

# Howards Bay Cleanup St Louis River Area of Concern

Fraser Shipyards 1960's



Living up to our name.

City of Superior and Wisconsin DNR  
January 24, 2017 Public Meeting  
Superior, Wisconsin



# Overview



St Louis River Cleanup and Restoration

Howards Bay Project & Dredge Material Use

Wisconsin Point Landfill & Project Benefits

Next Steps

Question & Answer Session

# Introductions



## Partners & Support

- City of Superior
- Wisconsin Dept. of Natural Resources
- Fraser Shipyards
- U.S. EPA
- U.S. Army Corps of Engineers
- Arcadis
- Wisconsin Dept. of Health Services

# Project Purpose



**Cleanup Riverfront**

- St Louis River, Howards Bay

**Support Local  
Business**

- Fraser Shipyards, Others

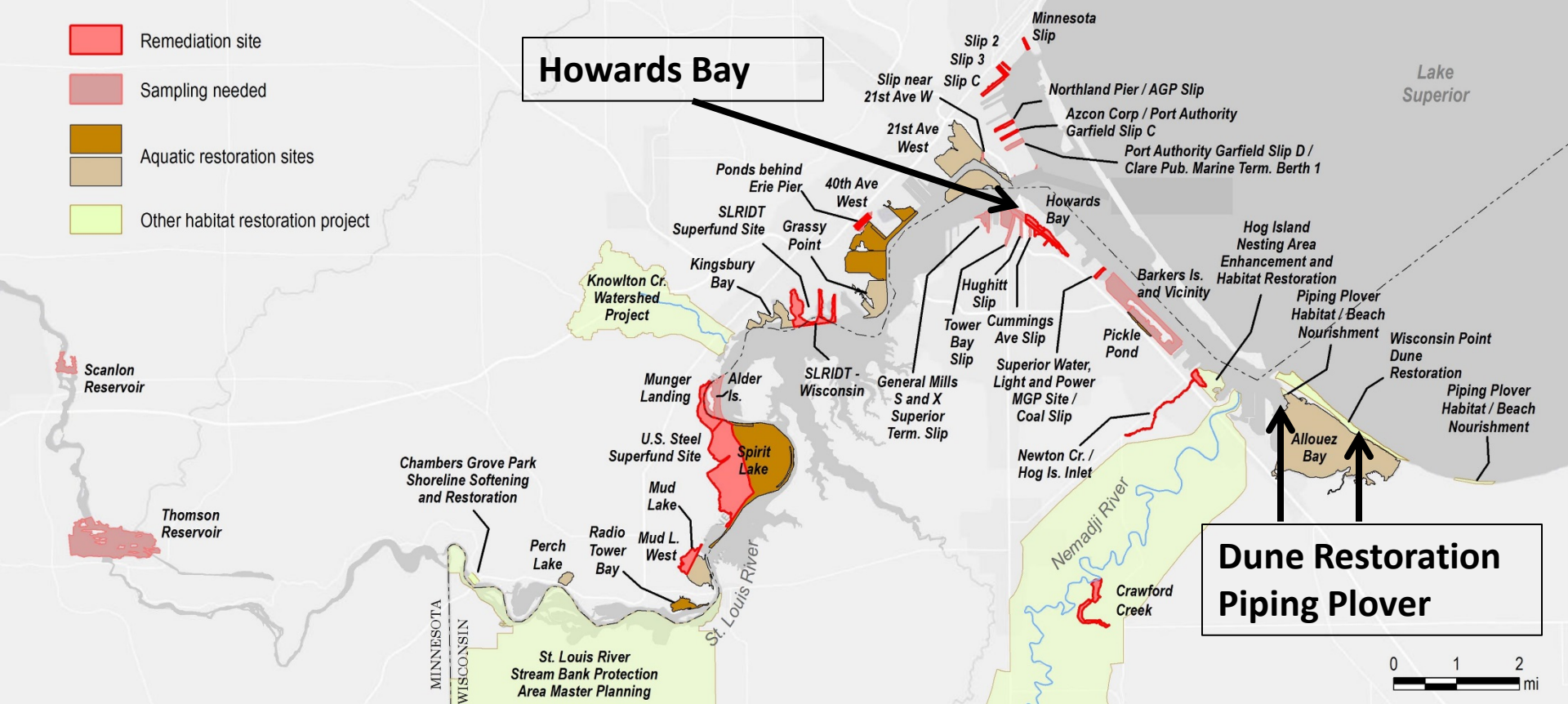
**Support Local  
Workers**

**New Recreational  
Area**

- Wisconsin Point Landfill

**Improve Cap at  
Closed Landfill**

# Projects to cleanup and restore the St Louis River Estuary



**A Great Lakes Area of Concern**

# Howard's Bay

- Shipyards, grain terminals, commercial fishing operations, and other industrial operations for over 100 years
- Shipyard critical to the shipping industry – only U.S. dry docks on Lake Superior
- Economically important to City of Superior
- Cleanup and navigation dredging important to vitality of commerce in Howard's Bay
- Maritime needs in the bay are met by a federal navigation channel and private slips
- Federal channel ranges from approximately 175 to 450 feet wide
- Authorized project depth of 27 feet below LWD



