

TECHNICAL BASIS FOR AND NEGOTIATION OF AN ESD AT A FORMER WOOD TREATMENT FACILITY

Pacific Chapter Meeting – October 2017



What is an ESD?

Changes to Records of Decision:

- ROD Modification: Minor or “insignificant” changes
- **Explanation of Significant Differences: “Significant” changes to scope, performance, and/or cost**
- ROD Amendments: Fundamental changes to or reconsideration of the selected remedy

Presentation Outline

Site Overview and Timeline

Selected Remedy Summary

ROD Remedy Footprint Expansion

Alternative Remedy Development and ESD
Execution

Construction

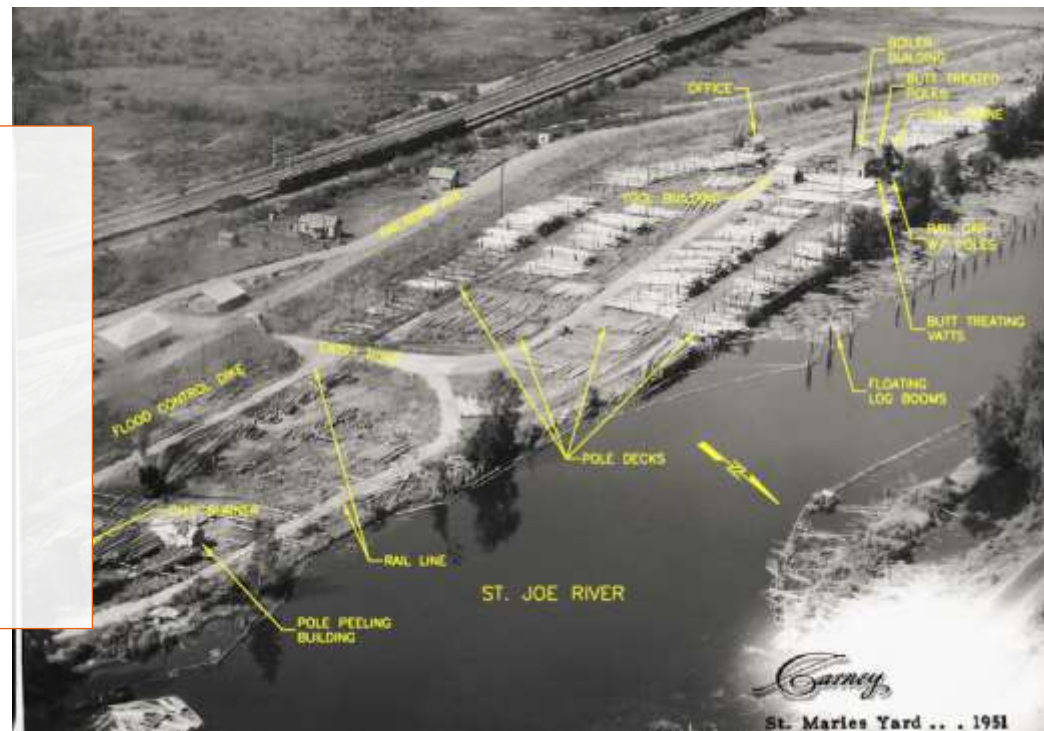
Post-Construction Sampling

Site Overview

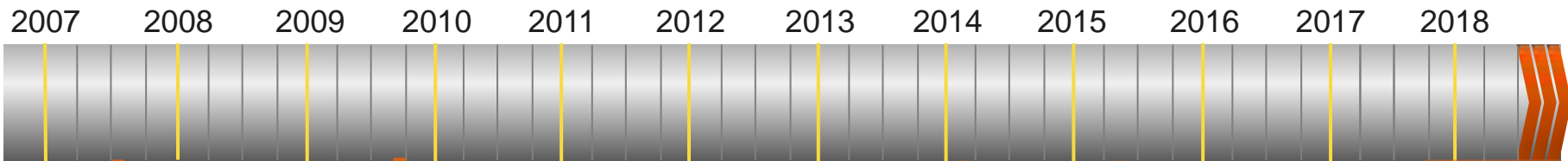
- Former wood treatment facility (1930s – 1960) in northern Idaho.
- EPA-led remediation under CERCLA (Region 10).
- Site located on Coeur d’Alene Tribe Reservation. EPA consulted with Tribe throughout the RD/RA process.

