Whatcom Waterway Site
Bellingham

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Environmental Documents Available for Public Review

The Washington Department of Ecology (Ecology) invites you to comment on draft environmental documents addressing the cleanup of contaminated bottom sediments at the Whatcom Waterway Site in Bellingham, Washington. The draft Supplemental Remedial Investigation/Feasibility Study (RI/FS) and draft Supplemental Environmental Impact Statement (EIS) currently available for public review supplement previous documents completed for the Whatcom Waterway Site. The supplemental documents incorporate the results of recent investigations, update previously-evaluated cleanup alternatives, describe and evaluate new cleanup alternatives that reflect changes in land use, and identify a preferred cleanup approach.

Ecology invites you to comment on these draft documents until **December 9, 2006.** The box at the right contains information about where to view these documents and how to submit written comments. Ecology will respond in writing to all comments received and may make changes to the documents as a result of them. If these changes are significant, the revised cleanup documents will once again be made available for public review.

Mark Your Calendar for a Public Meeting!

Ecology will provide information about these documents at the following public meetings:

***October 26th,** 6:30 p.m.-8:30 p.m., Bellingham Cruise Terminal, 355 Harris Avenue, Bellingham, WA*

***November 30th,** 6:30 p.m.,-8:30 p.m., Bellingham Municipal Court, 2014 C Street, Bellingham, WA*

Whatcom Waterway Site Background

The Whatcom Waterway Site is located within Bellingham Bay (Figure 1). The Site includes lands that have been impacted by contaminants historically released from industrial waterfront activities, including mercury discharges from the former Georgia Pacific (GP) chlor-alkali plant. The chlor-alkali plant was constructed by GP in 1965 to produce chlorine and sodium hydroxide for use in bleaching and pulping wood fiber. The chlor-alkali plant discharged mercury-containing wastewater

October 2006

Public Comment Period: 10/10/06 - 12/9/06

Questions, written comments, or to be added to the site mailing list:

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Documents can be reviewed at the following locations:

Department of Ecology
Bellingham Field Office
1204 Railroad Avenue, Ste 200
(360) 738-6250

Bellingham Public Library
210 Central Avenue, Bellingham
(360) 676-6860

Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
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Ecology's Website:
http://www.ecy.wa.gov/programs/tcp/sites/blhm_bay/sites/bel_bay_sites.html

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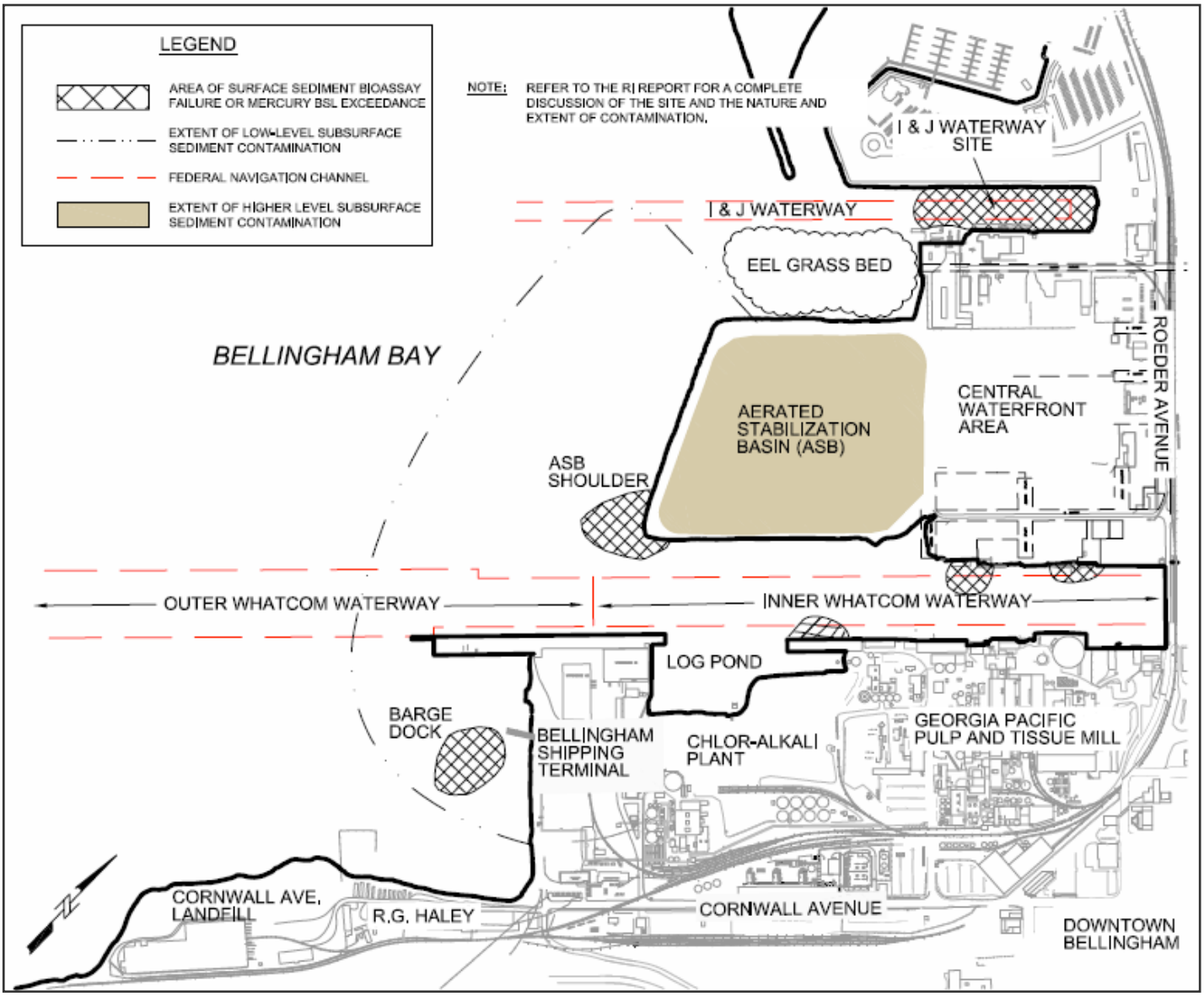
into the Log Pond and Whatcom Waterway between 1965 and 1971. Between 1971 and 1979 pretreatment measures were installed to reduce mercury discharges. Chlor-alkali plant wastewater discharges to the Log Pond area were discontinued in 1979 following construction of the Aerated Stabilization Basin (ASB).

