



June 10, 2020

Portland Harbor In-Water Cleanup Design *What will it look like?*

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What is happening at all of the red circles?

Questions Covered in this Presentation

- ▶ What **does remedial design** mean?
- ▶ What is the **overall process** for designing the cleanup before starting construction?
- ▶ What is the **status of cleanup design** at each of the areas where EPA has an agreement with working parties?
- ▶ **What is a Unilateral Administrative Order (UAO)** and how is it different from the other agreements that EPA has signed for remedial design?



St. Johns Bridge, Portland OR
Source: EPA

Remedial Design 101

General Definition: Process to develop detailed plans for the actual construction of the cleanup.

- ▶ **Major Components of Remedial Design for each project area at Portland Harbor:**
 - ▶ Sufficiency Assessment
 - ▶ Pre-Design Investigation (PDI)
 - ▶ Basis of Design Report (BODR)
 - ▶ Remedial Design Work Plan (RDWP)
 - ▶ Preliminary (30%) Remedial Design (RD)
 - ▶ Intermediate (60%) Remedial Design
 - ▶ Pre-Final (95%) & Final (100%) Remedial Design

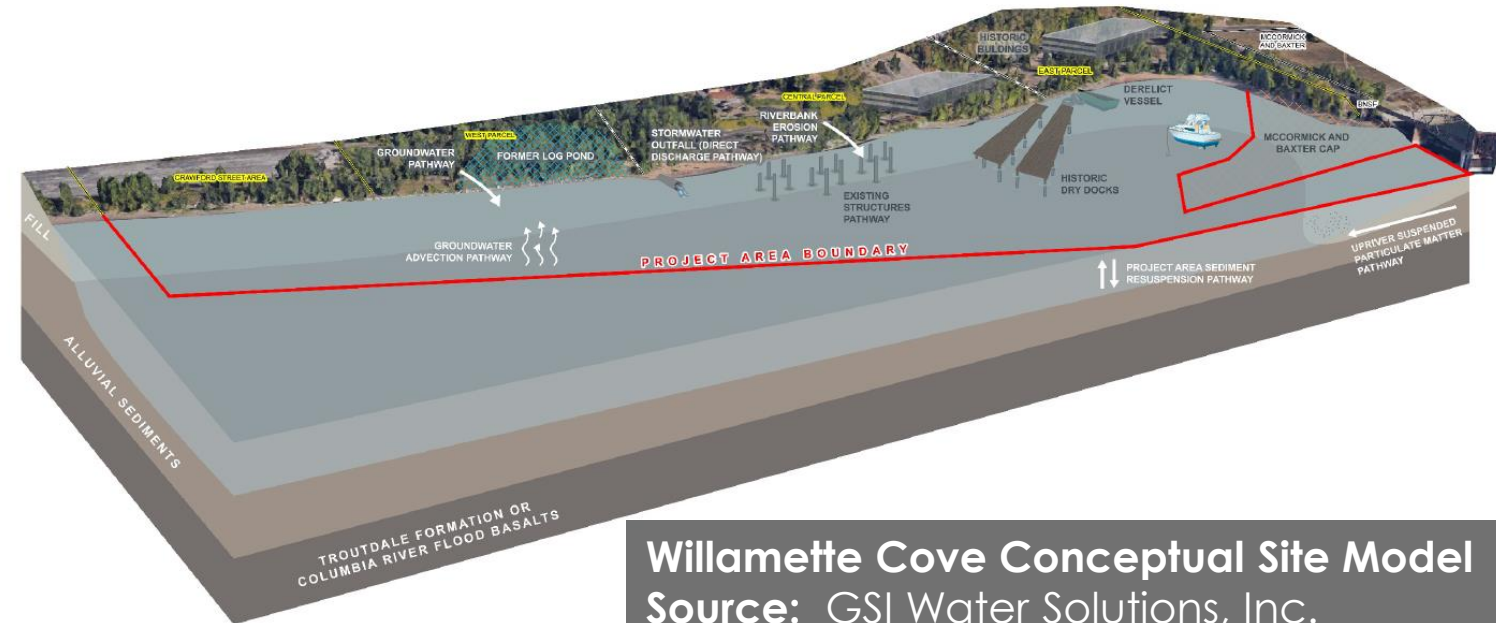


Railroad Bridge, Portland OR
Source: EPA

Sufficiency Assessment

Project Specific

- ▶ **Purpose:** To determine that sources of contamination are sufficiently controlled such that Remedial Action (RA) can begin.
- ▶ Some **key items in the sufficiency assessment** may include:
 - ▶ Summary of all contamination pathways and status of how they are controlled
 - ▶ Data gaps, if any, and how they will be addressed
 - ▶ Conceptual Site Model



Willamette Cove Conceptual Site Model

Source: GSI Water Solutions, Inc.

