

Summary of the Phase I Removal Action in the Lower Passaic River



***SedNet Conference
6 to 9 November, 2013 Lisbon, Portugal***

TIG Environmental

We are Specialists:

- Forensic environmental investigation
- Industrial archaeology
- Fate and transport
- Source evaluation and control
- Investigation and clean-up strategy
- Feasibility Studies
- Remedial design review
- Value engineering
- Insurance coverage/cost recovery
- Construction claim avoidance/mitigation
- Allocation and litigation support
- Expert reports/opinions



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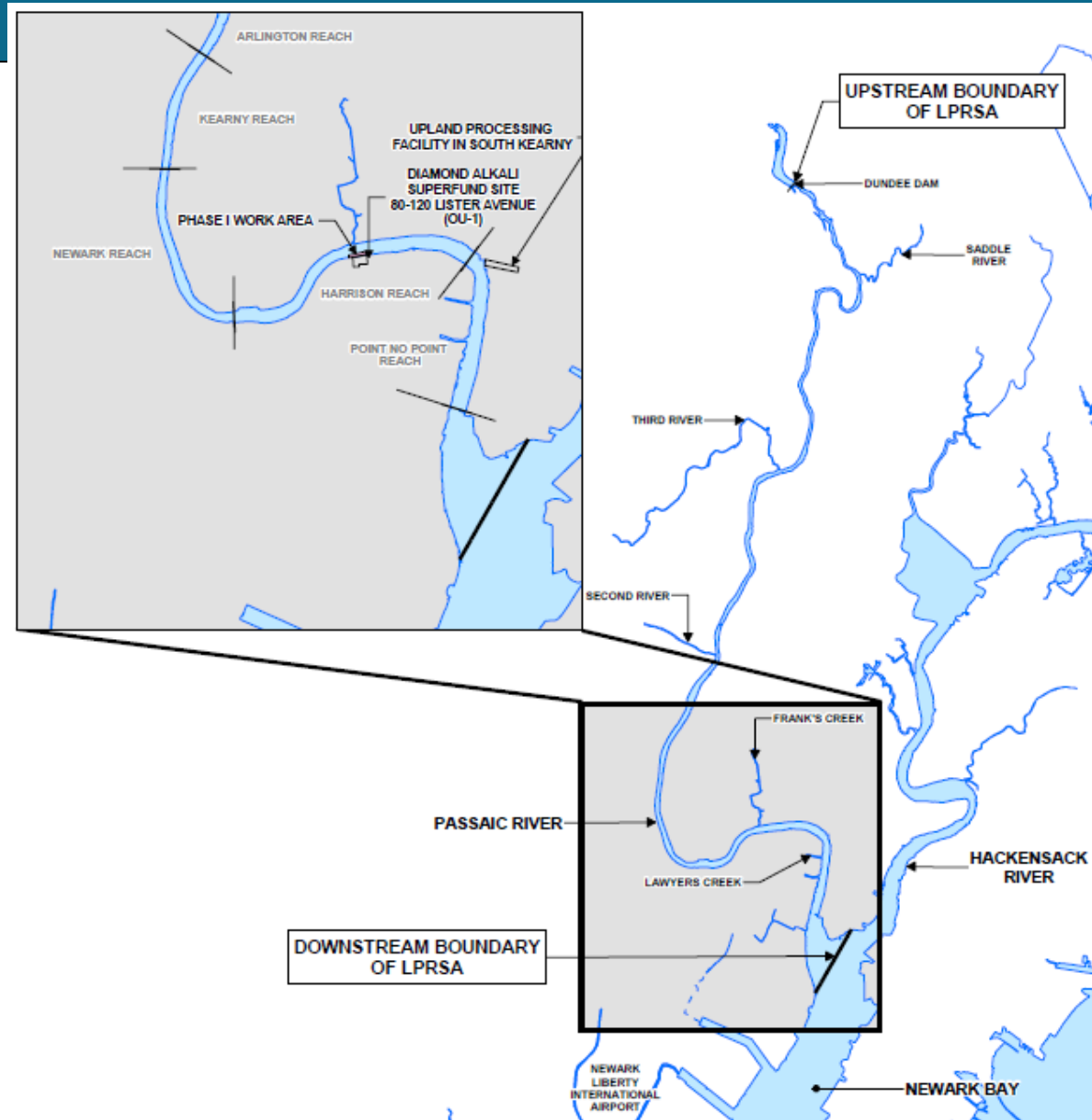
Presentation Outline