Figure 1



The ASB was constructed by GP during 1978 and 1979 for management of pulp and tissue mill wastewaters in compliance with the Clean Water Act. The outfall from the ASB continues to be owned by GP and wastewater and sediment quality in the outfall area are monitored under the National Pollutant Discharge Elimination System (NPDES) permit program.

Initial environmental investigations of the Site identified mercury in sediment at concentrations that exceeded standards under the Washington State Model Toxics Control Act (MTCA; Chapter 173-340 Washington Administrative Code [WAC]) and Sediment Management Standards (SMS; Chapter 173-204 WAC). These are the two state laws that govern the cleanup of contaminated sediment sites. The MTCA regulations specify criteria for the evaluation and conduct of a cleanup action. SMS regulations dictate the standards for cleanup.

The key MTCA and SMS decision-making document for site cleanup actions is the RI/FS. The RI/FS process for the Whatcom Waterway Site was initiated by GP under Ecology oversight in 1996, consistent with Agreed Order DE 95TC-N399. The RI/FS study process initially included detailed sampling and analysis in 1996 and 1998. These sampling events formed the basis for development of an RI/FS report in 2000.

In parallel with the RI/FS, the Bellingham Bay Comprehensive Strategy EIS was prepared. The EIS was both a project-specific EIS, evaluating a range of cleanup alternatives for the Whatcom Waterway Site, and a programmatic EIS, evaluating the Bellingham Bay Comprehensive Strategy. The Comprehensive Strategy was developed by an interagency consortium known as the Bellingham Bay Demonstration Pilot (Pilot). The Pilot brought together a partnership of agencies, tribes, local government and businesses known collectively as the Pilot Work Group, to develop a cooperative approach to expedite source control, sediment cleanup and associated habitat restoration in Bellingham Bay. The Comprehensive Strategy was finalized as a Final EIS in October 2000, prepared under State Environmental Policy Act (SEPA) regulations.

In late 2000 and early 2001 a combined sediment cleanup and habitat restoration action in the Log Pond portion of the Site was completed as in Interim Remedial Action by GP under Ecology oversight, in accordance with Agreed Order 00TCPNR-1418. The Log Pond project beneficially reused 43,000 cubic yards of clean dredging materials to cap contaminated sediments in the Log Pond, and to improve habitat substrate and elevations for use by aquatic organisms. The habitat restoration component of the project was voluntarily implemented by GP in accordance with the Bellingham Bay Comprehensive Strategy.

In January of 2005, the Port of Bellingham (Port) acquired 137 acres of waterfront property from GP including property within the Whatcom Waterway Site. As a result the agreed orders discussed above for completion of an RI/FS and for the Log Pond Interim Remedial Action were amended in May of 2005 to add the Port as a signatory (No. 2300 and No. 2301). The Port has completed the Supplemental RI/FS and EIS reports currently available for public review under Ecology oversight in accordance with these amended agreed orders.

Objectives of Supplemental RI/FS & EIS Reports

Absent significant changes or new information, the 2000 RI/FS and EIS documents would have formed the basis for Ecology's selection of a final cleanup approach for the Whatcom Waterway Site. However, subsequent events and new information have made it necessary to complete the Supplemental RI/FS and the companion Supplemental EIS that are currently available for public review.

- **Change in ASB Status:** In 2001 GP closed its pulp mill which dramatically reduced the wastewater treatment needs associated with process operations. The ASB had been constructed in 1978 with the Whatcom Waterway Site area, on lands impacted by mercury discharges from the chlor-alkali plant. The ASB contamination from these sources was not addressed in the 2000 Whatcom Waterway RI/FS investigations of remedial alternatives, because at that time it was an operational wastewater treatment facility. However, with the reduced treatment needs resulting from the 2001 closure of the GP pulp mill, the contamination issues could be addressed as part of the cleanup of the Whatcom Waterway Site.

