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

SedNet Conference
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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

- June 2008 Agreement with USEPA
- Phase I Action Memorandum issued by USEPA
- Phase I Design with Public Involvement
- Phase I Pre-construction work
- Expected Removal of Enclosure
- Dec. 2012 - Removal Action Project Completion
- Phase I Dredging & Backfill
Phase I Sediment Removal Operations

1. Sediment Removal
   - Existing Structures
   - Loading Barge
   - Excavator
   - Debris Screening
   - Slurry Pump
   - Phase I Work Area
   - Temporary Sheet Pile Wall

2. Pipeline Transfer
   - Floating Pipeline Near South Shoreline
   - Temporary Sheet Pile Wall
   - Passaic River

3. Sediment Processing
   - Floating Pipeline from Phase I Work Area
   - Debris Screening
   - Sand Separation
   - Dewatering
   - Water Treatment, Processing
   - Upland Processing Facility
   - Truck to Barge Yard

4. Transport and Disposal
   - Loaded onto Railcar
   - Sealed Container
   - Treatment or Landfill
   - Transport via Rail

5. Backfill and Restoration
   - Staging Barge
   - Excavator
   - Temporary Sheet Pile Wall
   - Phase I Work Area
   - Passaic River
   - Brigs Yard
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
Removal Action Area
Dredging/Debris
Processing Operations
Transportation and Disposal – Disposal Locations

Subtitle C Landfill Facility

Incinerator Facility

Aragonite, Utah
Lone Mountain, Oklahoma
Passaic River Site
Unique Project Features

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

- Monthly participation in CAG meetings
- Involvement in public meetings
- Engagement with USEPA in Super J TI 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

Questions?