In-Water Remedy

- Removal and backfill of “source area” sediment to 12 ft bss behind a watertight steel enclosure
- Removal and backfill of downriver sediment to 4 ft bss
- Thermal desorption of sediment



Remedial Design/Remedial Action Timeline



2007: Record of Decision executed based on FS and required additional site characterization

2009: Consent Decree executed

2010 – 2012: Pre-Design/ Site Characterization Sampling

2013 – 2014: Debris Investigation and Construction Pilot Testing

2014: Execution of Explanation of Significant Differences

2015: Final Design

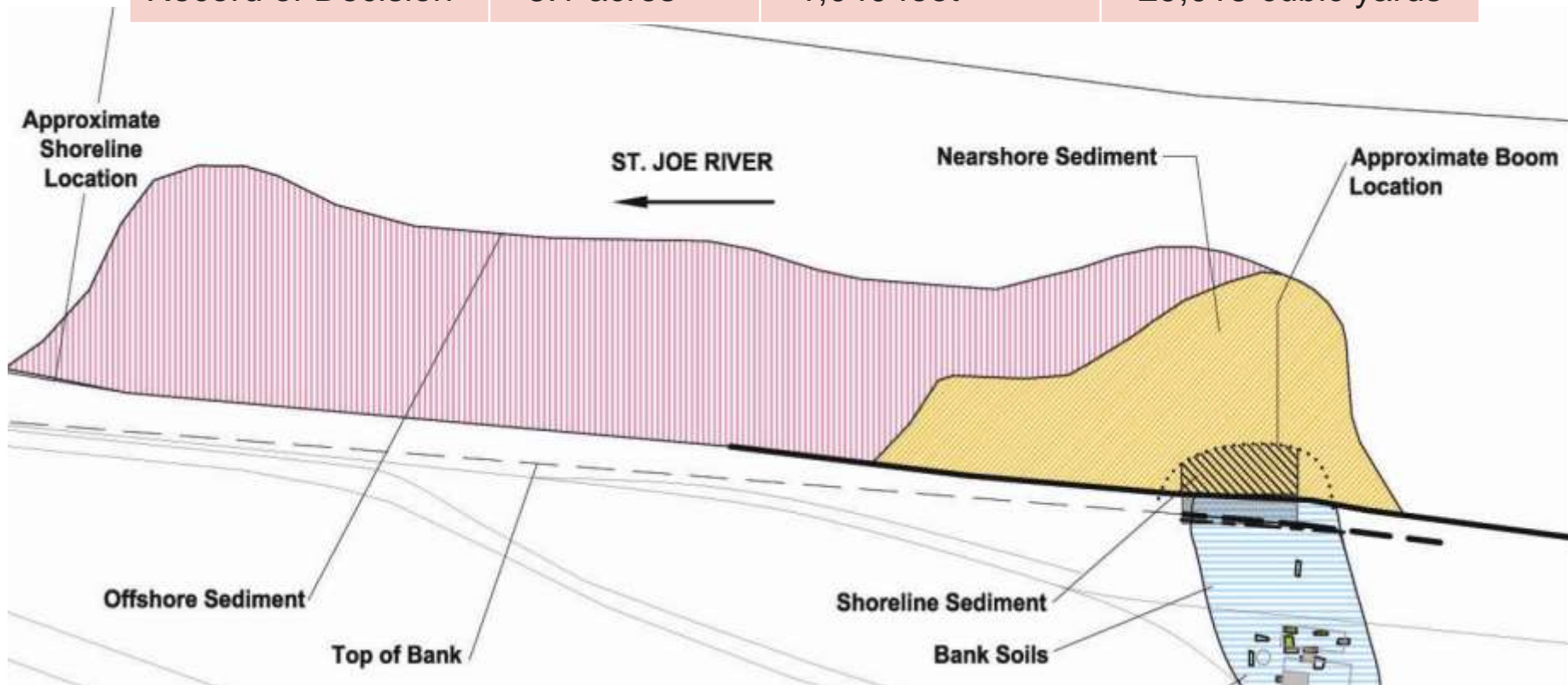
2014 – 2017: Remedial Construction

2017 – Ongoing: Long-Term Monitoring



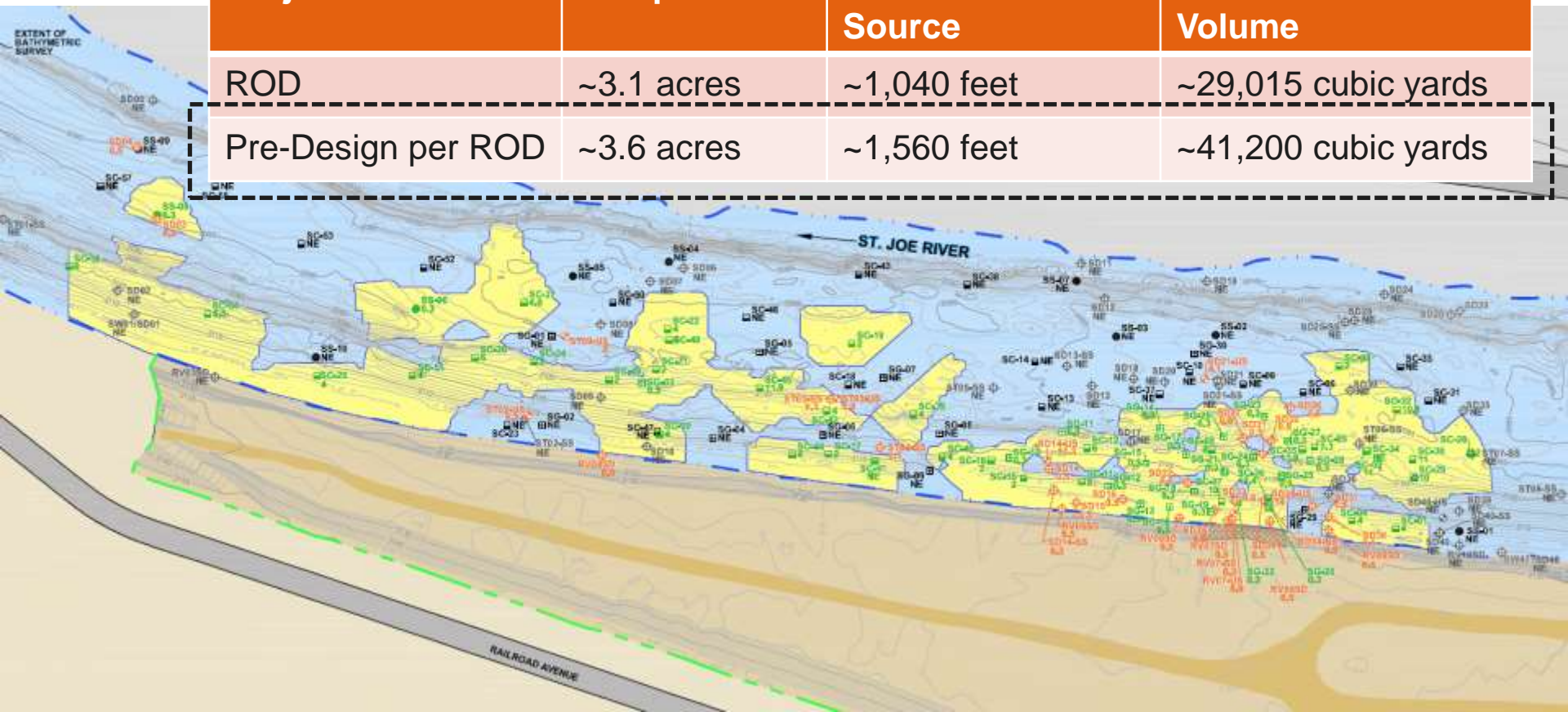
ROD Description of Remedy

Project Phase	Footprint	Distance from Source	Estimated Removal Volume
Record of Decision	~3.1 acres	~1,040 feet	~29,015 cubic yards