# Howards Bay Project



- A public – private partnership to address environmental issues and meet maritime needs utilizing sound science, common sense, and innovative solutions.
- Great Lake Restoration Initiative – Great Lakes Legacy Act Funding
- Army Corps Dredging
  - Shipping Channel Dredging (< 27-feet)
- Cleanup Dredging
  - Polluted Areas (shipping channel > 27-feet, areas outside channel, and slips)
- Concurrent and dependent projects to achieve efficiencies from one larger project
- Support on location for placement of dredge material is vital to project

Provides key support to Great Lakes shipping

# Fraser Shipyards

- Situated on east end of Howard's Bay
- Important local employer
- Ship repair and utility boat manufacturing
- State grants to update infrastructure



# Twin Ports' Largest Grain Terminal



## CHS

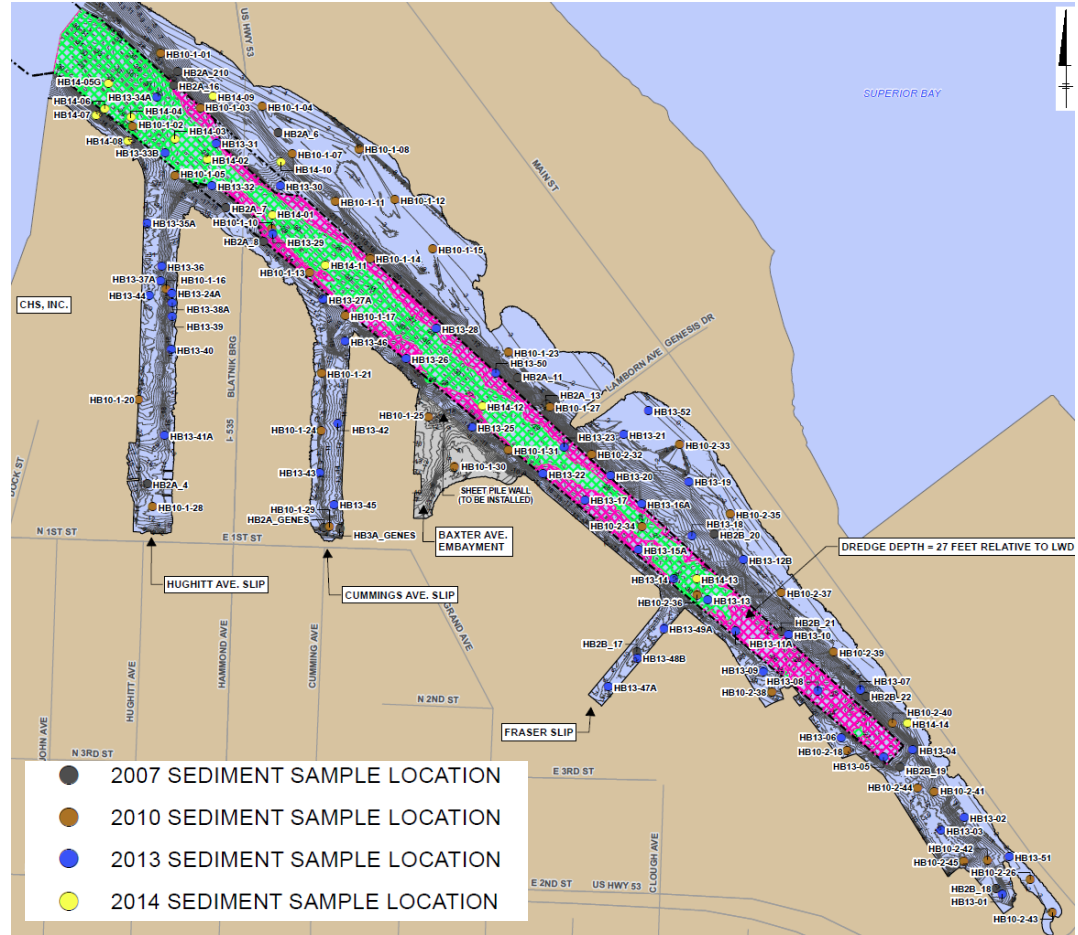
- Served by Howards Bay shipping channel
- Hughitt Slip in project area
- Important local employer
- Ocean Going Ships