- **New Site Data:** Three rounds of data collection have been completed since the 2000 RI/FS, resulting in changes to the definition of the nature and extent of contamination. The first round of data was collected in spring and summer of 2002, and showed significant decreases in surface sediment contamination levels. In 2003 Ecology requested additional data collection to better characterize contamination within and beneath the ASB. Finally, during 2004 additional Site characterization data were collected at the ASB, characterizing sludge volumes and quality and berm quality. These new data affect the scope of required remedial actions at the Site.

- **Changes in Land Use:** Extensive changes to Bellingham waterfront land uses have occurred between 2000 and the present. These changes have affected some of the key exposure assumptions on which the previous RI/FS and EIS were based. Significant land use changes have included the closure of the GP chlor-alkali plant, pulp mill and chemical plant; the development of the Waterfront Futures Group Vision and Framework Plan; the completion of marina demand studies and marina alternatives siting analyses by the Port; the Port acquisition of 137 acres of GP waterfront property; additional land ownership changes in the Central Waterfront area; updated waterfront

infrastructure planning by the Port, Washington Department of Natural Resources and the US Army Corps of Engineers; initiation of a community master planning process; and rezoning of waterfront properties for mixed-use redevelopment contingent on finalization of the master plan.

- **Other Factors:** In addition to the above factors, there have been changes to cleanup cost information, changes in endangered species listings, and changes in regional approaches to the management of contaminated sediments that warrant completion of a supplemental RI/FS and EIS analysis.

The Supplemental RI/FS and EIS reports available now for public review integrate all of the work performed in the previous RI/FS and EIS studies, update previously-evaluated cleanup alternatives, and describe and evaluate new cleanup alternatives that reflect changes in land use. The RI/FS, EIS and public comments on both documents will inform Ecology's preliminary selection of a cleanup alternative for the Whatcom Waterway Site.

Supplemental RI Report

Volume 1 of the RI/FS contains the Remedial Investigation Report. That document summarizes the findings of all previous environmental investigations of the Site and describes the nature and extent of contamination. The contamination at this Site has been well characterized through over a decade of intensive environmental investigations. The RI Report summarizes the environmental setting of the Whatcom Waterway Site, including the physical & geologic setting, natural resources and land use and navigation conditions.

The distribution of contaminants at the Site is then discussed, relative to applicable screening levels. Site screening levels are based on MTCA and SMS regulations and other applicable laws to ensure the protection of human health and the environment. These screening levels address the protection of sediment-dwelling organisms, protection of water quality, and the prevention of human health or environmental impacts through mercury bioaccumulation. The RI Report summarizes the basis for the site-specific bioaccumulation screening level, originally developed as part of the 2000 RI/FS to address this bioaccumulation concern. Screening levels are also discussed that may impact sediment cleanup options.

The distribution of contaminated sediments and sludges at the Site is defined, using the results of multiple rounds of sediment investigation. Figure 2 shows a portion of the Conceptual Site Model, developed based on the data contained in the RI Report. Principal RI findings summarized in the document include the following:

- **Surface Sediment Quality** (*Figure 1)***:** Chemical and biological testing of surface sediments was performed in 1996, 1998 and again in 2002. Testing included extensive chemical testing, and also biological testing using whole-sediment bioassays. The bioassays were performed consistent with SMS regulatory requirements and were used to test for toxicity of the sediments to sediment-dwelling organisms. The use of bioassays ensures that any potential impacts to sediment organisms are measured, including effects of chemicals or chemical fractions that are not directly measured by chemical testing, and additive or synergistic effects of multiple contaminants. Contaminated surface sediment areas have been delineated. These areas decreased in size between the 1996/1998 sampling events and later testing in 2002 due to ongoing natural recovery processes.

- **Subsurface Sediment Quality** *(Figure 1)*: Subsurface sediment testing was performed during 1996, 1998, 2002, 2003 and 2004 to evaluate the thickness and quality of subsurface sediments, ASB sludges and the quality of berm sands surrounding the ASB. These studies have demonstrated that in most areas of the Site, contaminated sediments have been buried under a clean layer of naturally deposited sediments. The subsurface sediments range in thickness from less than 2 feet to as much as 10 feet in thickness. Average sediment mercury levels are low, and decrease with distance from the Log Pond. Contaminant levels in the ASB sludges are generally higher including high concentrations of phenolic compounds in addition to mercury, zinc, cadmium and other compounds.

- **Sediment Source Control Status:** Source control studies were performed as part of the 2000 RI/FS to determine whether there were ongoing sources of sediment contamination at the Site. This work, and the results of additional source control activities, is summarized in the RI Report. All significant ongoing sources of contamination have been controlled.

