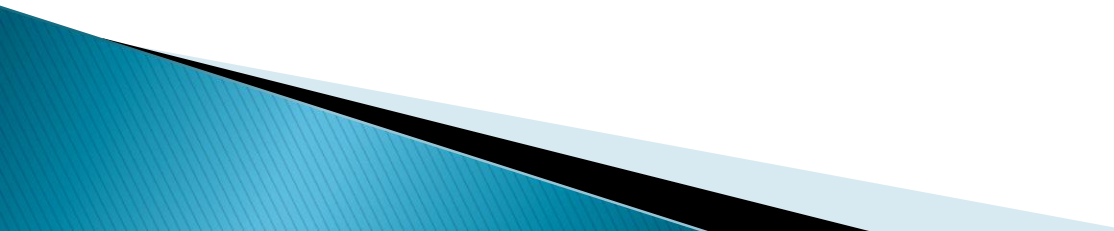


# Water Treatment

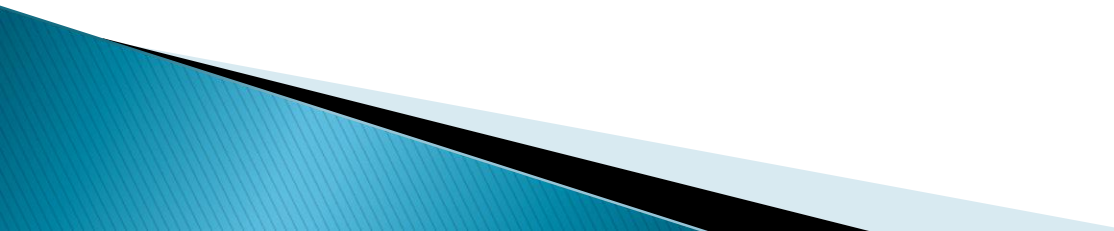
- ▶ Use same water treatment flow chart/process as for Phase I for dewatering and PCBs
- ▶ Treatment addition for PAHs