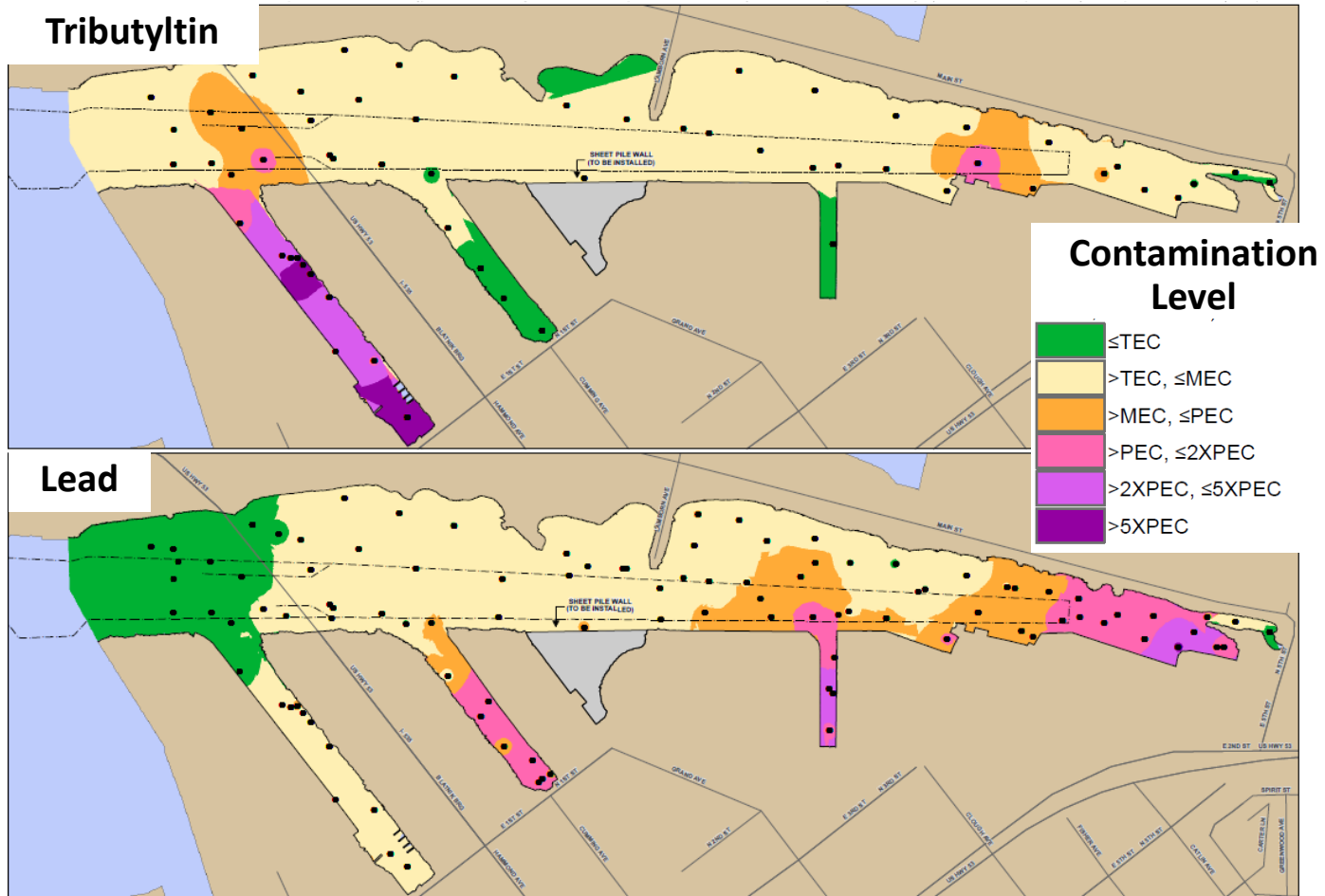
# U.S. Army Corps to Dredge Shipping Channel