- Project Overview
- Phase I Timeline
- Operational Summary
- Key Project Elements
- Project Performance
- Lessons Learned



Project Location

- The Lower Passaic River Study Area (LPRSA) is 17 miles long
- Extends from the Dundee Dam near Garfield, New Jersey, to Newark Bay
- The Phase I Work Area is located within the Harrison Reach of the LPRSA
- Highly contaminated and urbanized river

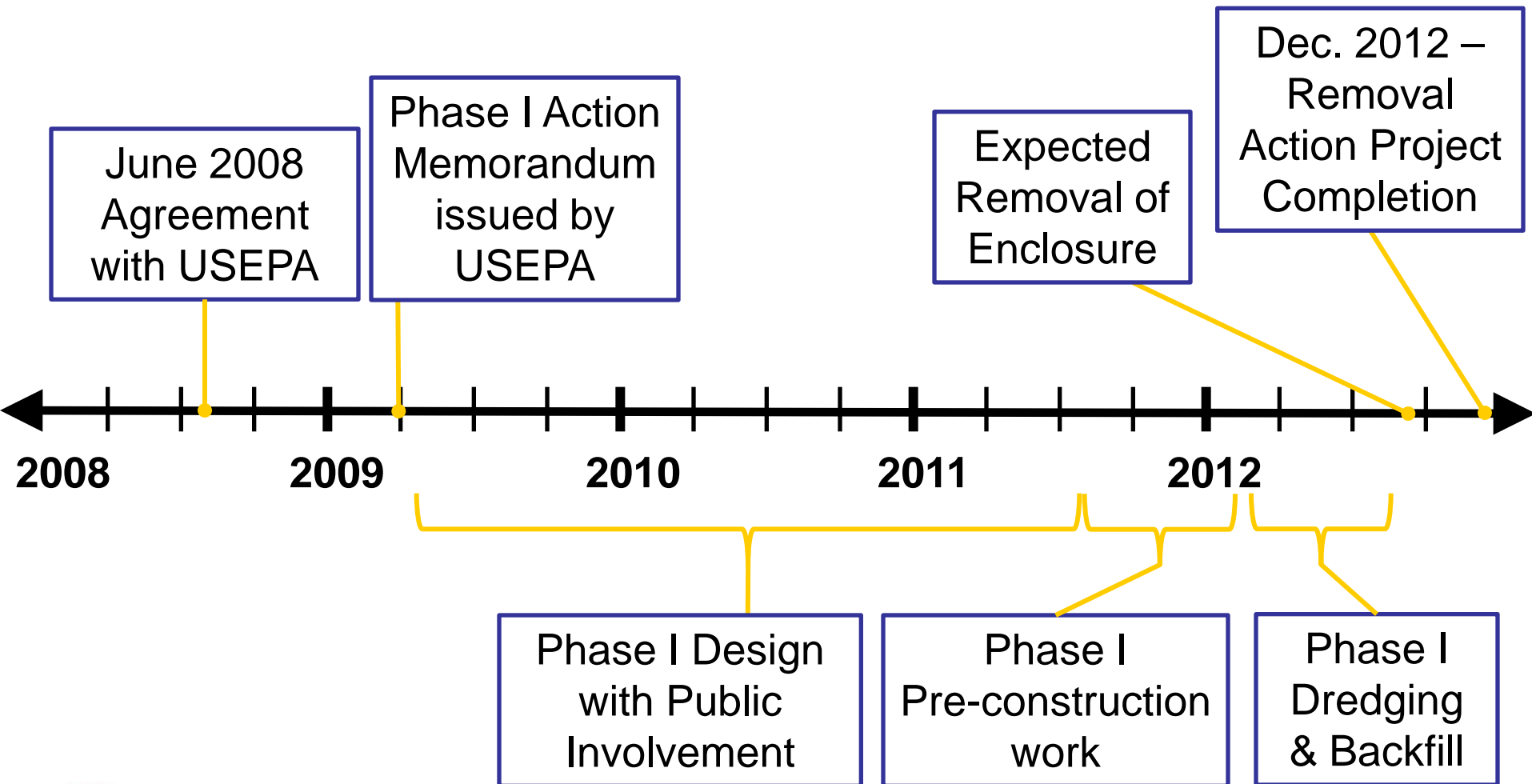


Project Overview – Goals

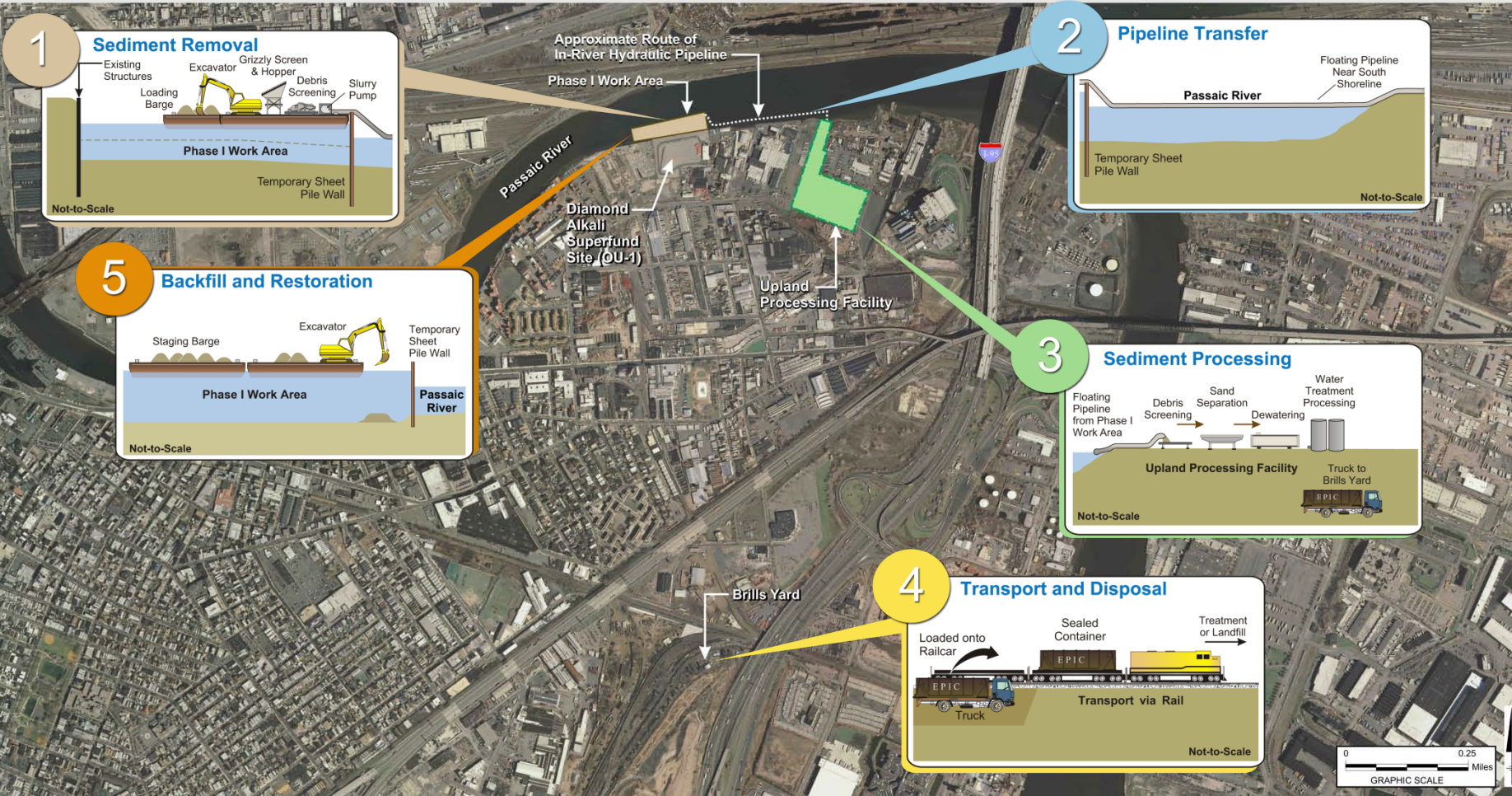


- Overall goal to reduce inventory and source of dioxins in the Passaic River by removing highest concentrations of 2,3,7,8-TCDD
- Removal depth of 12 feet below sediment surface
- 40,000 cy to be sent for treatment/disposal
- Removal to be conducted within sheet pile enclosure
- Area to be backfilled and restored

Phase I Removal Action – Timeline



Phase I Sediment Removal Operations



1 Sediment Removal

Existing Structures, Excavator, Grizzly Screen & Hopper, Loading Barge, Debris Screening, Slurry Pump

Phase I Work Area

Temporary Sheet Pile Wall

Not-to-Scale

2 Pipeline Transfer

Passaic River

Floating Pipeline Near South Shoreline

Temporary Sheet Pile Wall

Not-to-Scale

5 Backfill and Restoration

Staging Barge, Excavator, Temporary Sheet Pile Wall

Phase I Work Area

Passaic River

Not-to-Scale

3 Sediment Processing

Floating Pipeline from Phase I Work Area, Debris Screening, Sand Separation, Dewatering, Water Treatment Processing