Figure 2. Whatcom Waterway Conceptual Site Model

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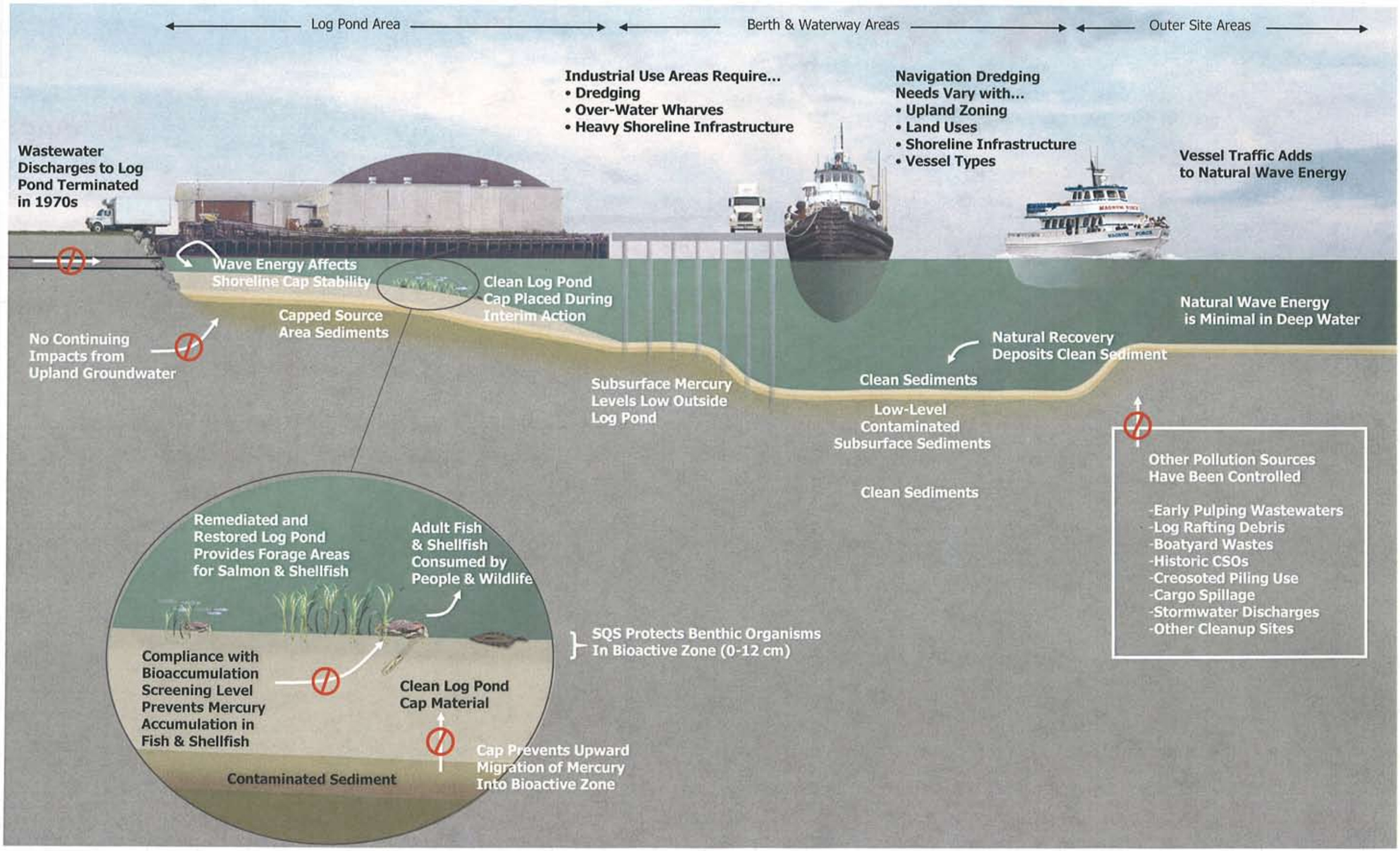

- **Sediment Natural Recovery**: Numerous studies were performed to assess the rates and extent of natural recovery of sediment quality at the Site. In conjunction with surface and subsurface testing, these studies demonstrate that surface sediment quality in most areas of the Site have recovered to acceptable levels since termination of the original pollution discharges. The primary mechanism by which this has occurred is the natural deposition of clean sediments entering Bellingham Bay, mostly from the Nooksack River. This sediment accumulates at a rate of about 1.5 cm/year. Limitations on natural recovery were defined, including wind/wave erosional forces in some shallow-water areas, and potential natural or man-made disturbances in navigation or dredging areas.

- **Engineering Testing**: The RI Report describes the results of numerous rounds of engineering testing performed to evaluate sediment dredging, treatment, containment, reuse and disposal options. The sandy material inside the ASB breakwater was found to be clean and suitable for reuse.

- **Log Pond Cap Monitoring:** The environmental cap in the GP Log Pond completed as part of the 2000 and 2001 Interim Remedial Action has been monitored for 5 years. Monitoring results have shown that the cap effectively isolates sediment contaminants from the aquatic environment, and that the surface of the cap provides high quality habitat for sediment-dwelling organisms, juvenile crabs and juvenile salmonids. Some wave-induced erosion has been noted at the shoreline edges of the cap, and enhancements will be required to maintain the long-term protectiveness of the remedy. These enhancements are addressed as part of the Feasibility Study.