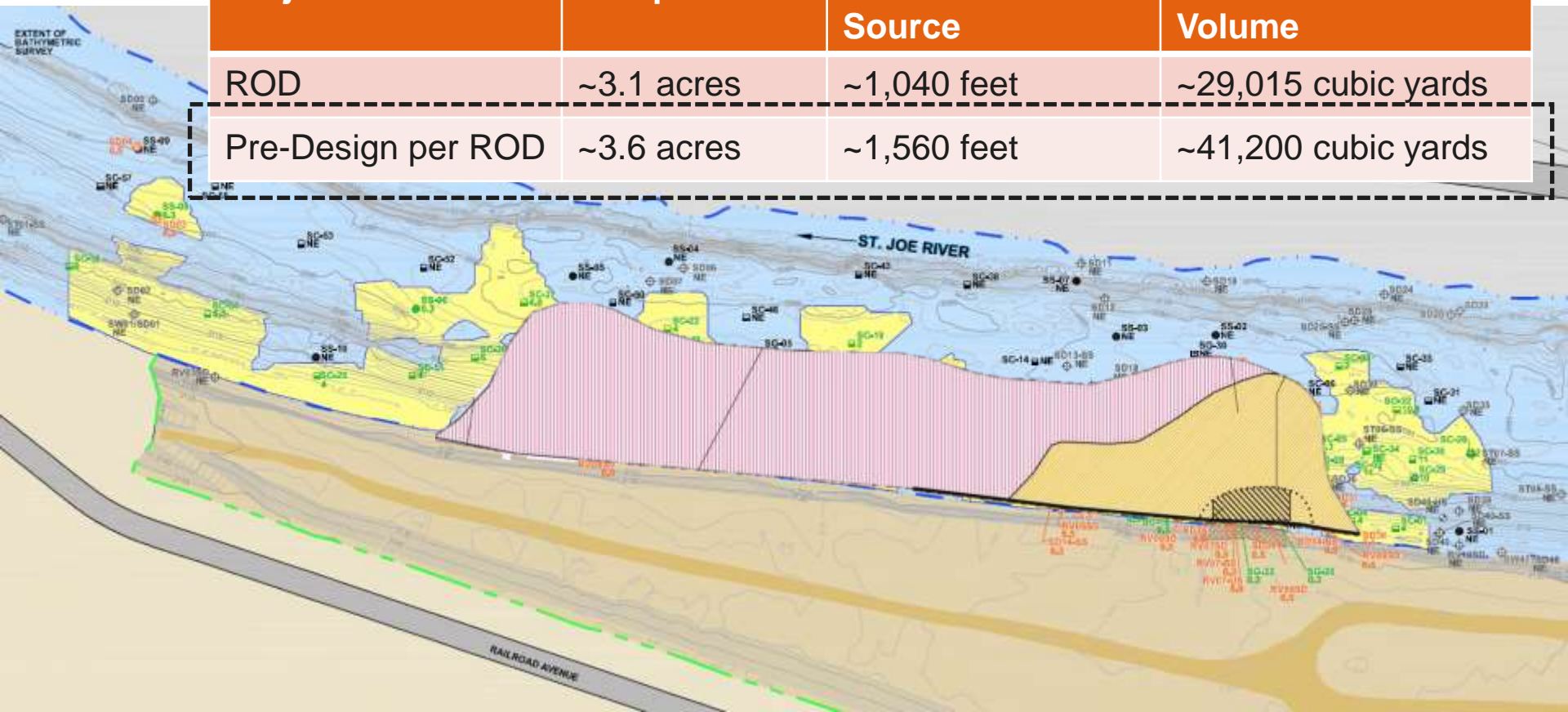
ROD Sediment Delineation After Pre-Design Characterization

Project Phase	Footprint	Distance from Source	Estimated Removal Volume
ROD	~3.1 acres	~1,040 feet	~29,015 cubic yards
Pre-Design per ROD	~3.6 acres	~1,560 feet	~41,200 cubic yards