Upland Processing Facility

Truck to Brills Yard

Not-to-Scale

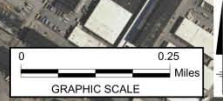
4 Transport and Disposal

Loaded onto Railcar, Sealed Container, Treatment or Landfill

EPIC Truck

Transport via Rail

Not-to-Scale



Removal and Processing Areas



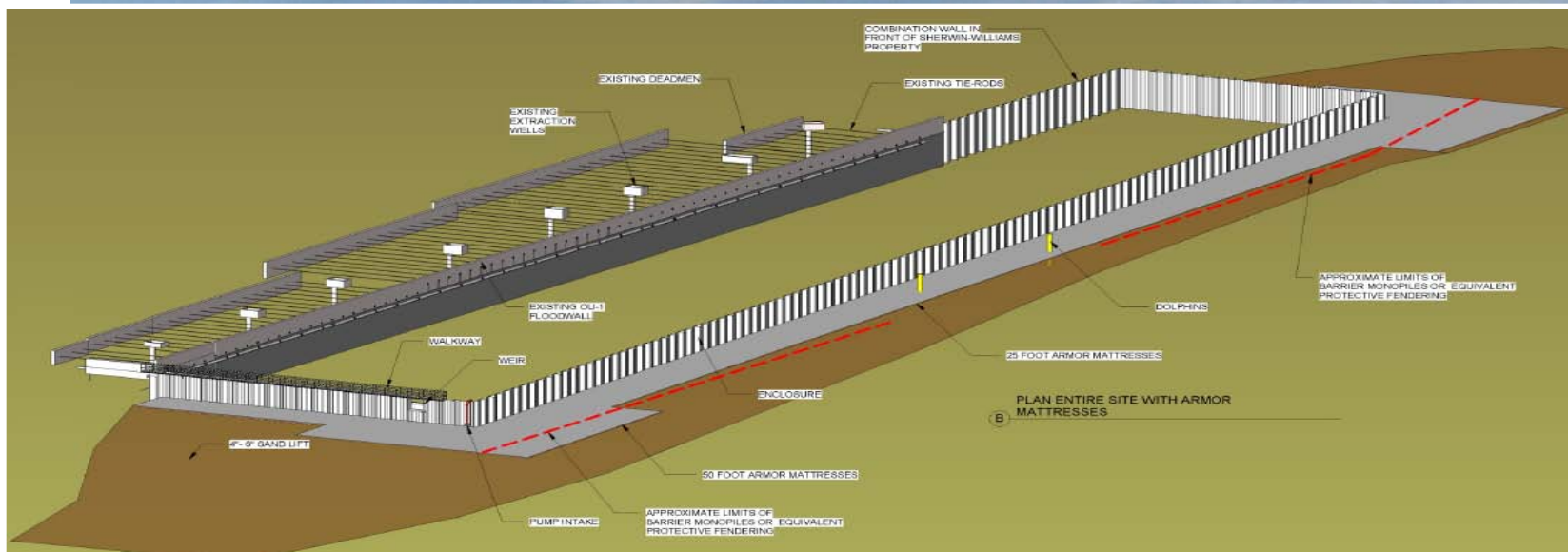
Key Design Elements

- Pre-Construction Civil Work
- Sheet Pile Enclosure
- Dredging
- Sediment Processing
- Water Treatment
- Off-Site Transportation, Treatment and Disposal