Supplemental FS Report

The Feasibility Study Report identifies cleanup technologies that can be used to complete the cleanup of the Site, assembles these technologies into remedial alternatives, and then evaluates these alternatives using MTCA and SMS regulatory criteria. Eight remedial alternatives are presented and evaluated in the FS. Table 1 contains a concise description of the remedial alternatives, each of which is considered capable of meeting Site cleanup levels and minimum regulatory requirements.

Table 1. Description of RI/FS Cleanup Alternatives

Alternative Description (Refer to Section 6 of the Feasibility Study)									
Cleanup Alt.	**Probable Cost ($ Million)**	**Cleanup Technologies Applied**						**Land Use**	
		Institutional Controls	**Monitored Natural Recovery**	**Containment**	**Removal & Disposal**	**Treatment**	**Reuse & Recycling**	**Whatcom Waterway**	**ASB**
Alt. 1	**$ 8**	**Yes**	**Yes**	**Yes**	--	--	--	Limited-Use Channel	Non-Aquatic (Capped)
Alt. 2	**$ 34**	**Yes**	**Yes**	**Yes**	--	--	--	Dredged to 1960s Industrial Channel	Non-Aquatic (Capped)
Alt. 3	**$ 34**	**Yes**	**Yes**	**Yes**	--	--	--	Dredged to 1960s Industrial Channel	Non-Aquatic (Filled)
Alt. 4	**$ 22**	**Yes**	**Yes**	**Yes**	**Yes**	--	--	Dredged for Multi-Purpose Channel	Non-Aquatic (Capped)
Alt. 5	**$ 42**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Dredged for Multi-Purpose Channel	Aquatic (Opened to Bay)
Alt. 6	**$ 44**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Dredged for Multi-Purpose Channel	Aquatic (Opened to Bay)
Alt. 7	**$ 74**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Dredged for 1960s Industrial Channel	Aquatic (Opened to Bay)
Alt. 8	**$ 146**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	Dredged for 1960s Industrial Channel	Aquatic (Opened to Bay)

The eight remedial alternatives differ from one another in their application of different remedial technologies, their different costs, and their integration or conflict with land use and navigation planning.

- **Differences in Remedial Technologies:** The first three remedial alternatives use only containment, monitored natural recovery and institutional controls to comply with Site cleanup levels. These technologies are used to varying degrees in all eight project alternatives. Alternative 2 involves construction of a confined aquatic disposal site near the Cornwall Avenue Landfill for consolidation and containment of sediments dredged from the Whatcom Waterway. Alternative 3 involves the construction of a nearshore fill within the ASB. Alternatives 4 through 8 incorporate higher-cost dredging and upland disposal. The quantities of material dredged increases between each of these alternatives. Alternatives 5 through 8 remove the sludges and contaminated sediments from the ASB, dewater the sludges prior to disposal, reuse clean berm materials as part of remedial efforts, and reconnect the ASB with Bellingham Bay.

- **Differences in Estimated Costs:** Detailed cost estimates were prepared for each alternative, incorporating the estimated costs to design, permit and implement each of the alternatives. Incremental costs associated with mitigation measures identified in the EIS document are not included. Excluding project cost contingencies and mitigation costs, the probable costs of the Alternatives range from a low value of $8 million, to a high value of $146 million. These costs are expressed in 2005 dollars, without adjustments for future cost inflation and without present value discounting.

- **Differences in Land Use Consistency – Whatcom Waterway:** Land use and navigation patterns in the Whatcom Waterway area are affected in different ways by the remedial alternatives. Consistency between a cleanup action and land use & navigation patterns enhances long-term effectiveness by minimizing the potential that contaminated materials will be re-exposed after completion of the cleanup action. The Outer Whatcom Waterway is used for deep draft navigation. Alternative 1 results in shallower water depths in this area, inconsistent with ongoing deep draft uses of the Bellingham Shipping Terminal. The remaining seven alternatives dredge contaminated sediments from this area in a manner consistent with deep-draft uses. The Inner Whatcom Waterway is undergoing redevelopment for mixed uses. Land use planning for Inner Waterway shorelines has focused on development of transient moorage facilities, public shoreline access and habitat enhancements in support of the mixed-use redevelopment of this area. Dredging, capping and shoreline stabilization patterns in Alternatives 4, 5 and 6 are consistent with this plan. Alternative 1 conducts no dredging, capping or shoreline stabilization, resulting in conflicts with the proposed plan. Alternatives 2, 3, 7 and 8 all require deep dredging, which produces conflicts with the planned Inner Waterway uses due to requirements for hardened shoreline infrastructure (i.e., bulkheads, over-water wharves) in order to achieve, maintain and use target dredge depths.

- **Differences in Land Use Consistency – ASB:** The ASB has been identified by the Port for planned aquatic reuse as a marina with integrated public access and navigation enhancements. The alternatives affect land use within the ASB in different ways. Alternatives 1, 2 and 4 use capping to remediate sludges and sediments within the ASB. Under these alternatives the ASB remains enclosed and the remedy is inconsistent with aquatic ASB reuse. Alternative 3 uses the ASB for construction of a nearshore fill for contaminated sediments dredged from other areas, permanently converting the ASB to upland characteristics. This fill is inconsistent with planned aquatic reuse of the ASB. Under Alternatives 5, 6, 7 and 8 the ASB is remediated through dredging, and the ASB is reconnected to Bellingham Bay in a manner consistent with planned aquatic reuse.

