



South State Street Manufactured Gas Plant

RI/FS Summary - Public Meeting

October 30, 2018

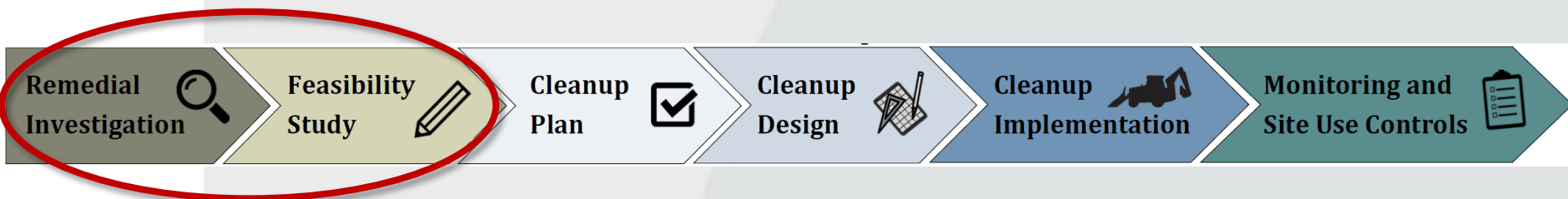




THE CLEANUP PROCESS

The Model Toxics Control Act (MTCA) is Washington's environmental cleanup law.

- MTCA directs the investigation, cleanup, and prevention of sites that are contaminated by hazardous substances.
- It works to protect people's health and the environment, and to preserve natural resources for the future.
- Matching grant funding may be available for eligible parties.



South State Street MGP



PARTIES TO THE CLEANUP

- Department of Ecology
- City of Bellingham
 - Landau Associates, Inc.
- Puget Sound Energy
 - GeoEngineers

BOULEVARD PARK - 2016



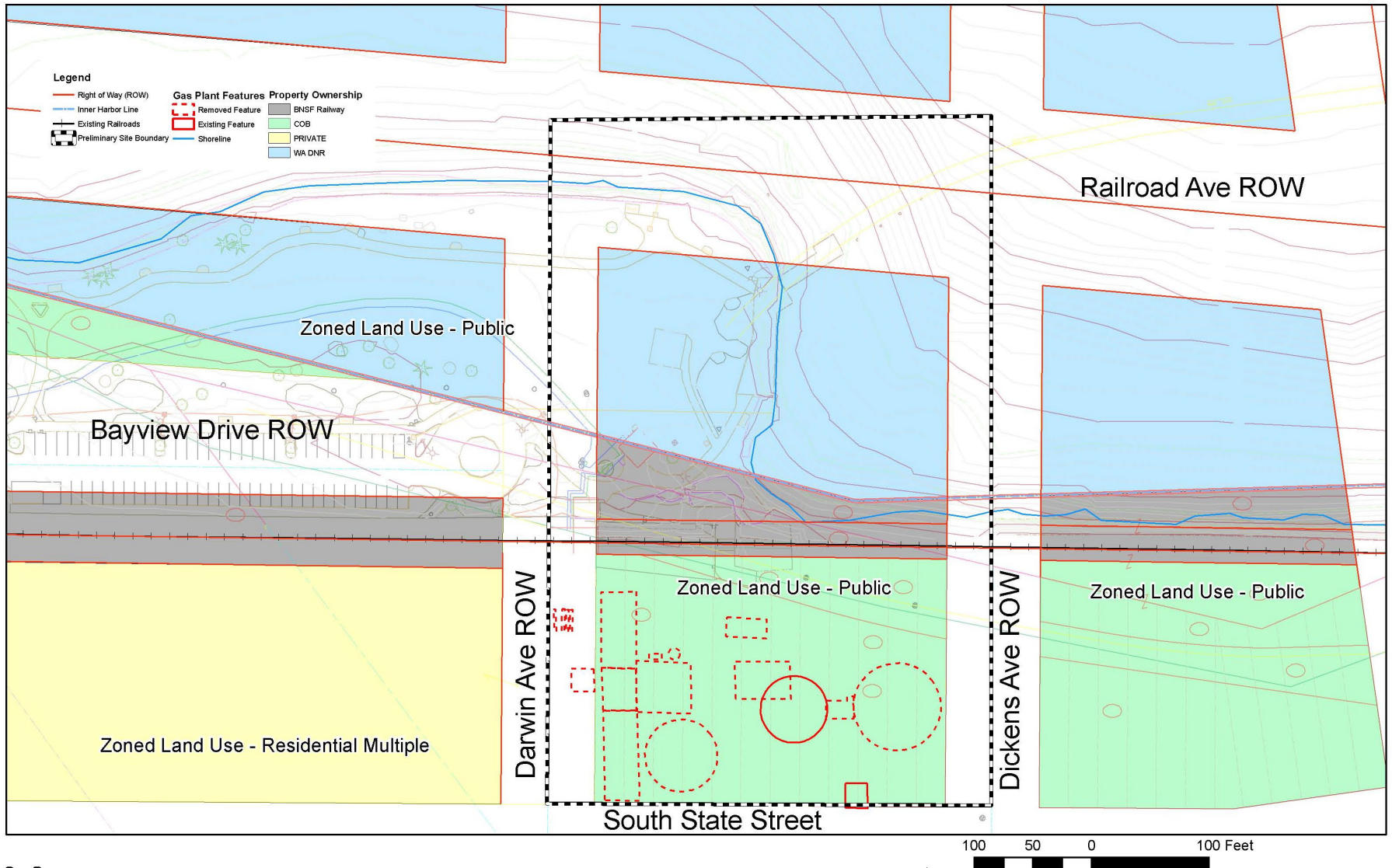
Drone Photography by
Sky Gremlin Productions