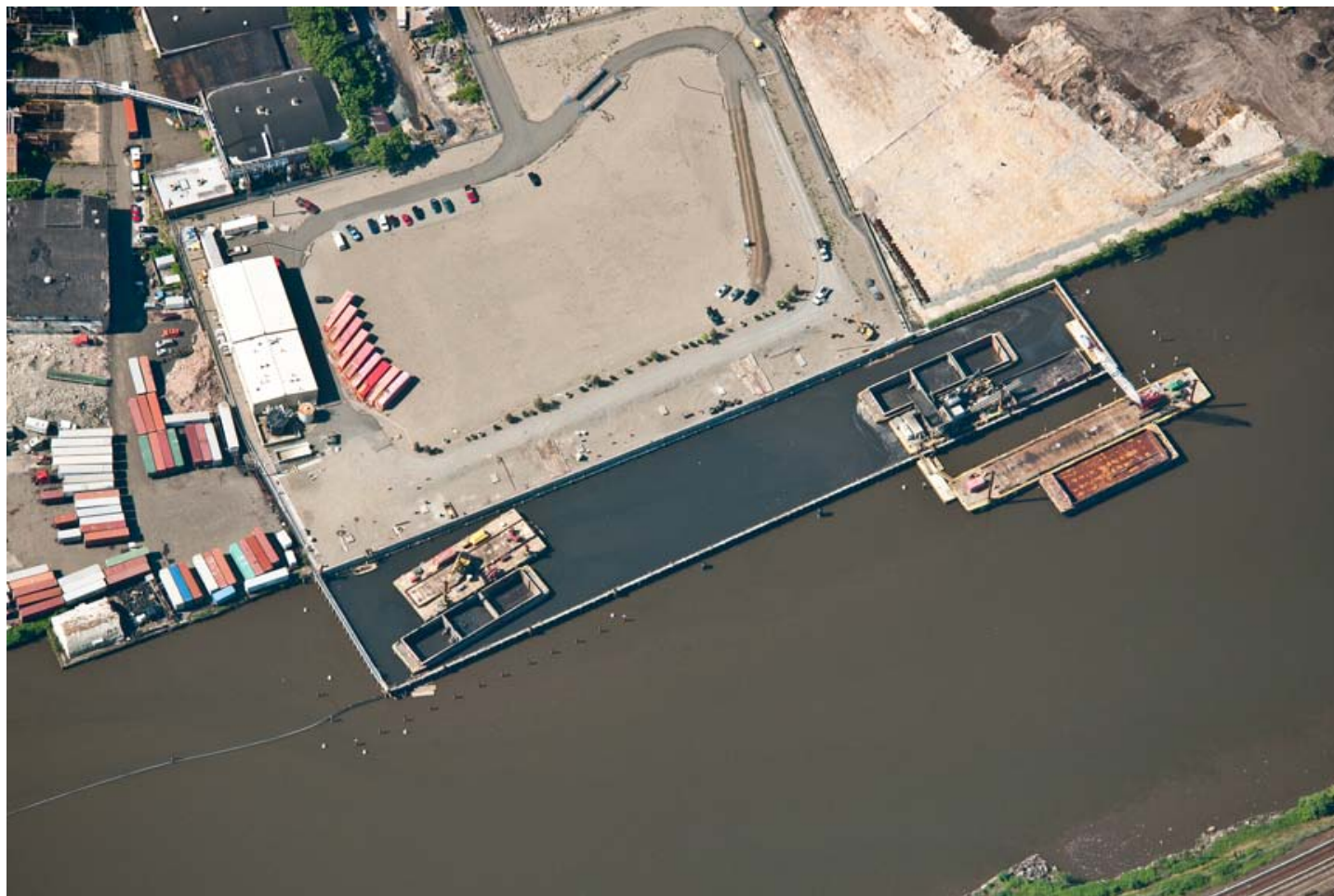
Pre-Construction Civil Work



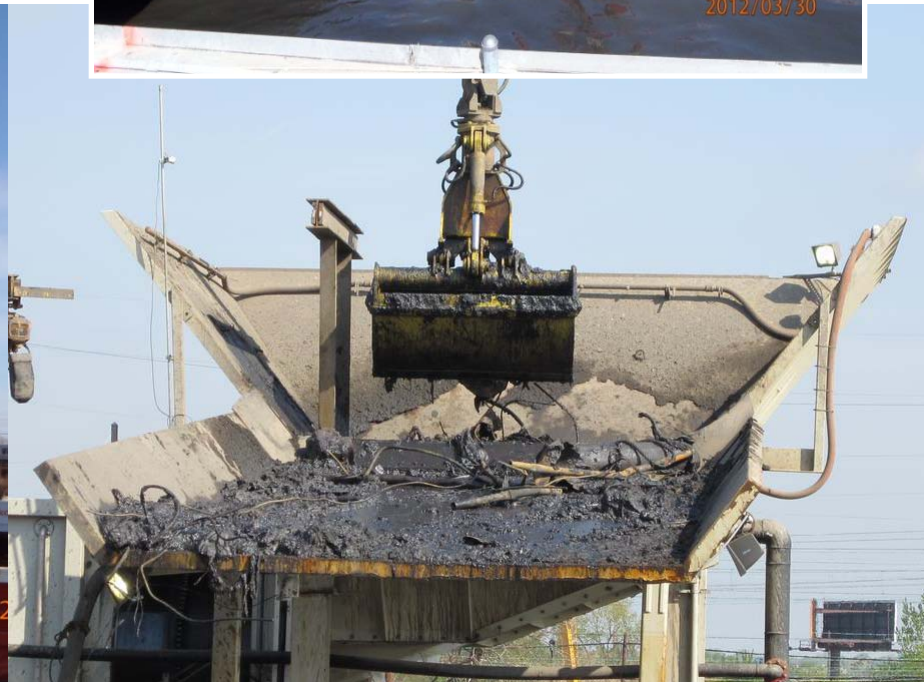
Sheet Pile Enclosure



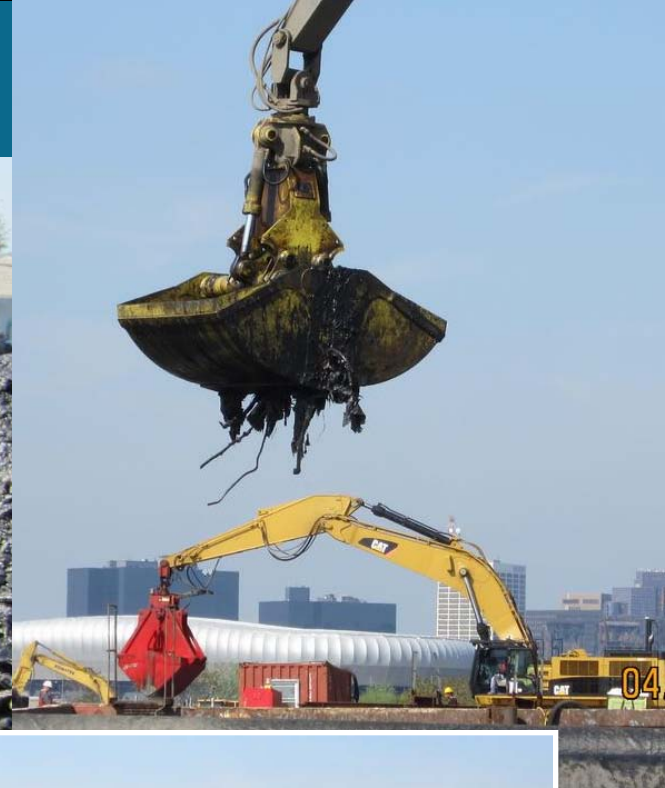
Removal Action Area



Dredging



Dredging/Debris



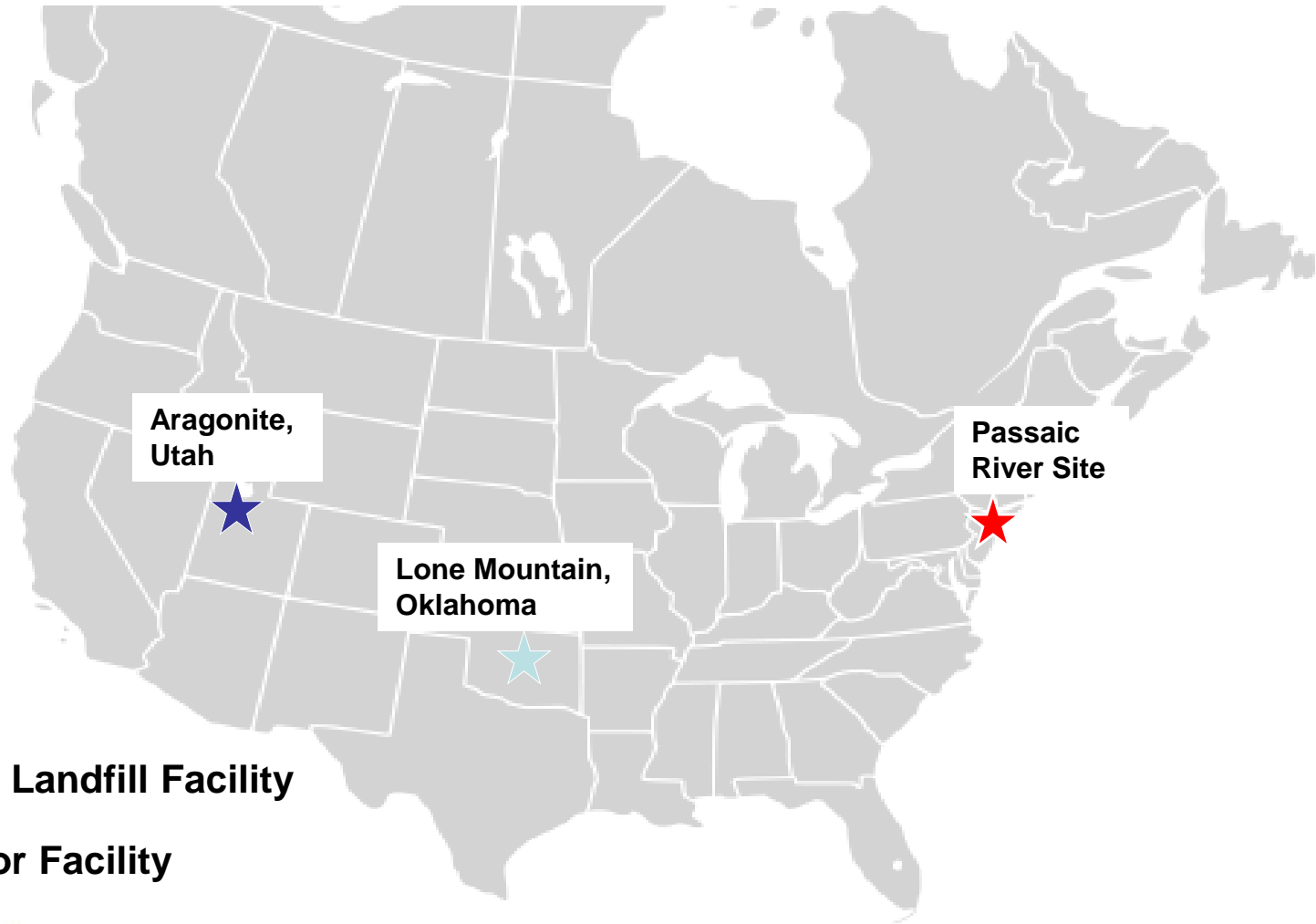
Processing Operations



Water Treatment



Transportation and Disposal – Disposal Locations