## Navigation Dredging Needs

-  Water depth > 27 feet
-  Water depth < 27 feet



# Pollution levels increase cost and restrict dredging projects



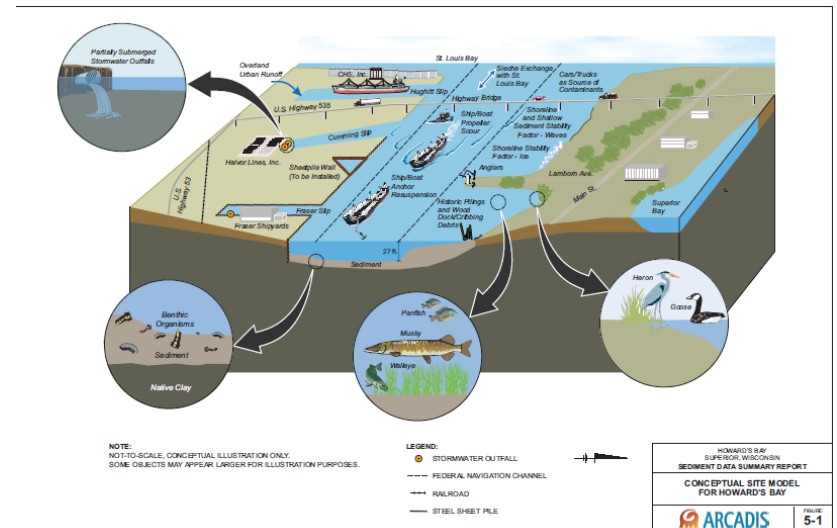
Contaminants: Lead, Tributyltin, Total PAHs, Mercury

# Where did contamination come from?

- Historic Activities
  - Spills & releases
  - Deposition with rainfall
  - Storm Water Runoff
- Lead
  - Paint (sand blasting ship hulls)
  - Leaded Gasoline
- Mercury
  - Many Industrial Uses
  - Coal Combustion
- PAHs
  - Combustion
  - Road Runoff
  - Spills
  - Treated Wood
- Tributyltin
  - Antifouling Agent in Marine Paint



● Storm Water Outfall



# Selected Cleanup Option

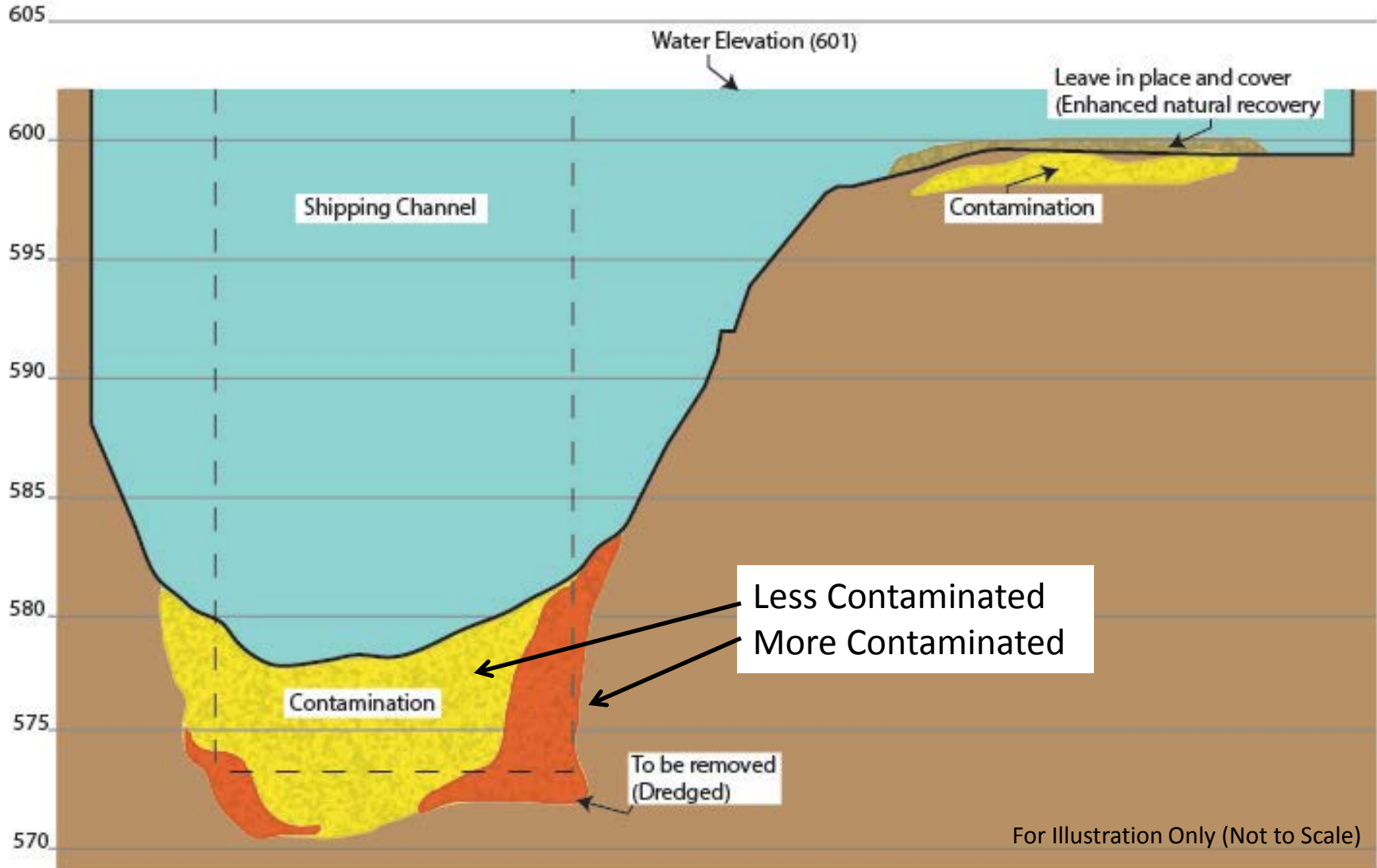
Action	Clean-up Area (Acres)	Approximate Volume (Cubic Yards)
Navigation Dredging (< 27')	6.7	40,000*
Clean-Up Dredging	17.0	83,000
Enhanced Natural Recovery	1.5	N/A