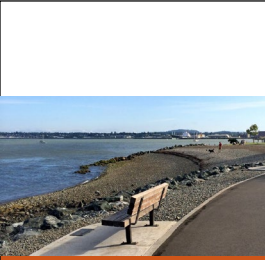
SITE HISTORY: MANUFACTURED GAS PLANT

- Bellingham Bay Gas Company and Cascade Natural Gas (Circa 1955)
- Operated from the 1890s to 1940s

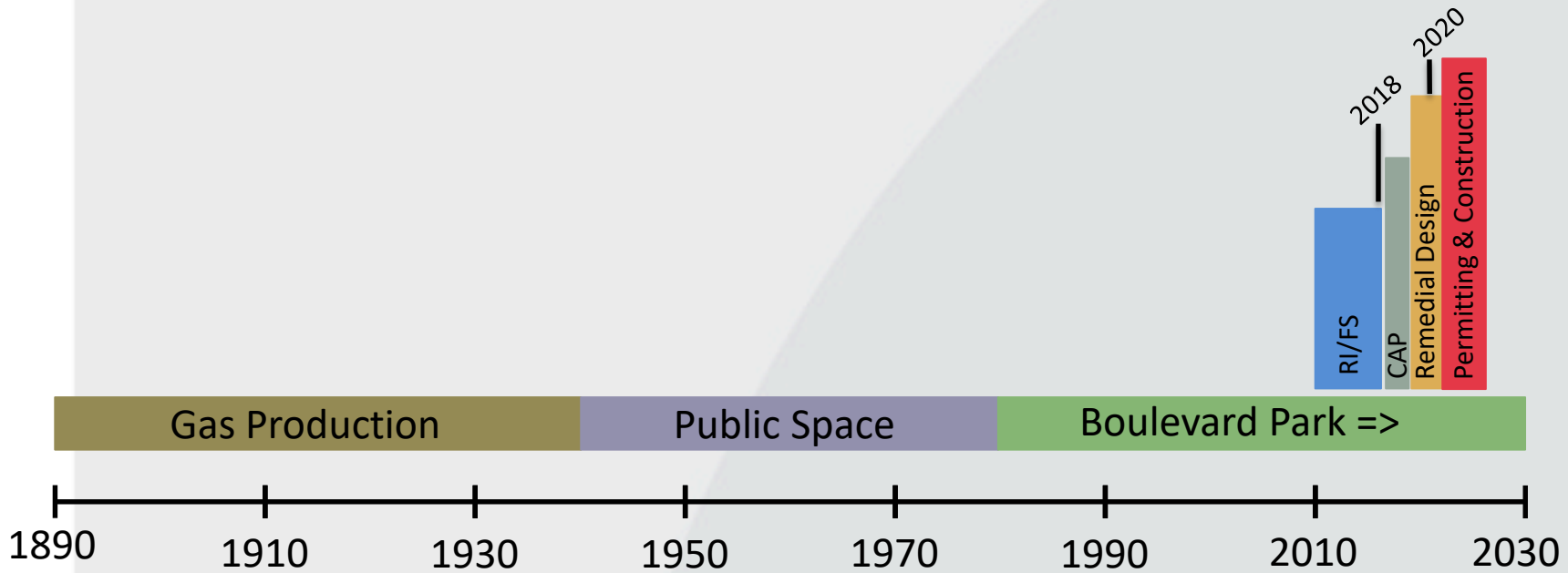


LAND USE AND OWNERSHIP





TIMELINE



REMEDIAL INVESTIGATION



- 2010 to 2016
- Determine nature and extent of contamination
 - Soil
 - Groundwater
 - Vapor Intrusion
 - Marine Sediment
- Terrestrial Ecological Evaluation

INDICATOR HAZARDOUS SUBSTANCES

- Cyanide (Soil, Groundwater)
- VOCs (Soil, Groundwater)
- Metals (Soil, Groundwater)
- PAHs (Soil, Groundwater, Sediment)





Soil Contamination



Extent of Contamination is summarized here for simplicity and may not accurately reflect conditions along the shoreline or in the steep slope. The data is presented accurately in the RI report.