Pre-Design Investigation (PDI)

Project Specific

- ▶ **Purpose:** Addresses data gaps by conducting additional field investigations. May also be conducted later in the design process.
- ▶ Some **key items in the PDI** may include:
 - ▶ Refine known areas of contamination
 - ▶ Collect follow-up data based on previous investigations
 - ▶ Field Sampling Plan (FSP)
 - ▶ Health and Safety Plan (HSP)
 - ▶ Emergency Response Plan (ERP)
 - ▶ Photographs documenting the work



Riverbank Characterization work at the Gasco Project Area for PDI
(November 2019)

Source: EPA

Basis of Design Report (BODR)

Project Specific

- ▶ **Purpose:** Define the specific cleanup area (also called sediment management area or SMA).
- ▶ Some **key items in a BODR** may include:
 - ▶ Summary of sufficiency assessment results
 - ▶ When construction may occur
 - ▶ Protocols for any proposed dredging/capping
 - ▶ Preliminary components on general options for waste disposal
 - ▶ Identify preferred remedial approach and technology assignments



October 2009 – Bald eagle perched on power pole upland of Dock 2 at the Arkema Site.

Source: EPA

Remedial Design Work Plan

Project Specific

- ▶ **Purpose:** Provide a focused, overall plan for remedial design activities that draws from the information in the BODR.
- ▶ Some **key items in a Remedial Design Work Plan** may include:
 - ▶ Overall blueprint for content and structure of design documents, including topics such as:
 - ▶ Seismic design evaluations
 - ▶ Riverbank evaluations
 - ▶ Flood impact evaluation
 - ▶ Climate change resiliency
 - ▶ Habitat impact evaluation
 - ▶ Description of any proposed supplemental preliminary design investigation work



March 2004 Drilling at Terminal 4
Source: EPA

Preliminary (30%) Remedial Design

Project Specific

- ▶ **Purpose:** Provide a first draft of the remedial design plan.
- ▶ Some **key items in a Preliminary Design** may include:
 - ▶ BODR*
*Depending on the area, the preliminary design may be integrated into the BODR.
 - ▶ Preliminary drawings and specifications
 - ▶ Preliminary remedial action schedule
 - ▶ Preliminary remedial action and operation & maintenance cost estimates
- ▶ The Portland Harbor Community Involvement Plan outlines an **opportunity for informal feedback** before the preliminary design phase is complete.



June 2019 Portland Harbor Public Forum

Source: EPA

Intermediate (60%) Remedial Design

Project Specific

- ▶ **Purpose:** Continue to refine and improve the Preliminary (30%) Remedial Design plan.
- ▶ Some **key items in the Intermediate Design** may include:
 - ▶ Same items from the Preliminary (30%) Remedial Design plan.



Swan Island Boat Ramp, Portland OR

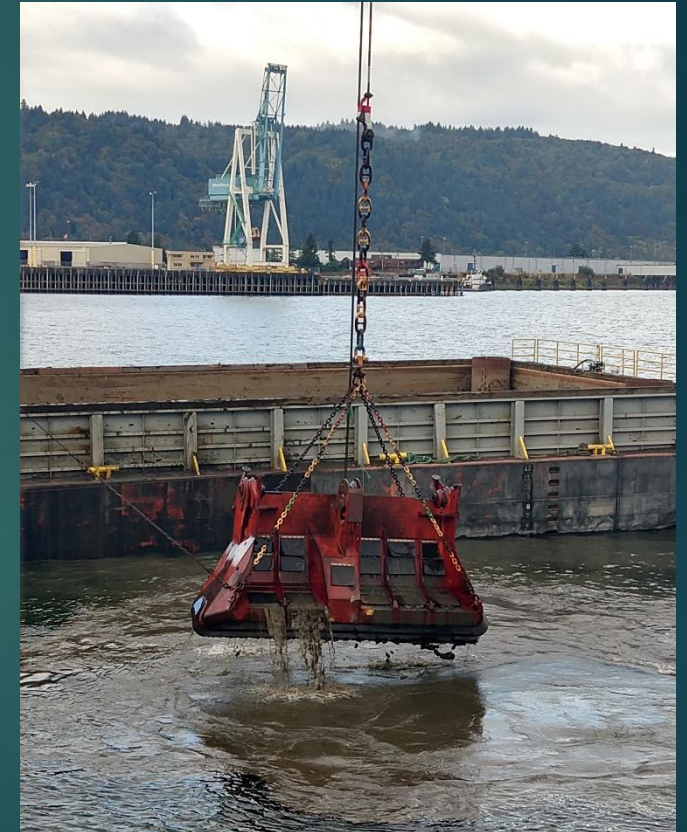
Source: EPA

Pre-Final (95%) Remedial Design

Final (100%) Remedial Design

Project Specific

- ▶ **Purpose:** Provide a detailed design for the work to be accomplished during remedial action.
- ▶ Some **key items in the Pre-Final and Final Design** may include:
 - ▶ Complete set of construction drawings and specifications
 - ▶ Details on how remedial action work will be documented



Dredging via Clamshell Bucket

Source: CDM-Smith

Remedial Design 101

Questions?