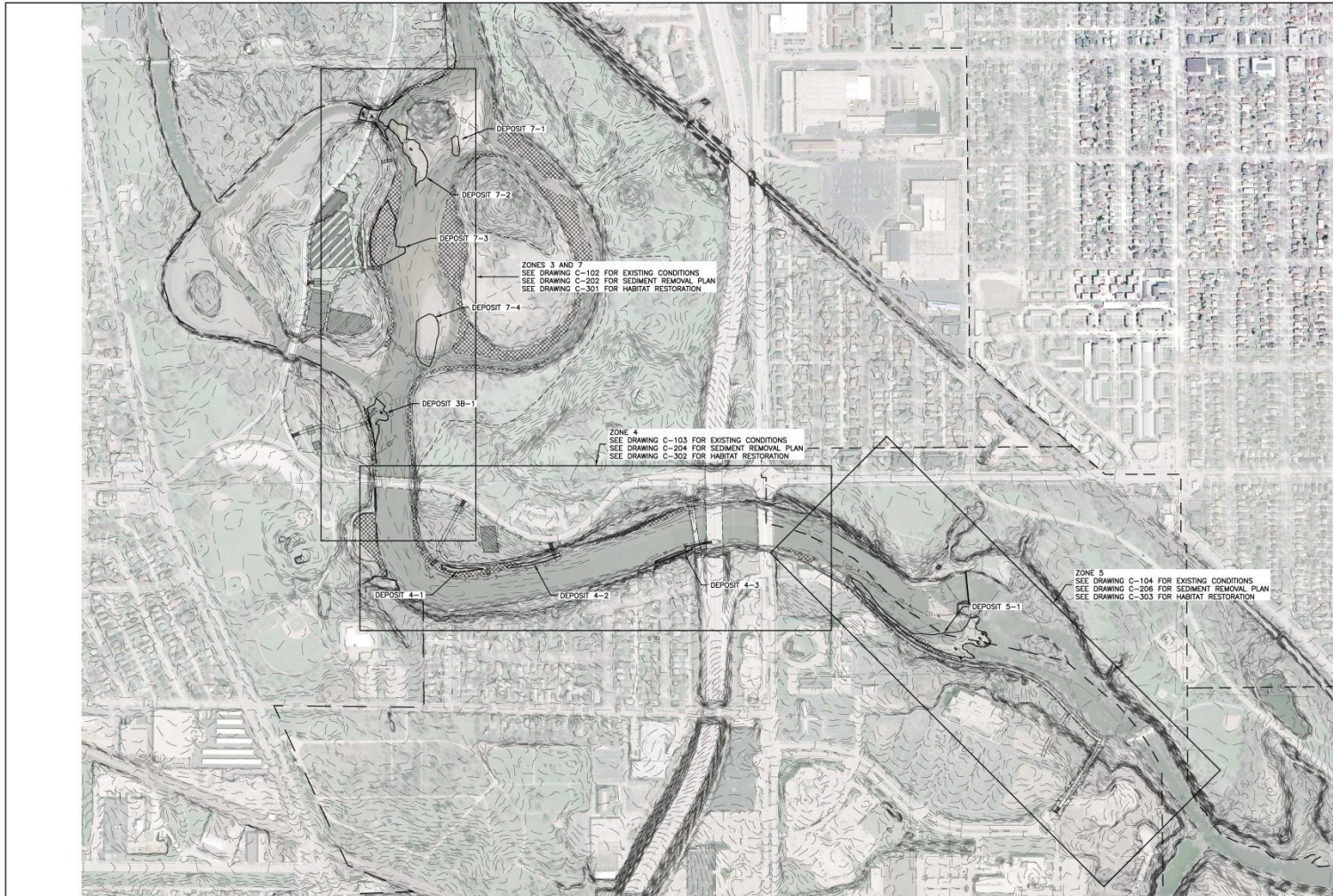
# Off Site Disposal

- ▶ Non-TSCA sediments will be disposed in state-licensed landfill
    - Exploring possibility of using Milwaukee DMDF per recommendation
  - ▶ TSCA sediments will be transported to out of state facility
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# Habitat Restoration

- ▶ Areas disturbed as a result of remedial action will be restored
  - ▶ Restoration will directly follow each excavation area
  - ▶ Menu of techniques developed that will be tailored to each area
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# Phase II Design in Progress



OVERALL SEDIMENT REMOVAL SITE PLAN



REVISIONS	
NO.	DESCRIPTION

REMEDIAL DESIGN LINCOLN PARK/MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II MILWAUKEE COUNTY, WISCONSIN	OVERALL SEDIMENT REMOVAL SITE PLAN
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PREPARED FOR: 
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. 444 LAKE COOK ROAD SUITE #8 DEERFIELD, IL 60015 (847) 945-8010
DATE: SEPTEMBER 2013
DESIGNED BY: JRB
DRAWN BY: JRM
CHECKED BY: JMT
PROJECT NUMBER: MC
PROJECT NUMBER: 0256105
SCALE: AS SHOWN
FILE NAME: SEE FILE PATH
DRAWING NUMBER: C-101
SHEET NUMBER: 3 OF 20

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

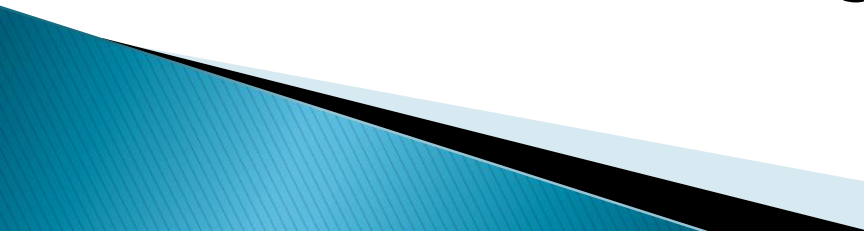
# Regulatory Requirements

- ▶ Approved work plan for handling TSCA sediments
  - US EPA TSCA
- ▶ Permits for dredging and shoreline stabilization
  - WDNR and ACOE
  - EA required with 30 day public comment period
- ▶ Wetland Mitigation
  - ACOE
- ▶ Water Treatment Permits
  - WDNR
- ▶ County and municipal stormwater and erosion control notifications and permits
- ▶ Authorization from two communities to work 24 hr/day – 7 days/week
- ▶ County right of entry agreement
- ▶ Private owner access agreement(s) – dam area
- ▶ Floodplain impacts concurrence (City of Milwaukee)

# Project Status and Timeline

- ▶ 30% Design Completed November 2013
- ▶ Value Engineering Study by ACOE Completed November 2013
- ▶ Design given to GLNPOC contractors December 2013
- ▶ Phase II Remedial Action Application Submitted to GLNPO December 2013
  - TRC scheduled January 10, 2014

# Project Status and Timeline

- ▶ TRC L♥VES the project and agrees to accept
    - Project Agreement signed by end of May 2014
  - ▶ Pre-final design due January 9, 2014
  - ▶ Pre-final design included in bid to construction contractors due March 2014
  - ▶ Contractor response & selection (possibly with alternate designs) June 2014
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# Project Status and Timeline Goals