MTCA and SMS regulations contain a defined process for evaluating different remedial alternatives and identifying a preferred remedial alternative. This analysis is conducted in Section 7 of the Feasibility Study. First, to be considered a final cleanup action, cleanup alternatives must comply with four threshold requirements including protection of human health and the environment, compliance with cleanup standards, compliance with applicable laws and including provisions for compliance monitoring. These threshold requirements are considered “pass”/ “fail” and are listed in Section 1 of Table 2 below.

Secondly, MTCA regulations place a preference on alternatives that, while equivalent in other respects, can be implemented in a shorter period of time. SMS regulations expect that cleanup actions should comply with cleanup levels within a 10-year restoration time-period. Longer restoration time-frames are allowable, but are discouraged under the regulations. Estimated restoration time-frames are listed in Section 2 of Table 2 below.

Finally, the MTCA regulations specify that when selecting a cleanup action, preference shall be given to actions that are "permanent solutions to the maximum extent practicable". The regulations specify the manner in which this analysis of permanence is to be conducted. The regulations require that the costs and benefits of each of the project alternatives be evaluated using a disproportionate cost analysis. That analysis measures the relative environmental benefits of each alternative using six evaluation criteria as listed in Section 3 of Table 2. Remedy costs and benefits are then compared, starting with the most permanent alternative. Costs are considered disproportionate to benefits if the incremental costs of the more permanent alternative exceed the incremental degree of benefits achieved by the other lower-cost alternative. Where the benefits of two alternatives are equivalent, MTCA regulations specify that Ecology shall select the less costly alternative.

Table 2. Summary of RI/FS Alternatives Evaluation

MTCA Evaluation (Section 7 of Feasibility Study)	Lower Preference Alternatives				Preferred Alternatives		Impracticable Alternatives	
	Alt. 1	Alt.2	Alt. 3	Alt. 4	Alt.5	Alt. 6	Alt. 7	Alt. 8
Overall MTCA Alternatives Ranking	**Low**	**Med**	**Med**	**Med**	**High**	**High**	**Low**	**Low**
1. Compliance with MTCA Threshold Criteria								
Protection of Human Health & the Environment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compliance with Cleanup Standards	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compliance with Applicable Laws	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Provision for Compliance Monitoring	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Restoration Time-Frame	6-12 yrs	6-9 yrs	5-8 yrs	3-4 yrs	5-6 yrs	5-6 yrs	5-8 yrs	8-13 yrs
3. MTCA Evaluation Criteria								
Overall Protectiveness	Low	Med	Med	Med	High	High	High	High
Permanence	Low	Med	Med	Med	Med	Med	Med	High
Long-Term Effectiveness	Low	Med	Med	Med	High	High	High	High
Short-Term Risk Management	High	Med	Med	High	High	High	Med	Low
Implementability	Low	Med	Med	Med	High	High	Med	Low
Consideration of Public Concerns	Low	Med	Low	Med	High	High	Med	Low
4. MTCA Disproportionate Cost Analysis								
Overall MTCA Benefits Ranking	Low	Med	Med	Med	High	High	Med	Med
Remedy Cost ($ Million)	$ 8	$ 34	$ 34	$ 22	$ 42	$ 44	$ 74	$ 146
Costs Disproportionate to Benefits	--	--	--	--	No	No	Yes	Yes
Remedy is Practicable	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Permanent to the Maximum Extent Practicable	No	No	No	No	Yes	Yes	No	No

Based on the MTCA disproportionate cost analysis (Section 4 of Table 2), Alternatives 7 and 8 were determined to have costs that were substantial greater (from 2 to almost 4 times greater) than the costs of alternatives 5 or 6. However, Alternatives 7 and 8 provided an overall benefit ranking that was lower than those of Alternatives 5 or 6. The incremental costs of Alternatives 7 and 8 were determined to be disproportionate to their incremental degree of benefits, and these remedies were determined to be impracticable under MTCA criteria. The costs of Alternatives 5 and 6 were not disproportionate relative to their incremental benefits over alternatives 1-4 therefore they were determined to be permanent to the maximum extent practicable. Since Alternatives 5 and 6, pass threshold criteria, provide a reasonable restoration time frame and are permanent to the maximum extent practicable they were identified as preferred alternatives.

Supplemental EIS

A draft Supplemental EIS has been prepared in conjunction with the RI/FS. The EIS document evaluates each of the remedial alternatives against two sets of evaluation criteria.

- **SEPA Evaluation:** First, the EIS evaluates the environmental impacts of the project alternatives, consistent with SEPA regulatory requirements (WAC 197-11). This SEPA review is required as part of the MTCA and SMS cleanup decision process. The review specifically evaluates potential impacts of the project alternatives, including both negative/adverse impacts, and positive/beneficial impacts. Where significant adverse impacts are identified, mitigation measures are discussed. In addition to the eight remedial alternatives, the EIS also evaluates a no action alternative as required under SEPA.