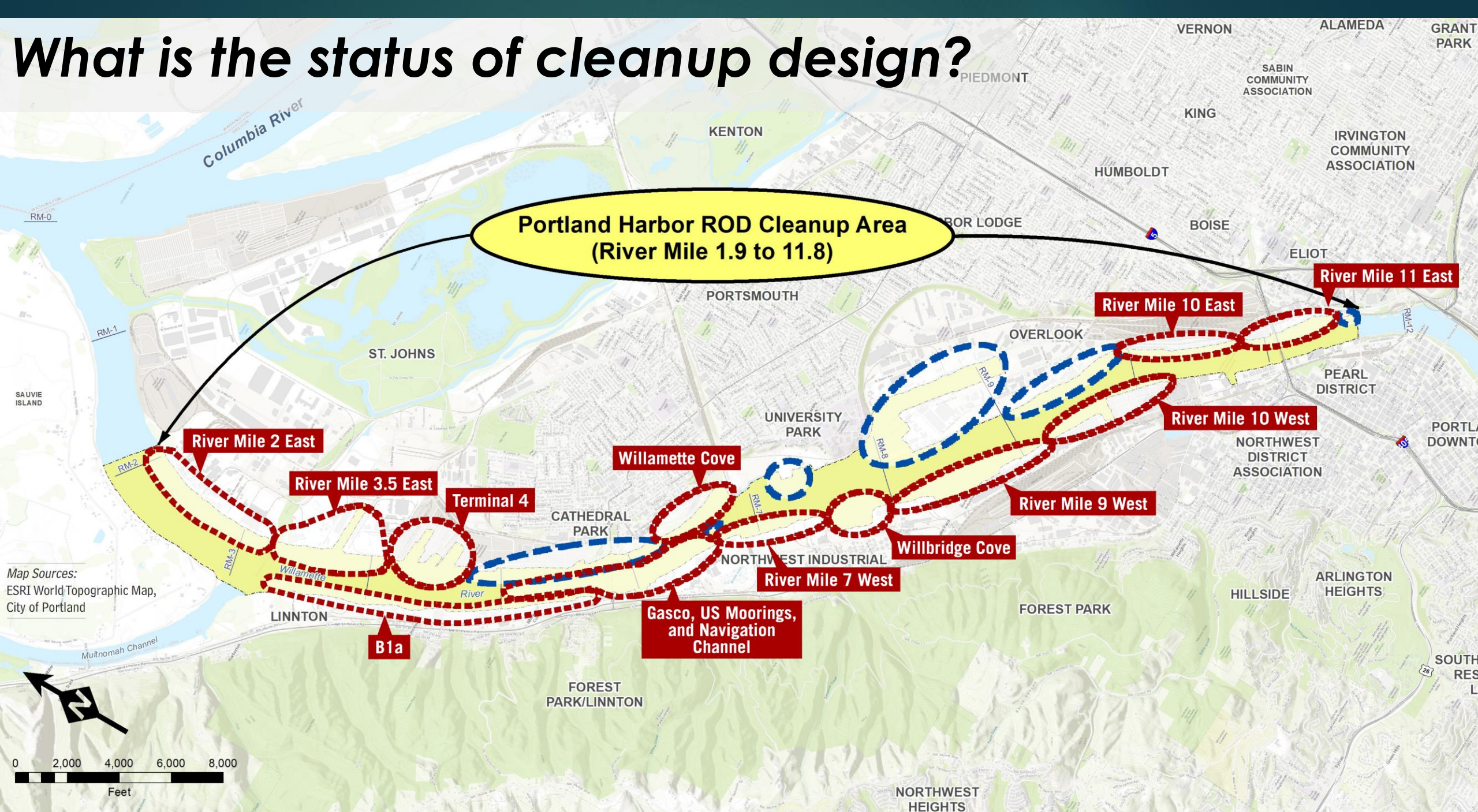
But What about Unilateral Administrative Orders (UAOs) and Remedial Design?

- ▶ **General UAO Definition:** A legal document that requires parties to undertake a response action.
- ▶ Parties will perform **the same work** under a UAO that they will perform under a regular agreement (ASAOC) with EPA for remedial design.