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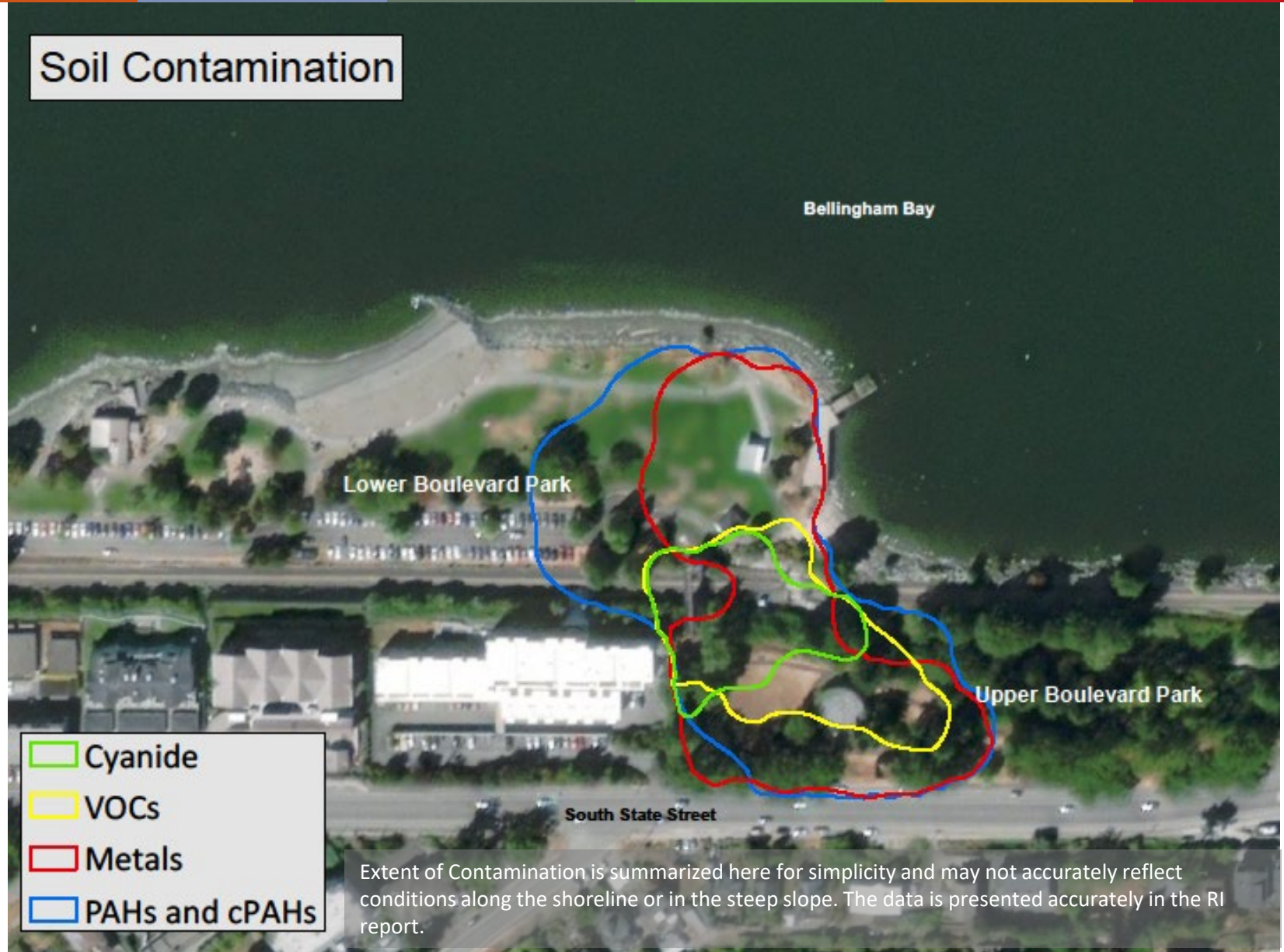
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Groundwater Contamination