- **Pilot Evaluation:** Secondly, the EIS evaluates each of the project alternatives for its consistency with the seven goals of the Bellingham Bay Demonstration Pilot. The seven "baywide" Pilot goals were established to guide long-term sediment cleanup, disposal siting, land use and habitat decisions in Bellingham Bay. Consistency with these goals is not required under MTCA or SMS regulations. However, the Pilot Goals capture the results of over ten years of coordinated cleanup, source control and habitat restoration planning in Bellingham Bay. Alternatives that have a high degree of consistency with the Pilot goals are considered to provide greater overall benefits relative to the stated priorities of the Pilot team members.

Table 3 provides a concise summary of the findings of the SEPA analysis. The No Action alternative, and most of the project alternatives were found to have significant net adverse impacts, requiring that mitigation measures be considered as part of project implementation. The types of mitigation measures are discussed in the EIS. Alternatives 5 and 6 were identified to have net beneficial impacts or mitigated impacts under the SEPA criteria, indicating that additional required mitigation measures are likely to be minimal for these alternatives.

Table 3. SEPA Analysis of Impacts, Benefits and Mitigation

SEPA Analysis of Environmental Impacts (Refer to Section 4 of the EIS)									
Elements of the Environment	**No Action**	**Alt. 1**	**Alt.2**	**Alt. 3**	**Alt. 4**	**Alt.5**	**Alt. 6**	**Alt. 7**	**Alt. 8**
Geology, Water, Environmental Health	Net Adverse Impacts	Net Adverse Impacts	Net Adverse Impacts	Net Adverse Impacts	Net Beneficial Impacts	Net Beneficial Impacts	Net Beneficial Impacts	Net Adverse Impacts	Net Adverse Impacts
Fish & Wildlife	Net Adverse Impacts	Net Beneficial Impacts	Net Beneficial Impacts	Net Adverse Impacts	Net Beneficial Impacts	Net Beneficial Impacts	Net Beneficial Impacts	Mitigated Impacts	Net Adverse Impacts
Land Use, Shoreline Use & Recreation, Public Use	Net Adverse Impacts	Net Adverse Impacts	Net Adverse Impacts	Net Adverse Impacts	Net Adverse Impacts	Net Beneficial Impacts	Net Beneficial Impacts	Net Adverse Impacts	Net Adverse Impacts
Air & Noise	No Change	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts
Historical & Cultural Preservation	No Change	No Change	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts	Mitigated Impacts

Table 4 provides a concise summary of the Pilot alternatives evaluation. This analysis is different from MTCA or SEPA in that it is not required under existing regulatory authorities. Consistency with the Pilot Comprehensive Strategy and the Pilot Goals is voluntary. However, the use of the Pilot goals provides an additional basis by which the qualitative benefits or short-comings of a remedial alternative can be measured. In general, the relative Pilot rankings were similar to the MTCA alternatives rankings contained in the Feasibility Study. Alternatives 1 and 8 ranked lowest. Alternatives 2, 3, 4 and 7 ranked medium. Alternatives 5 and 6, which were the MTCA preferred remedial alternatives, received the highest rankings against the Pilot Goals.

Table 4. Summary of Pilot Evaluation of Alternatives

Evaluation of Alternatives Against Pilot Goals (Refer to Section 5 of the EIS)									
Overall Ranking Against Goals	**No Action (Low)**	**Alt. 1 (Low)**	**Alt. 2 (Med)**	**Alt. 3 (Med)**	**Alt. 4 (Med)**	**Alt.5 (High)**	**Alt. 6 (High)**	**Alt. 7 (Med)**	**Alt. 8 (Low)**
Seven Bay-Wide Pilot Goals & Alternative Rankings									
Human Health & Safety	Low	Med	Med	Med	Med	High	High	High	High
Ecological Health	Low	Med	Med	Med	Med	High	High	High	High
Habitat Protection & Restoration	Low	Med	High	Low	Med	High	High	Med	Low
Social & Cultural Uses	Low	Low	Low	Low	Med	High	High	Low	Low
Resource Management	Low	Low	Med	Med	Med	High	High	Low	Low
Faster, Better, Cheaper	Low	Low	Med	Med	Med	High	High	Low	Low
Economic Vitality, Shoreline Land Use	Low	Low	Low	Low	Med	High	High	Low	Low

What is the Preferred Cleanup Alternative?

Based on the MTCA analysis contained in the FS Report, two alternatives (Alternative 5 and 6) were identified as preferred remedial alternatives. The design concept for Alternative 6 is shown in Figure 3. Both Alternatives 5 and 6 include the following major cleanup elements:

- Dredging of contaminated sediments in the outer Whatcom Waterway to maintain deep-draft navigation requirements near the Shipping Terminal;
- Targeted dredging of contaminated sediments in the Inner Whatcom Waterway, with subsequent thick-capping and shoreline stabilization consistent with mixed-use redevelopment planning for this area;
- Removal and dewatering of contaminated sludges and sediment from the ASB, followed by reconnection of the ASB to the waters of Bellingham Bay, and reuse of clean berm materials as part of Site cleanup activities;
- Capping of contaminated sediments in the “ASB Shoulder” and the “Barge Dock” Site areas, and modifications to the shoreline edges of the Log Pond cap to enhance long-term cap stability;
- Continued monitored natural recovery in other Site areas already in compliance with Site cleanup levels; and,
- Off-site disposal of approximately 500,000 cubic yards of contaminated sediments and sludges using in a permitted, Subtitle D disposal facility. No new disposal sites will be created.