August 2009 – Small Pacific lamprey found at Arkema area
Source: EPA

What is the status of cleanup design?



Additional Information on Signed Agreements for Remedial Design:

B1a:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** Atlantic Richfield Company, BP Products North America, Inc., Brix Maritime Co., Exxon Mobil Corporation, and Kinder Morgan Liquids Terminals, LLC
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Hunter Young, EPA Project Manager (young.hunter@epa.gov, 503-326-5020)

Gasco/US Moorings/Navigation Channel:

- **Summary:** Remedial design work is ongoing. The Gasco area is finalizing the Pre-Design Investigation (PDI) and working on the Basis of Design Report.
- **Working Parties:** NW Natural
- **Informal Public Feedback Opportunity:** Review conceptual design in 2021 for Gasco area (*estimated date*).
- **EPA Point of Contact:** Hunter Young, EPA Project Manager (young.hunter@epa.gov, 503-326-5020)

River Mile 7 West:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** Arkema, Inc., Bayer Crop Science, Inc.
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Hunter Young, EPA Project Manager (young.hunter@epa.gov, 503-326-5020)

Willbridge Cove:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** Chevron U.S.A Inc., Kinder Morgan Liquids Terminals LLC, McCall Oil and Chemical Corporation, Phillips 66 Company, and Shell Oil Company
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Hunter Young, EPA Project Manager (young.hunter@epa.gov, 503-326-5020)

River Mile 9 West:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** FMC Corporation
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Josie Clark, EPA Project Manager (clark.josie@epa.gov, 206-553-6239)

River Mile 10 West:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** General Electric Company
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Josie Clark, EPA Project Manager (clark.josie@epa.gov, 206-553-6239)

River Mile 11 East:

- **Summary:** Remedial Design Work Plan is ongoing. Basis of Design Report was approved by EPA in 2019.
- **Working Parties:** City of Portland, PacifiCorp, Cargill, Inc., CBS Corporation, DIL Trust, Glacier Northwest, Inc.
- **Informal Public Feedback Opportunity:** Review conceptual design in 2021 for River Mile 11 East area (*estimated date*).
- **EPA Point of Contact:** Hunter Young, EPA Project Manager (young.hunter@epa.gov, 503-326-5020)

River Mile 10 East:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** Union Pacific Railroad Company
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Eva DeMaria, EPA Project Manager (demaria.eva@epa.gov, 206-553-1970)

Willamette Cove:

- **Summary:** Remedial design work is beginning.
- **Working Parties:** State of Oregon, City of Portland, Port of Portland, and settling federal agencies
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Eva DeMaria, EPA Project Manager (demaria.eva@epa.gov, 206-553-1970)

Terminal 4:

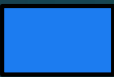
- **Summary:** Remedial design work is ongoing. Pre-remedial design investigation sampling occurred April 2019 - May 2019 and the evaluation report is being finalized.
- **Working Parties:** Port of Portland
- **Informal Public Feedback Opportunity:** Review conceptual design in early 2022 (*estimated date*).
- **EPA Point of Contact:** Josie Clark, EPA Project Manager (clark.josie@epa.gov, 206-553-6239)

River Mile 3.5 East:

- **Summary:** Remedial design work is beginning under a Unilateral Administrative Order (UAO).
- **Working Parties:** Schnitzer Steel Industries, Inc. and MMGL, LLC
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Eva DeMaria, EPA Project Manager (demaria.eva@epa.gov, 206-553-1970)

River Mile 2 East:

- **Summary:** Remedial design work is beginning under a Unilateral Administrative Order (UAO).
- **Working Parties:** EVRAZ, Inc., NA
- **Informal Public Feedback Opportunity:** Review conceptual design (*schedule under development*).
- **EPA Point of Contact:** Eva DeMaria, EPA Project Manager (demaria.eva@epa.gov, 206-553-1970)



In Progress



Complete



Not Started

Project Area	Sufficiency Assessment	Preliminary Design Investigation	Basis of Design Report	Remedial Design Work Plan	Preliminary Remedial Design (30%)	Intermediate Remedial Design (60%)	Pre-Final and Final Remedial Design (95%, 100%)
B1a	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
Gasco	In Progress	In Progress	Not Started	In Progress	Not Started	Not Started	Not Started
US Moorings	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
Nav Channel	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
River Mile 7 West	Not Started	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
Willbridge Cove	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
River Mile 9 West	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started
River Mile 10 West	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started
River Mile 11 East	Complete	In Progress	Complete	In Progress	Not Started	Not Started	Not Started
River Mile 10 East	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
Willamette Cove	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
Terminal 4	Not Started	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
River Mile 3.5 East	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
River Mile 2 East	In Progress	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started

Remedial Design Status *Questions?*

Thank you!

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