\* includes non clean-up material

- Project team agreed on a **Modified Alternative-4** to carry forward into design.
- Combination of **enhanced natural recovery** and **dredging**
- Based on the evaluation criteria **dredging** and **enhanced natural recovery** is the best option for this project based on long-term effectiveness, costs, and ability to implement (e.g. **available sites for material**)



# Illustration of Cleanup Alternative



# Dredged Material Management

## Options

1. Beneficial use (preferred )
2. Disposal
3. Combinations of the two



## Considerations

- Physical and chemical quality
- Costs
- Capacity
- Ability to implement
- In-kind match to secure federal funds
- Identified the best options



# Options Evaluated for Cleanup Material

Category	Option	Cost	Capacity
<b>Beneficial Use</b> (Use for another purpose)	In-water Habitat Placement	Low	Low
	Wisconsin Point Landfill	Low	High
	Duluth Brownfield Sites	Low	None
	Landfill Daily Cover	Moderate	Very Low
<b>Disposal</b>	Fill Baxter Slip & Embayment	Moderate	None
	Cummings Slip CDF	Moderate	None
	Erie Pier CDF	Low to moderate	None
	Upland Placement at Fraser	Moderate	Low to Medium
	Landfill Disposal	High	High

**Wisconsin Point Landfill is the only low cost implementable option with enough capacity that provides significant in-kind match**

# Proposed Options for Dredged Material

## Erie Pier Processing & Reuse Facility

- Navigation Channel Material
  - Meets standards for MN reuse on land

## Wisconsin Point Landfill (inactive)

- Beneficial use to improve cap/cover
  - Meets Site Specific Protective Standards
  - Cover Material & Burial

## Other Landfill

- Disposal of material not meeting site specific standards

# Wisconsin Point Landfill

- Closed in 1977
- Capped with clay
- Development, agricultural uses, land disturbing activities not allowable
- Fenced to limit access



# Previous Landfill Cap Repairs

- Last done in 2012
- \$60,000
- 7,000 Cubic Yards of Soil
- Seed & Mulch
- No “increase” in separation from waste
- Limited Area
- Not developed for recreational uses