Groundwater Contamination



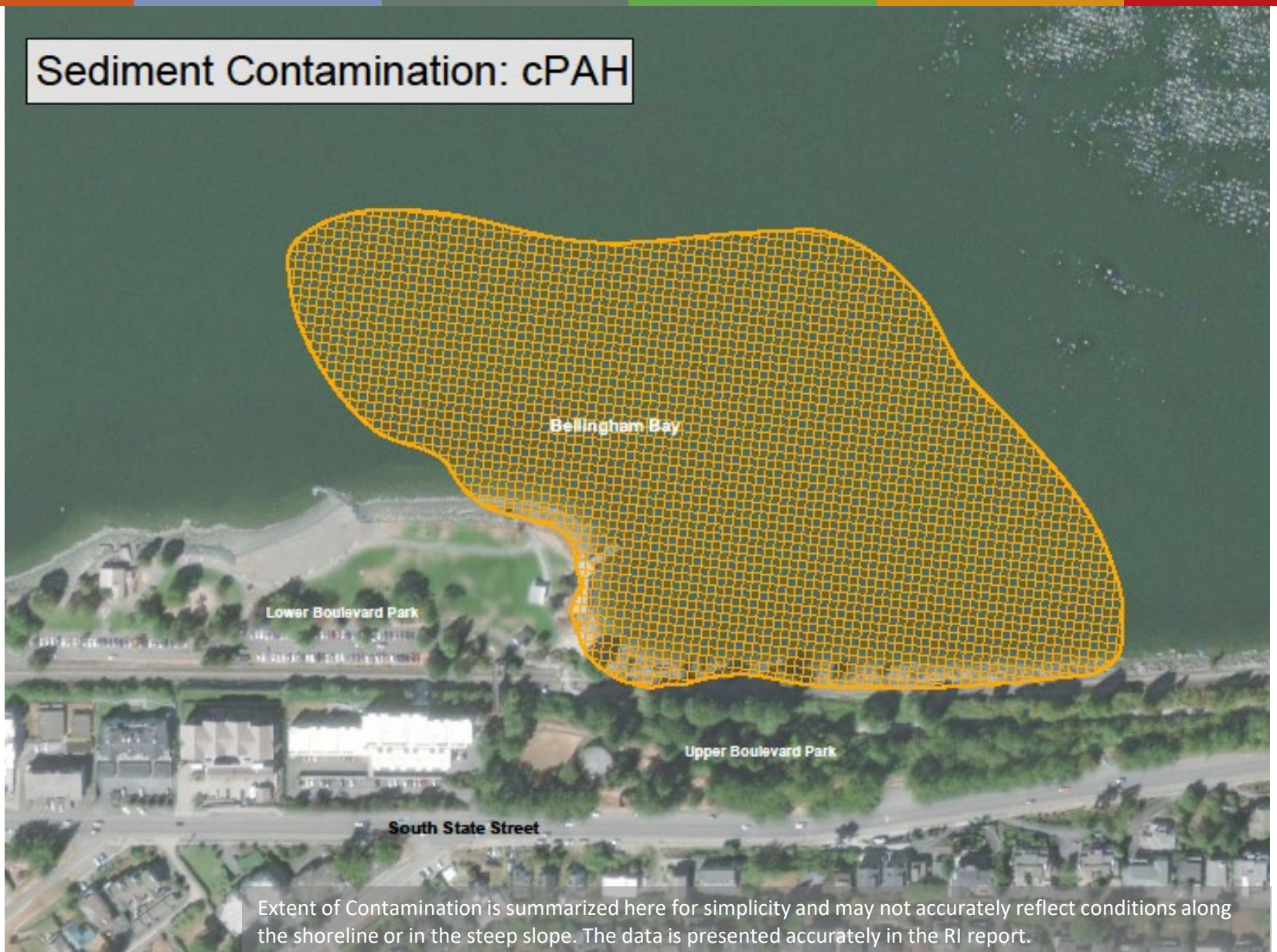
Groundwater Contamination



Groundwater Contamination



Sediment Contamination: cPAH



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2017 INTERIM ACTION

Mitigate accelerated erosion from 2016 storm event and potential spread of contamination along the shoreline