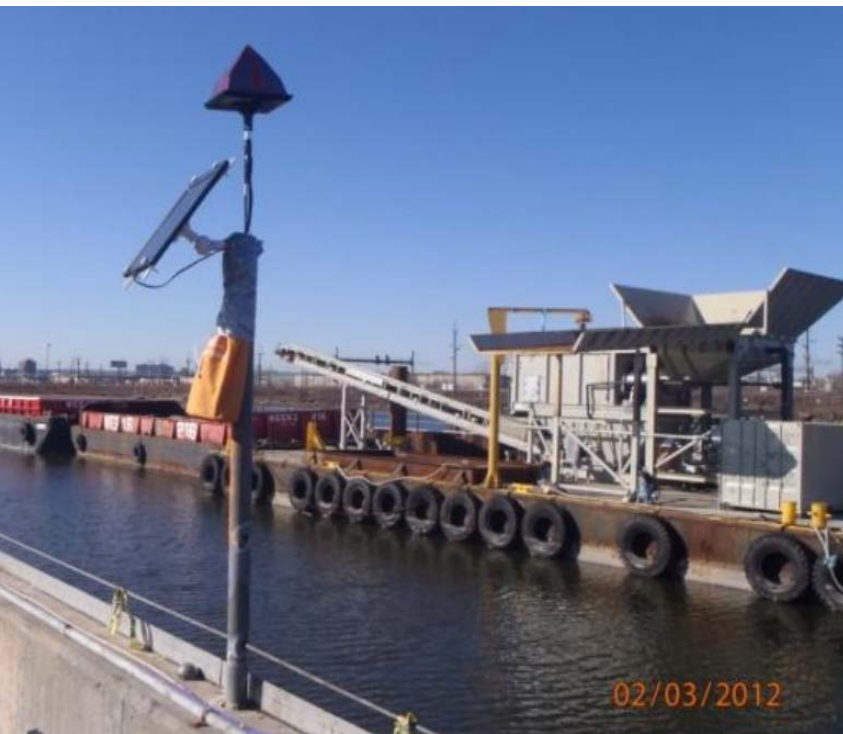


★ Subtitle C Landfill Facility

★ Incinerator Facility

Unique Project Features

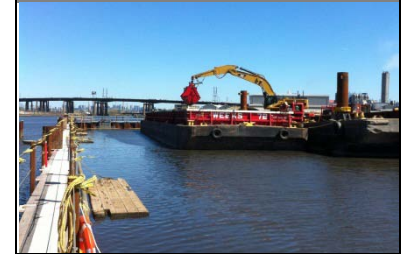
- Underwater sound monitoring
- Bird deterrence system
- Super Job Training Initiative (JTI) staffing



Community Engagement



Final Community Health and Safety Plan



- Monthly participation in CAG meetings
- Involvement in public meetings
- Engagement with USEPA in Super JTI Program (job opportunities for local community)
- Development and implementation of Community Health and Safety Plan, addressing:

- > Project- and community-related hazard
- > Quality of life issues
- > Community “complaint” hotline
- > Project website with timely monitoring information/results



Lessons Learned/Applicable to Europe

- While challenging, removal of highly enriched sediment hot spots is necessary for overall improvement of water and sediment quality in rivers
- Successful removal actions are possible with good design and planning
 - Schedule and budget achieved
 - Agencies and public gratified with results

Thank you