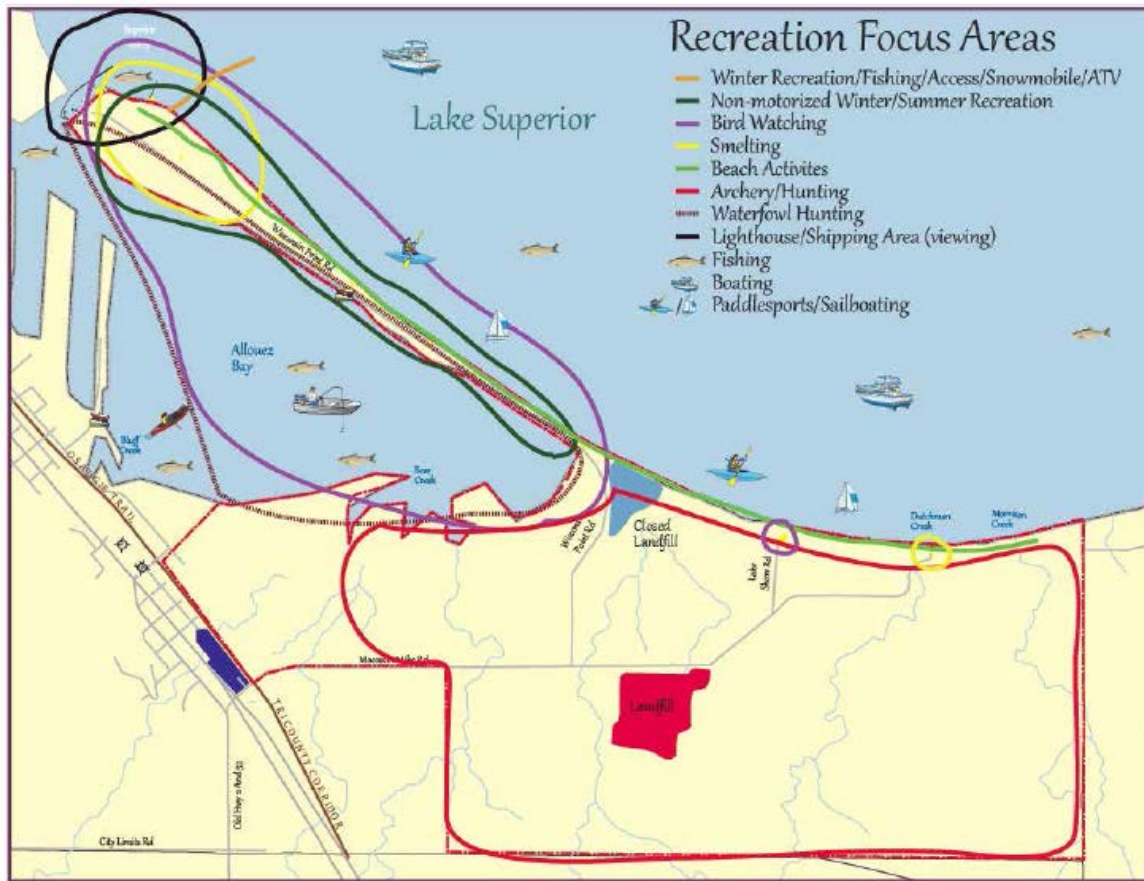


# Wisconsin Point Landfill

- Recently Used to Stockpile Clay (for use at Moccasin Mike)
- Existing Cap Issues
  - Differential Settling
  - Drainage Problems
  - Will Eventually Need Repair
- Additional Cover Material would be Beneficial
  - Greater Thickness Over Waste
  - Improved Drainage
  - Reduce Leachate
  - Maintain Vegetated Cover
  - Minimize Future Maintenance
  - Improve for Recreational Uses



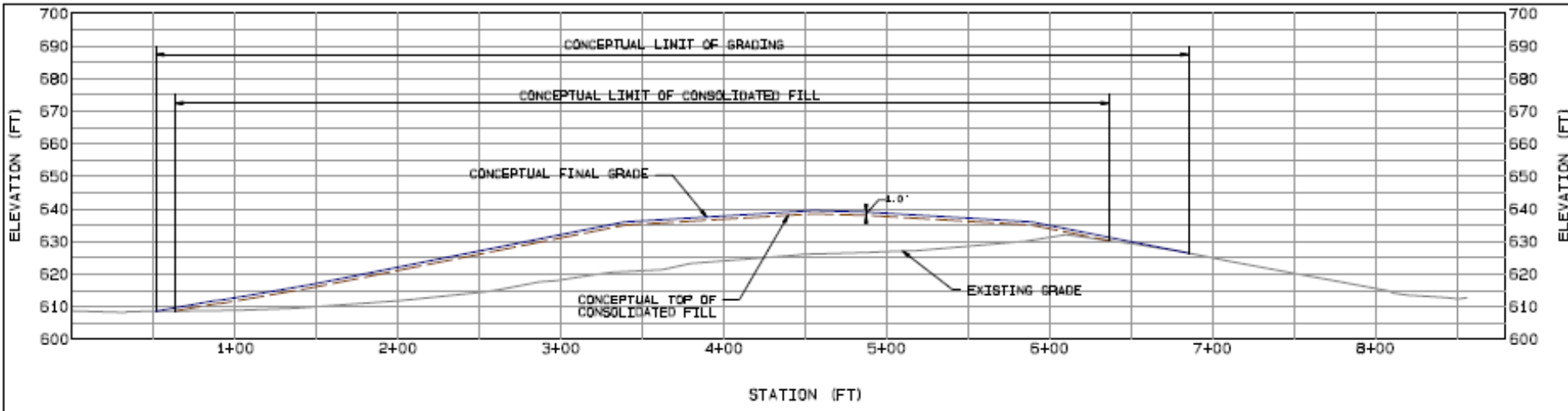
# Wisconsin Point Management Plan



- Wisconsin Point Landfill Desired Uses
  - Low-impact recreation
  - Compatible with landfill
  - Increased access for:
    - Unpaved **foot paths** or **trails**
    - Off-leash **dog park**
    - **Parking**

# PHYSICAL “STANDARDS”

- Walkable slopes for recreation  
(no steeper than 10 feet horizontal : 1 foot vertical)
- Limit Elevation – Height
- Free from large debris (mowing & settling)
- Must support vegetative growth
- Others?