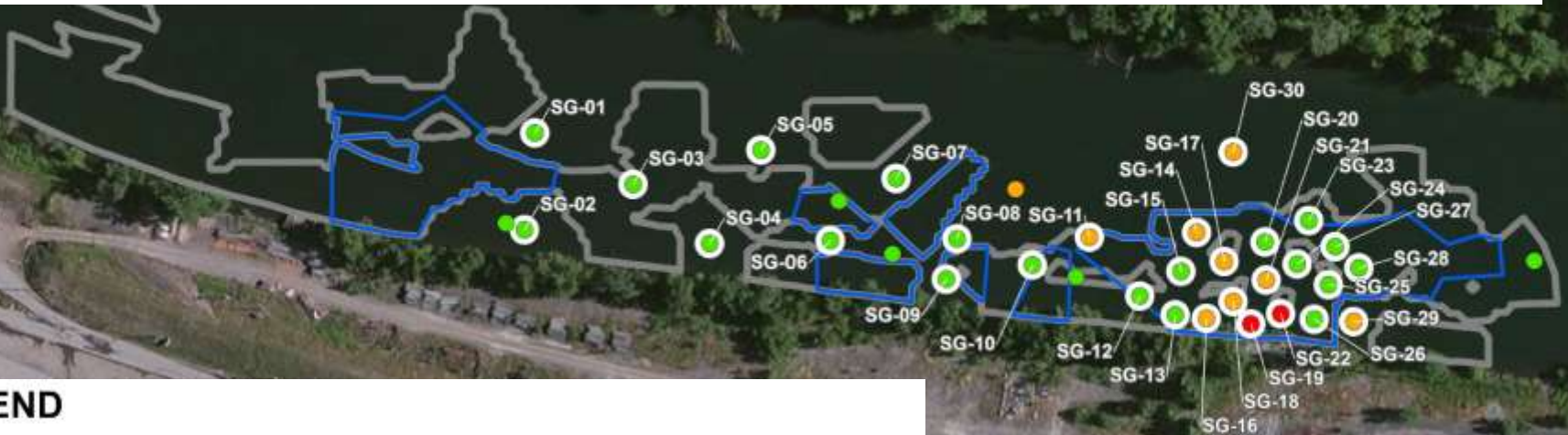
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Pre-Design Sediment Toxicity

- Administrative record allows for alternative risk-based site-specific cleanup targets based on toxicity
- Some uncertainty associated with relying on toxicity alone



LEGEND

- Mean survival of each test > control acceptability criteria
- Mean survival of one test < control acceptability criteria
- Mean survival of each test < control acceptability criteria

Alternative Sediment Remedy Based on Multiple Lines of Evidence

NAPL

Observations indicative of NAPL during field screening

Chemistry

Sediment with Total PAH concentrations >100 mg/kg

Toxicity

Sediment for which PAH-associated toxicity cannot be conservatively ruled out

Proximity to Source Area

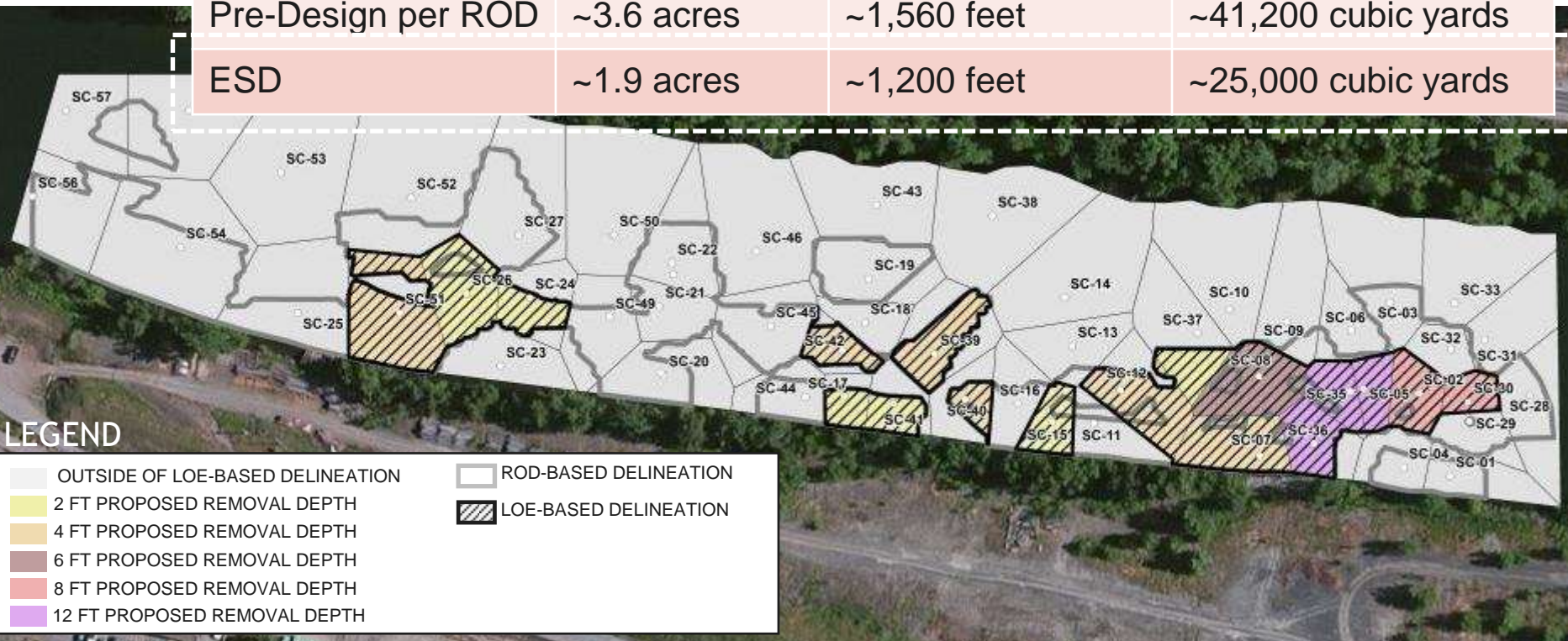
Sediment located near upland source area