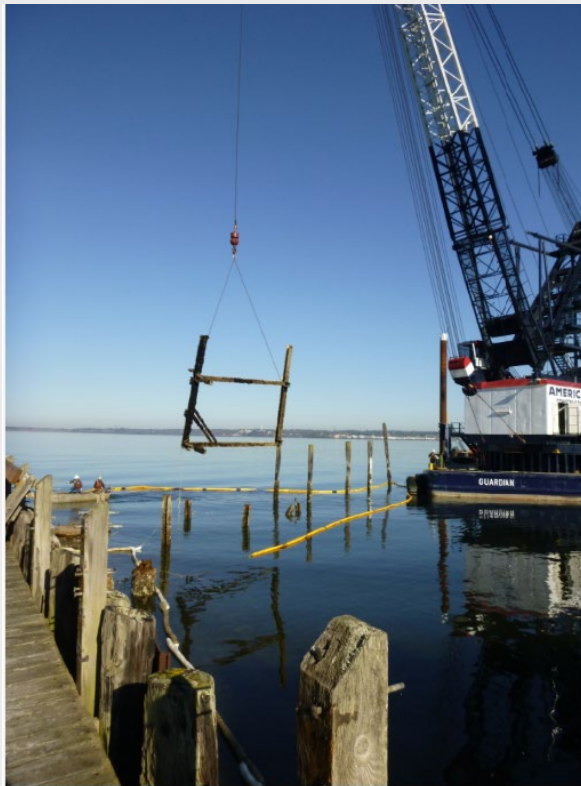
INTERIM ACTION

Shoreline stabilization – Preparing Subgrade



INTERIM ACTION

Shoreline stabilization - Removed failing pier and wharf



INTERIM ACTION



- Armor rock placed as part of Interim Action
- Armor rock evaluated in Feasibility Study alternatives
- Interim Action completed 2017



FEASIBILITY STUDY

- Develop and evaluate cleanup action alternatives based on results of RI
- Identify preferred alternative
 - Disproportionate Cost Analysis (DCA)
- Common elements to all Alternatives
 - Remove remaining gas holder
 - Isolate steep slope
 - Institutional Control for Railroad right-of-way
 - Remove remnant piling



REMEDIAL TECHNOLOGIES CONSIDERED FOR UPLAND UNIT ALTERNATIVES

*Components in **red** included
in the preferred alternative

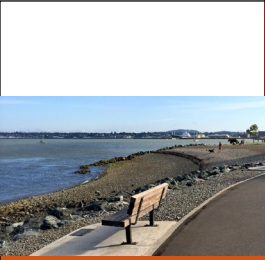
- **Upland Cap**
- Soil vapor extraction/bioventing
- **Enhanced bioremediation**
- In-situ solidification
- **Monitored natural attenuation**
- **Institutional controls**

REMEDIAL TECHNOLOGIES CONSIDERED FOR MARINE UNIT ALTERNATIVES

*Components in red included in the preferred alternative

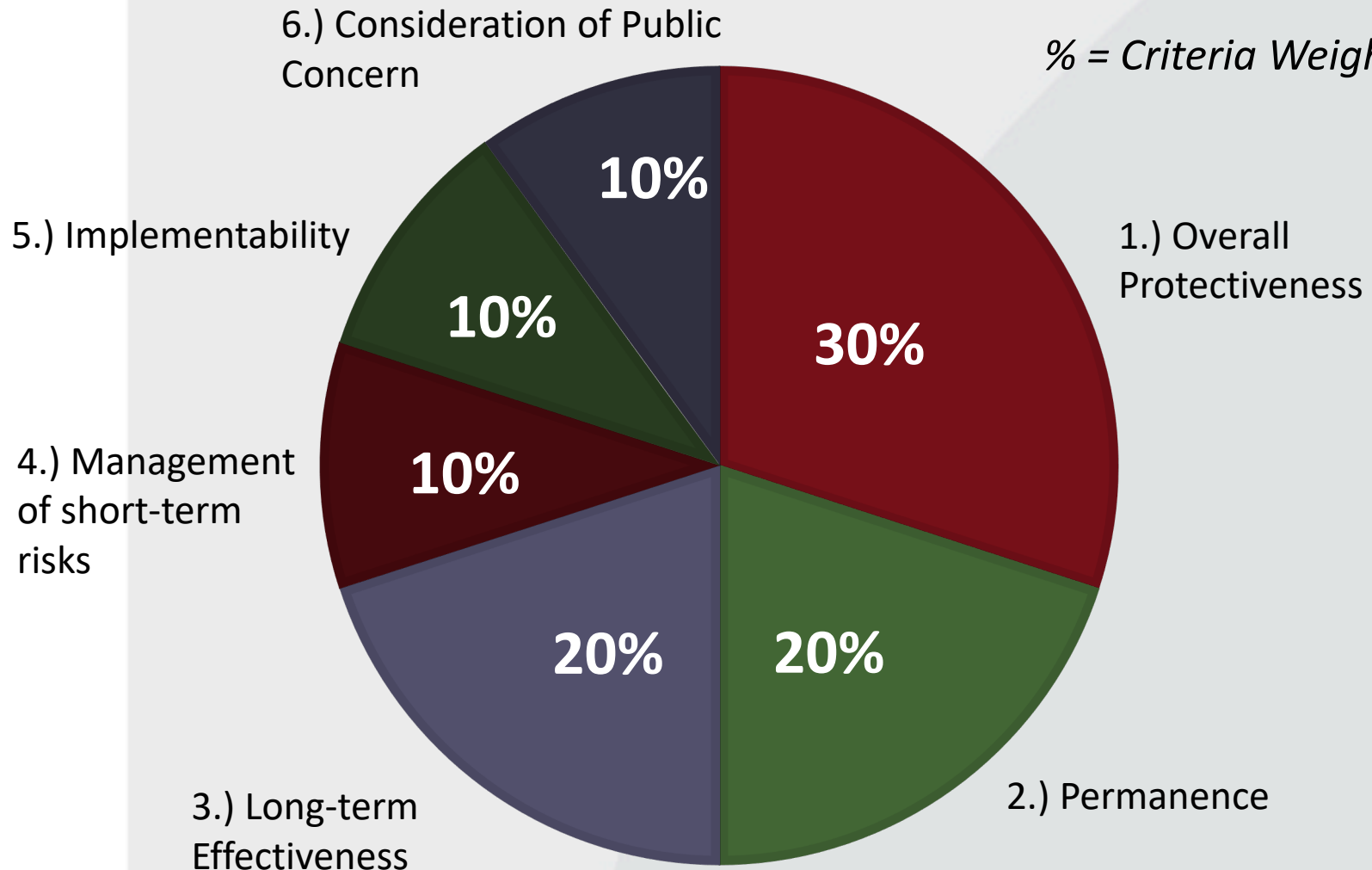
- Sediment removal
- Sediment capping
- ENR
- MNR