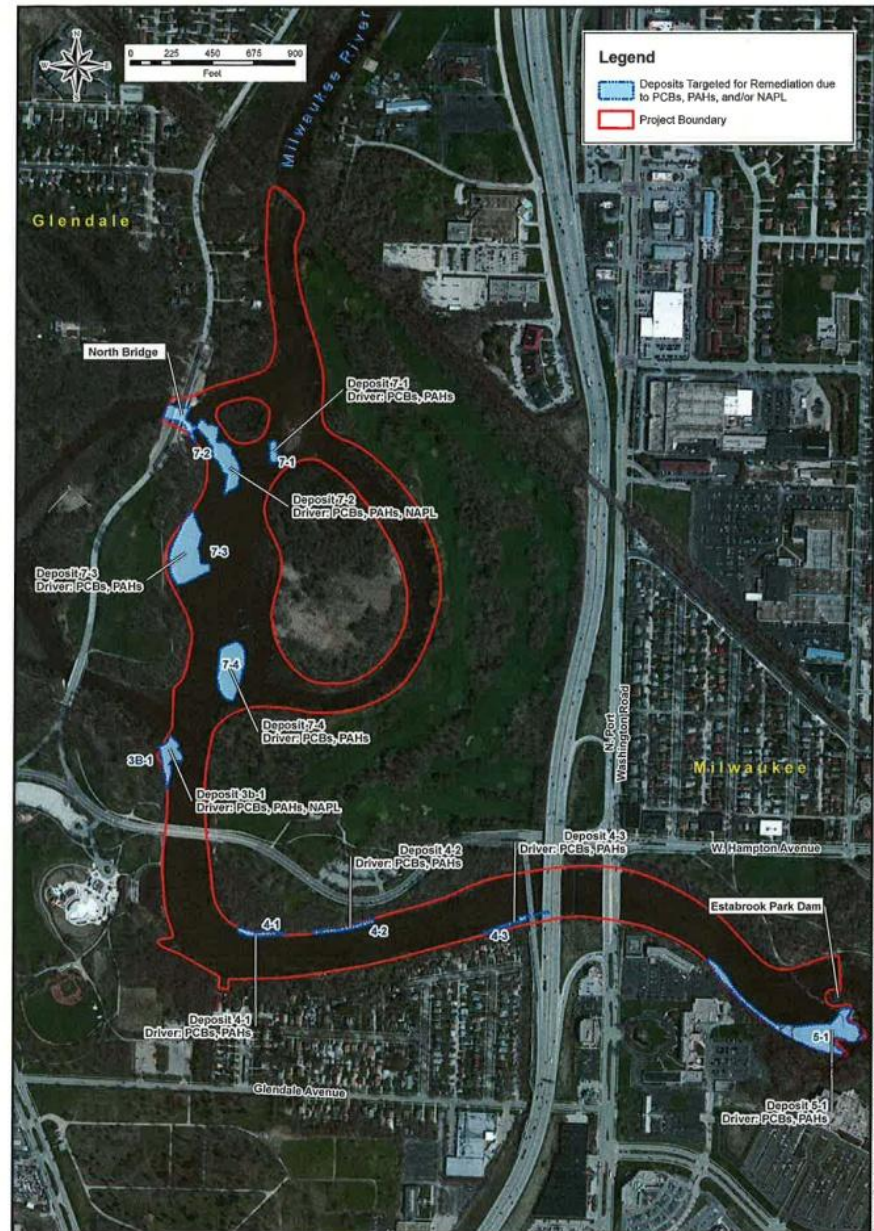
- ▶ Permits issued May 2014
  - ▶ Design is finalized May–June 2014
  - ▶ Begin mobilization July 2014
  - ▶ Remediation Complete December 2014
  - ▶ Habitat Restoration Complete Summer 2015
  - ▶ Habitat establishment & maintenance 2015–2016
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# Project Budget

- ▶ Total Estimated Costs – \$18 million
- ▶ Legacy Act/USEPA (65%) – \$11.7 million
- ▶ Non Federal Share (35%) – \$6.3 million
  - Milwaukee County – \$4.2 million
  - WDNR – \$2.1 million



# Milwaukee River Phase 2 Sediment Deposit Locations



Source: ArcGIS Online Map Service 2012. Total PCB data from CH2M Hill 2011. Phase II Remedial Investigation.

		<b>LINCOLN PARK / MILWAUKEE RIVER CHANNEL SEDIMENTS SITE PHASE II FS / RD</b> <small>GLENDALE, MILWAUKEE COUNTY, WISCONSIN</small>			<b>CONTAMINATED ZONES AND DEPOSITS</b>				
PROJECT MGR. MC	DESIGNED BY RF	DRAWN BY RF	CHECKED BY JB	DATE JAN 2014	SCALE AS SHOWN	PROJECT NO. 6256105	FILE NAME -	DRAWING NO. -	SHEET 2

# Estabrook Dam



# Construction Access to Dam

WDNR requires Milwaukee County to obtain permanent access to all parts of the Dam

- ▶ Milwaukee County owns the entire east bank—Estabrook Park
- ▶ West bank is entirely privately owned
- ▶ The three impacted private properties have committed to provide permanent access easements
- ▶ Easements would provide access for both the Sediment and Dam projects
- ▶ The island located between the gated and fixed-crest segments of the dam is owned by the US Bureau of Land Management – BLM
- ▶ BLM requires that an EA – Environmental Analysis be performed to comply with the National Environmental Policy Act – NEPA prior to approval of access to island
- ▶ EA process includes an Alternatives Analysis

# Estabrook Dam Private Lands Access Routes



# Environmental Analysis Schedule

- **Technical Advisory Team Meeting May 16**
  - Team provides big picture comments on EA Draft No. 1
  - Agencies will have additional time to review EA for technical content
- **Issue Public Information Meeting Invitation on May 22 with date draft EA will be available**
- **Draft EA posted on County web site starting on May 28**
- **Public Information Meeting on June 5**
- **Draft EA Public comment period ends June 12**
  - Public comments will be integrated into the final EA
- **Final EA to approving Agencies June 30**

# Questions?