Potential Future Exposure









Sediment with unacceptable risk of future exposure during scour event (i.e., depth)

Line-Of-Evidence Based Alternative Remedy

Project Phase	Footprint	Distance from Source	Estimated Removal Volume
ROD	~3.1 acres	~1,040 feet	~29,015 cubic yards
Pre-Design per ROD	~3.6 acres	~1,560 feet	~41,200 cubic yards
ESD	~1.9 acres	~1,200 feet	~25,000 cubic yards



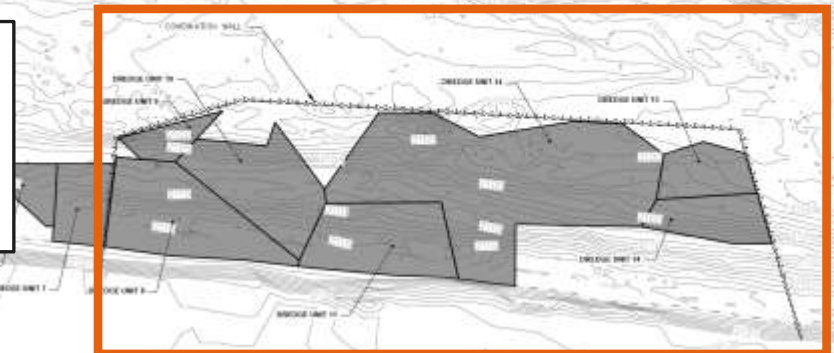
LEGEND

	OUTSIDE OF LOE-BASED DELINEATION		ROD-BASED DELINEATION
	2 FT PROPOSED REMOVAL DEPTH		LOE-BASED DELINEATION
	4 FT PROPOSED REMOVAL DEPTH		
	6 FT PROPOSED REMOVAL DEPTH		
	8 FT PROPOSED REMOVAL DEPTH		
	12 FT PROPOSED REMOVAL DEPTH		

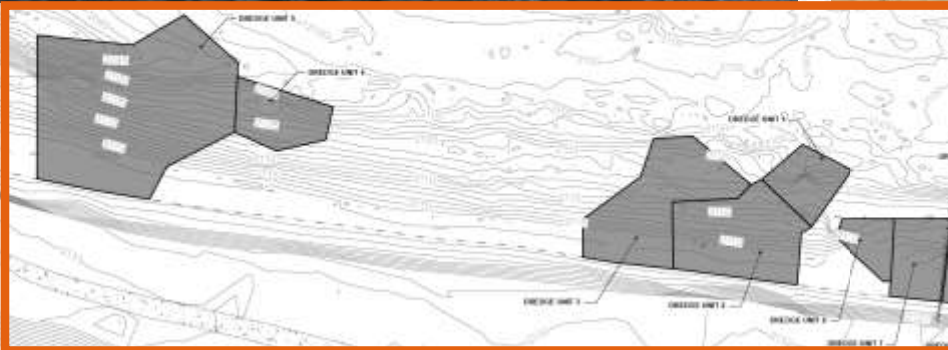
Source Area Dredging (2015)