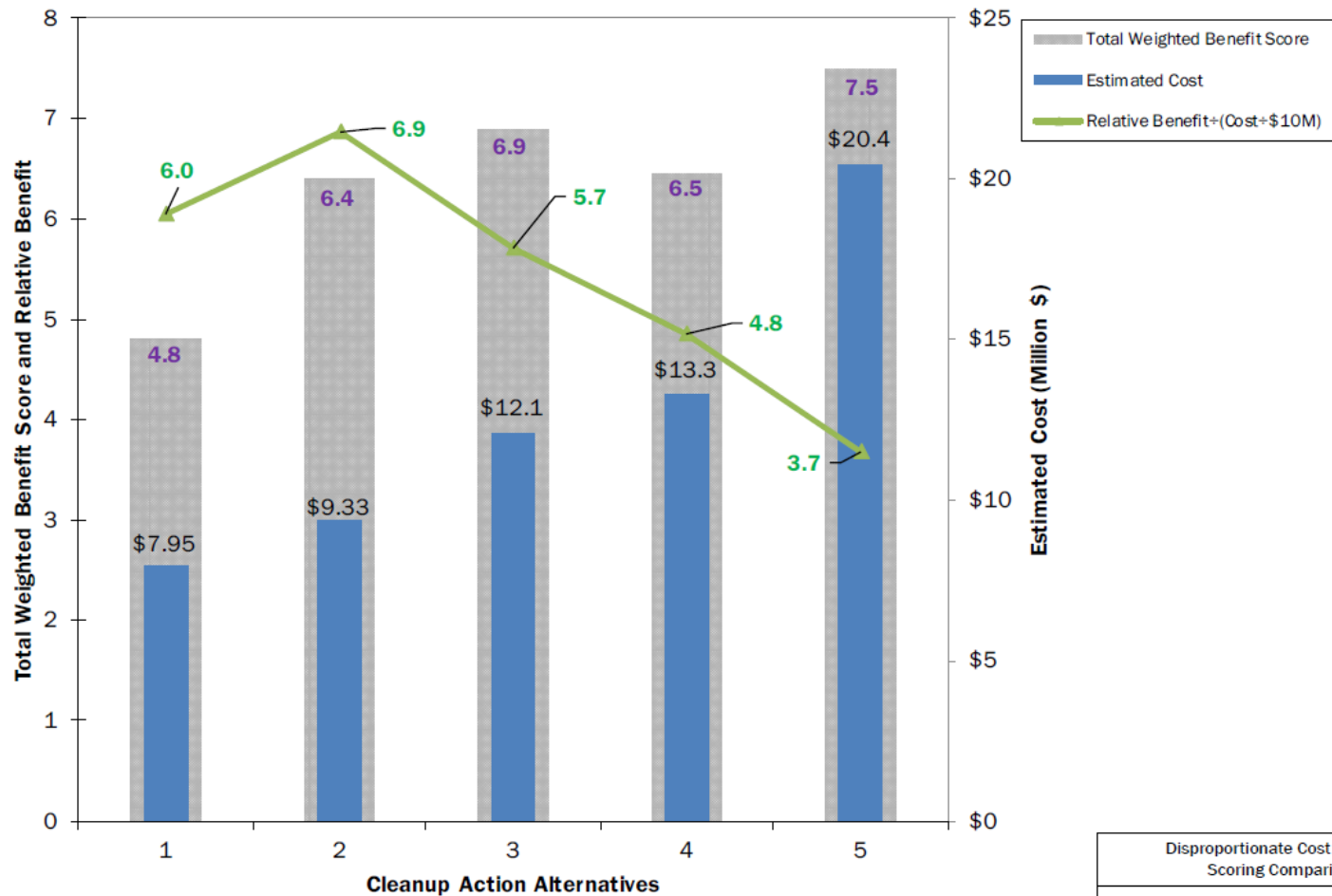


CRITERIA FOR DISPROPORTIONATE COST ANALYSIS (DCA) FOR SOUTH STATE STREET MGP SITE

% = Criteria Weighting

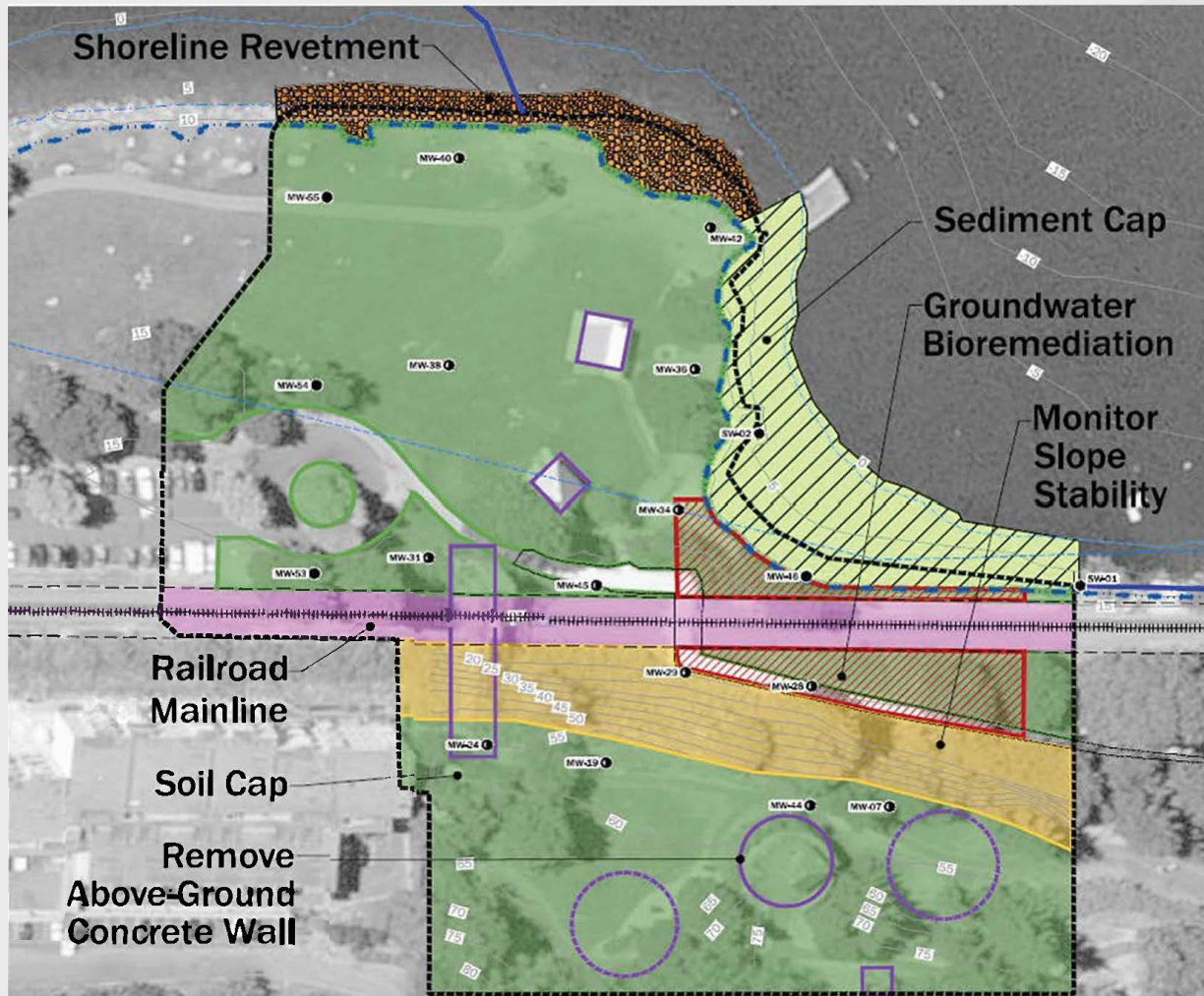


DISPROPORTIONATE COST ANALYSIS

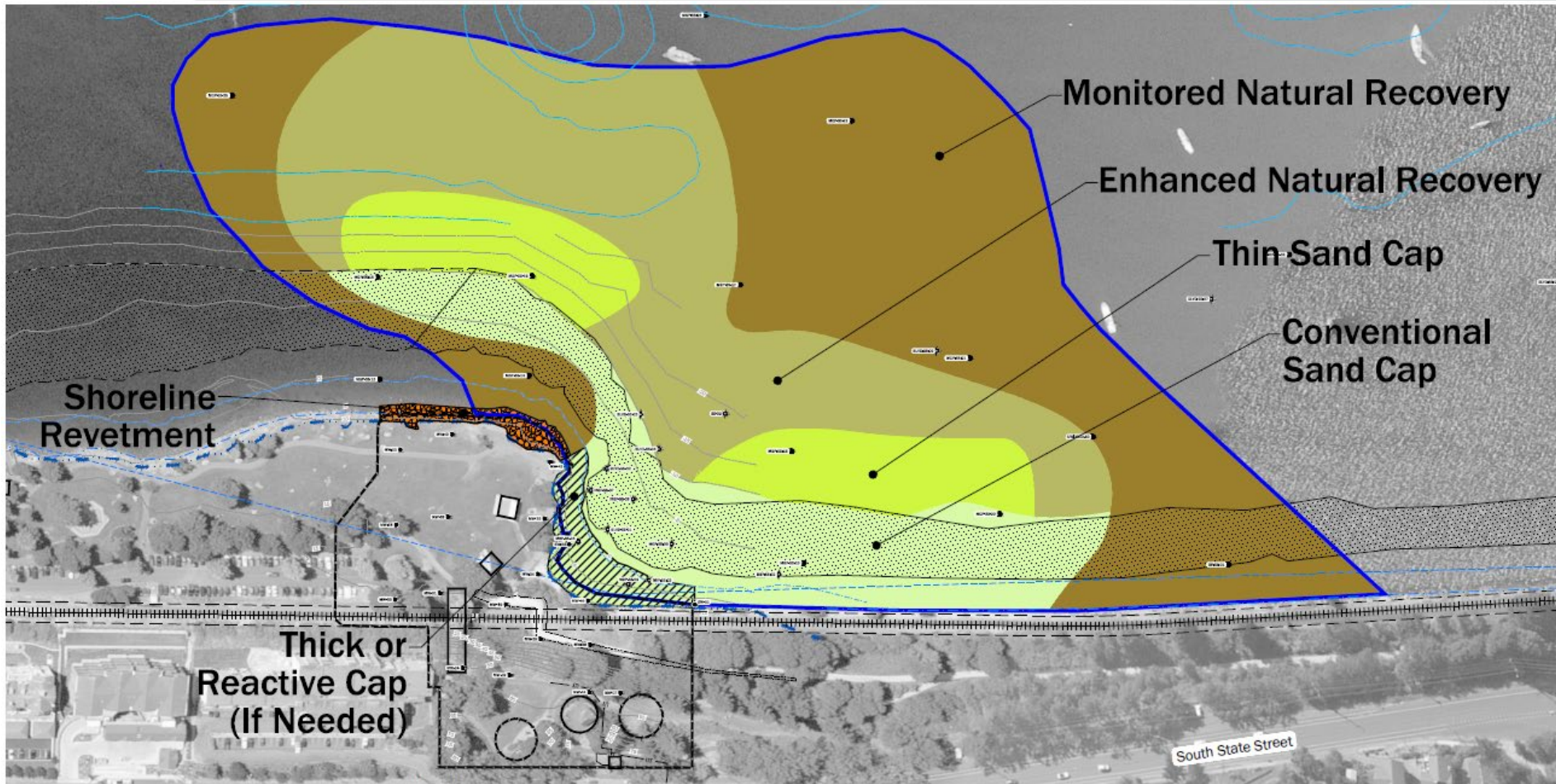


Disproportionate Cost Analysis Scoring Comparison	
South State Street Site Bellingham, Washington	
	Figure 5-1

PREFERRED UPLAND UNIT ALTERNATIVE



PREFERRED MARINE UNIT ALTERNATIVE



LOOKING AHEAD: TIMELINE

RI/FS - Public Review
October 2018

Cleanup Action Plan Public Review

Remedial Design

Permitting & Construction





HOW TO COMMENT

Comment Period: Oct. 8 – Nov. 6, 2018

1. Online

- www.bit.ly/Ecology-SouthStateStMGP-Comments

2. Use comment card on sign-in table

3. By Mail to:

- **John Guenther– Site Manager**
913 Squalicum Way, Unit 101
Bellingham, WA 98225
- (360) 255-4381
- John.Guenther@ecy.wa.gov





BBAT MEETING – SEPTEMBER 18, 2018

Thank you.

For any questions, please contact:

John Guenther – Department of Ecology

John.guenther@ecy.wa.gov