Example profile of maximum fill to achieve 10:1 slopes

# SITE SPECIFIC PROTECTIVE STANDARDS

**Protective of human health and the environment**

**Developed by DNR** based on recreational use proposed in Wisconsin Point Management Plan

**Wi Dept. Health staff reviewed and concurred** with levels, conditioned on **maintaining grass cover**

## **Limited Recreational Uses**

- Footpaths and/or dog park acceptable
- Limited soil exposure expected (e.g. no digging)

## **Realistic Exposure Assumptions**

- Frequency and exposure times reduced in comparison to non-industrial/residential exposure



# SITE SPECIFIC PROTECTIVE STANDARDS

## Placement Criteria for Chemicals Present

- 12 chemicals (including lead and mercury) same as residential use values
- Protective levels for 7 chemicals based on limited recreational uses

## Recreational Uses Allowed at Similar Sites

- “Rails to Trails”  
Recreation trails along former railroad corridors (similar contaminants)
- Dog parks at closed landfills

## Conservative Values\*

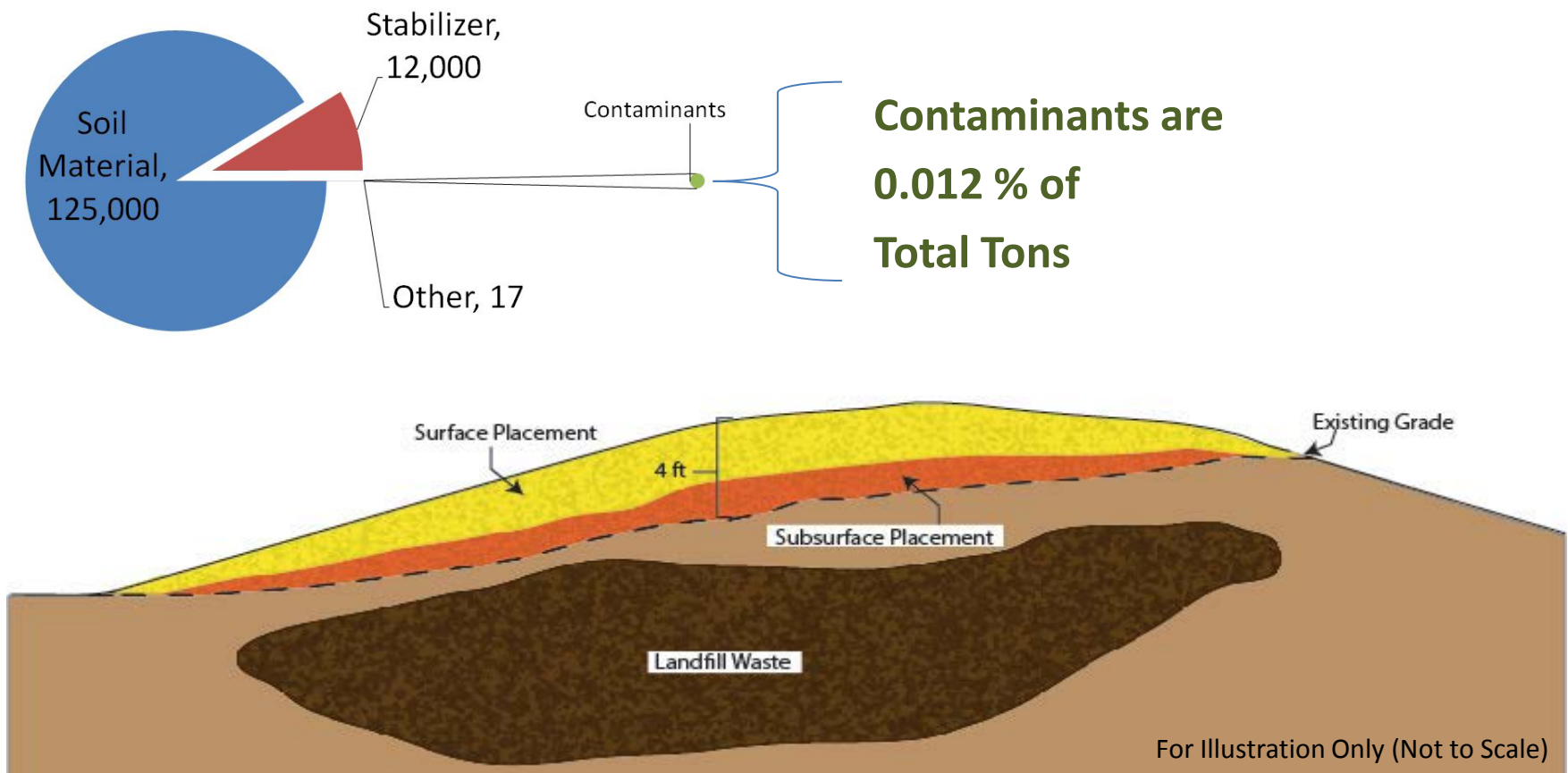
Did not adjust all the dials in equations used to get values