- Removal depths up to 12 feet bss
- ~18,000 cubic yards removed



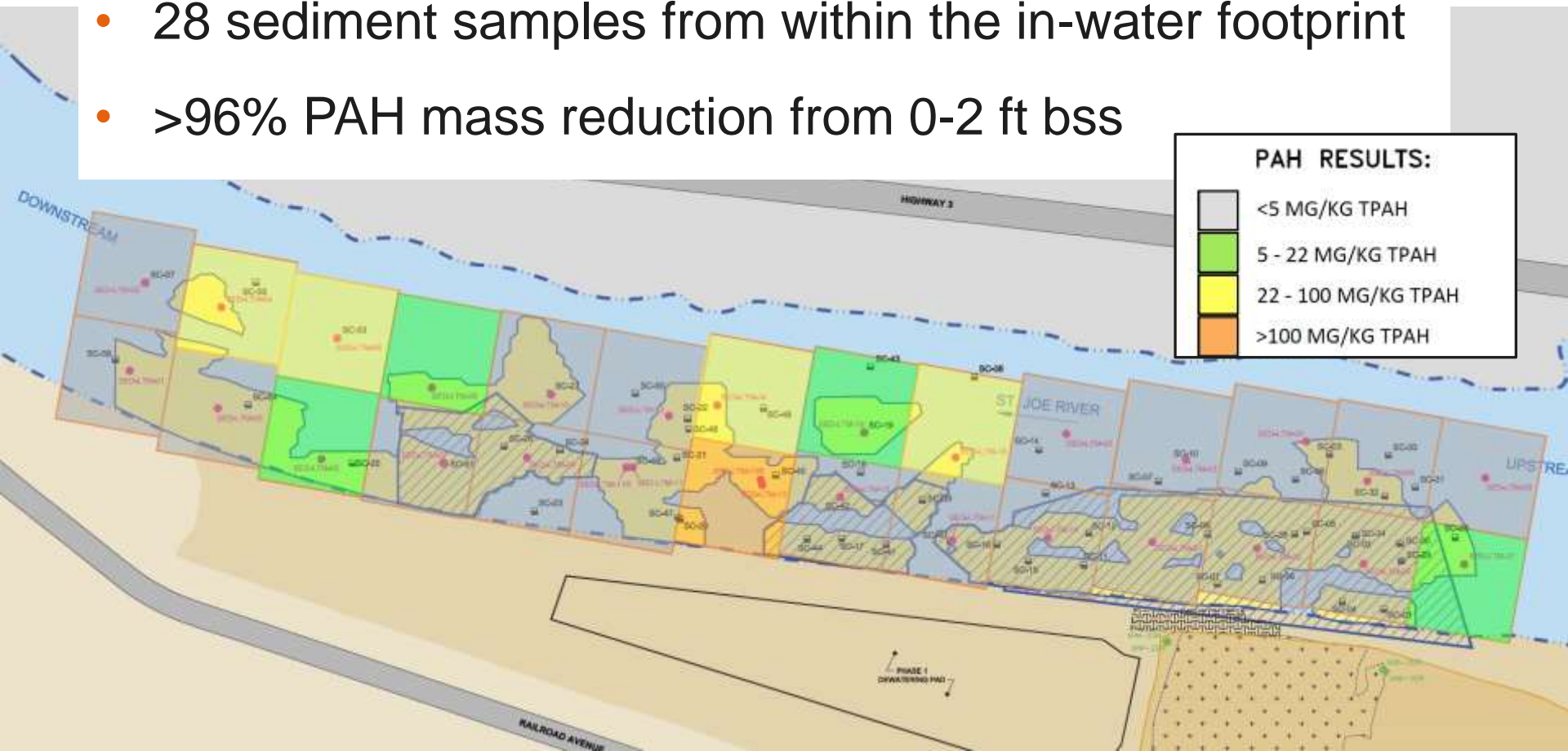
Down-River Dredging (2016)



- Removal depths up to 4 feet bss
- ~7,000 cubic yards removed

Post-Remedy Sampling Results

- Evaluate conditions after construction
- 28 sediment samples from within the in-water footprint
- >96% PAH mass reduction from 0-2 ft bss



Questions?