What Happens Next?

After the pubic comment period on the RI/FS, Ecology will review comments received and prepare a Responsiveness Summary of the comments and suggested changes. If significant changes are made, the RI/FS will be issued again for public comment. If no significant changes are made, the RI/FS will be considered final.

The RI/FS, the companion EIS and public comment on both documents will inform Ecology’s preliminary selection of a cleanup alternative for the Site. This alternative will be further detailed and available for public review in a draft Cleanup Action Plan (CAP). Following public review of the CAP, a final CAP will be issued with the final EIS. The cleanup will then move forward into design, permitting, construction and long-term monitoring.

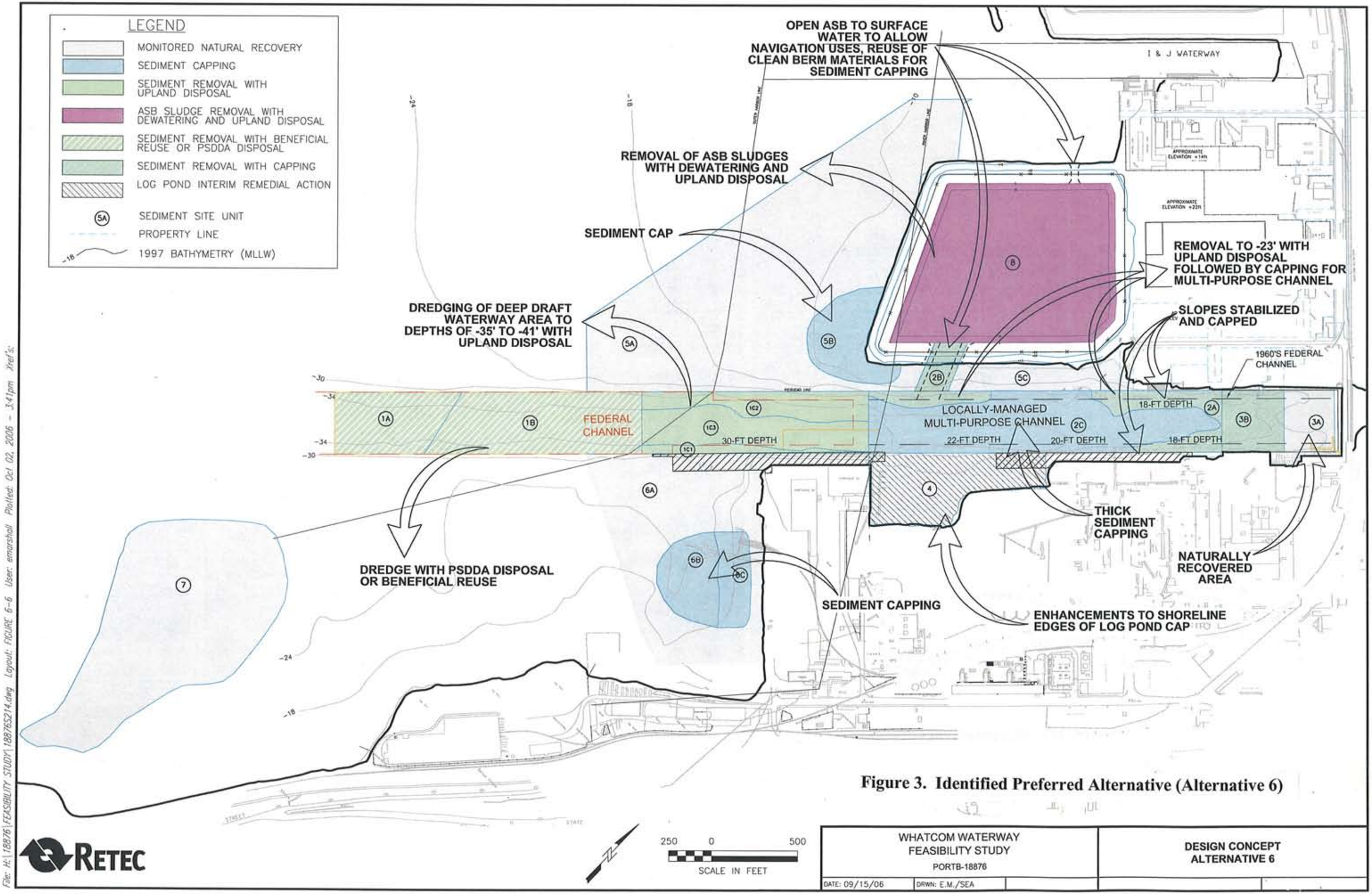

Figure 3. Identified Preferred Alternative (Alternative 6)