\*Ongoing toxicology research suggests that even higher values would be protective based on expected uses



# How Much Material?

- **137,000 Tons  
Wisconsin Point Landfill**



**Lead and mercury levels at surface would be ok for a residential site**

# Limited Risks for Leaching & Runoff



- Binding agents reduce leaching potential
- Material test results show it does not leach contaminants, even under tests that simulate conditions that are more harsh than possible in this environment.

- Material will be stabilized with vegetation to prevent off-site migration of diluted contaminants
- Detailed Site Specific Erosion Control and Storm Water Management Plans
- Best Management Practices will be designed to **exceed regulatory minimums**
  - **100 foot undisturbed vegetated buffer** (standard is 50 to 75 feet)
    - Lake Superior
    - Wetlands
  - Will greatly exceed (be below) the construction sediment load standard (berms, basins, slope interruption, mats, etc.)
- No change in City's liability for monitoring (duration or parameters)

# Concept for Recreational Development on Improved Cap

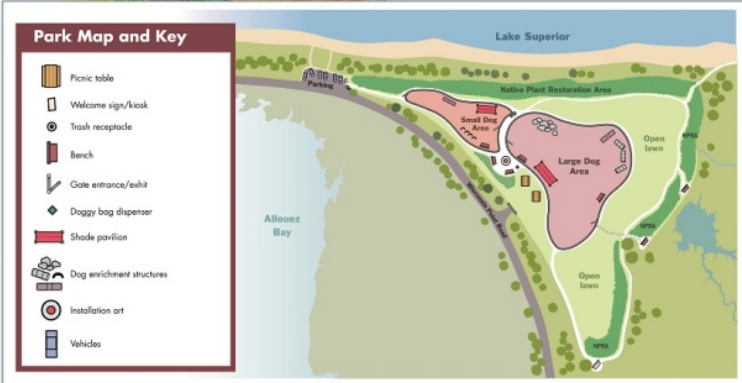
## Wisconsin Point Dog Park

The old WI Point landfill currently has a cap that is suffering from differential settling and drainage issues. The area is fenced off and unusable for recreation. Dredge material from Howard's Bay in the St. Louis River Estuary will be placed as beneficial reuse over the old landfill to stabilize its cap, improve drainage, reduce leachate, and make it possible to turn it into a recreational area

Before



After



# Project Benefits

- Maintains Navigation Depths
- Addresses use impairments
- Beneficial Use of Dredge Material
- Public-Private Partnership
- Makes use of available federal funds
- Improves condition of the cap/cover at the closed Wisconsin Point landfill
- Improvement of Wisconsin Point Landfill for the recreational uses identified in Wisconsin Point Management Plan



# Trucking Route

- 4,900 truck loads
- Dozens of trucks per day
- 2 – 3 months to complete



# Trucking Route Questions

- Uptick in traffic & noise
- Road Surface Damage
- Video Tape Before & After Project
- Roads would need to be in the same or better condition after project
- Repair or payment for damages would be specified in contracts
- Would be addressed in project agreements
- Public Works Dept. to be present during surveys and will have to concur on the need for and adequacy of repairs





# NEXT STEPS

Continue Public Outreach	• Gather Public Input
Decision on Landfill Cover	• Superior City Council
Landfill Plan Modification	• City Proposes Criteria
DNR Public Meeting	• Decision on Plan & Criteria
Project Agreements	• City, DNR, Fraser, U.S. EPA
Complete Design	• Army Corps
Army Corps Issue Contracts	
Construction in 2018	



# Questions & Answers



## Project Contacts:

Darienne McNamara

City of Superior

(715) 395-7506

[mcnamarad@ci.superior.wi.us](mailto:mcnamarad@ci.superior.wi.us)

Joe Graham

DNR

(715) 635-4015

[Joseph.Graham@wisconsin.gov](mailto:Joseph.Graham@wisconsin.gov)

Sean Smith

Fraser Shipyards

715-394-4211

[ssmith@noengwks.com](mailto:ssmith@noengwks.com)

## How Can I Weigh In?

Share your thoughts

Ask questions tonight

OR

Send comments to:

[mcnamarad@ci.superior.wi.us](mailto:mcnamarad@ci.superior.wi.us)

To be considered comments need to be received no later than 4:00 PM on February 8, 2017