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Abbreviations and Acronyms

AET	apparent effects threshold
ASB	aerated stabilization basin
BEP	bis-2-ethylhexylphthalate
BSL	bioaccumulation screening level
BT	bioaccumulation trigger
CAP	Cleanup Action Plan
Corps	Army Corps of Engineers
cm	centimeter
cm/yr	centimeters per year
Cs-137	cesium
CSL	cleanup screening level
CSM	site conceptual model
CSO	combined sewer overflow
CST	column settling tests
DNR	Department of Natural Resources
dpm/g	disintegrations per minute per year
DRET	dredge elutriate test
Ecology	Department of Ecology
ECRT	electro-chemical reductive technology
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRMS	flood insurance rate maps
g/cm ² yr	grams per square centimeter per year
g/cm ³	grams per cubic meter
GP	Georgia Pacific
HPAH	high polycyclic aromatic hydrocarbon
IRIS	Integrated Risk Information System
km ²	square kilometers
LAET	lowest apparent effects threshold
LPAH	low polycyclic aromatic hydrocarbon
m/sec	meters per second
M ³	cubic meters
MCUL	minimum cleanup level
MET	modified elutriate test
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MLLW	mean lower low water
MTCA	Model Toxics Control Act
ng/Kg	nanograms per kilogram
NMFS	National Marine Fisheries Service
NOAA	National Oceanic & Atmospheric Administration
NPDES	non-point discharge
°C	degrees Celsius

Abbreviations and Acronyms

OMMP	Operations, Maintenance, and Monitoring Plan
PAH	polyaromatic hydrocarbons
Pb-210	lead
PCLT	pancake column leach test
Pilot	Bellingham Bay Demonstration Pilot
PMA	Port Management Agreement
ppt	parts per thousand
PRDE	pre-remedial design evaluation
PSDDA	Puget Sound dredge disposal analysis
RfD	reference dose
RI/FS	Remedial Action/Feasibility Study
RTDF	Remediation Technologies Development Forum
SAP	sampling and analysis plan
SEPA	State Environment Policy Act
SMP	Shoreline Master Program
SMS	sediment management standards
SPM	settled particulate matter
SQS	sediment quality standard
TCDD	tetrachlorodibenzodioxin
TCLP	toxicity characteristics leaching procedure
TEC	toxicity equivalent concentration
TOC	total organic carbon
TSS	total suspended solids
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
WASP	Water Quality Analysis Simulation Program
WW	Whatcom Waterway
WWTP	wastewater treatment plant
µg/L	micrograms per liter

1 Introduction

This document is Volume 1 of the Draft Supplemental Remedial Investigation and Feasibility Study (RI/FS) for the Whatcom Waterway Site in Bellingham. Together with the companion Draft Supplemental Environmental Impact Statement (EIS), the RI/FS document describes the results of environmental investigations of the Whatcom Waterway Site, describes and evaluates a range of potential remedial alternatives, and identifies a preferred remedial alternative.

This document (Volume 1) contains the Remedial Investigation component of the RI/FS, which describes the nature and extent of contamination and the environmental setting at the site. The Feasibility Study (Volume 2) contains the evaluation of cleanup technologies and alternatives that can be used to conduct cleanup of the site. Volume 2 also identifies a preferred remedial alternative that best meets regulatory requirements. This document was prepared consistent with the requirements of the Model Toxics Control Act (MTCA) regulations and the Sediment Management Standards (SMS).

After considering public comment, the RI/FS will be finalized and the Washington Department of Ecology (Ecology) will preliminarily select a cleanup alternative for the site that will be articulated for public review in a draft Cleanup Action Plan (CAP). Following public review of the CAP, the cleanup will move forward into design, permitting, construction, and long-term monitoring.

1.1 Site Description and Background

The Whatcom Waterway Site is located within Bellingham Bay. The locations and characteristics of the site are shown in Figure 2-1. 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 into the Whatcom Waterway during the late 1960s and 1970s. Initial environmental investigations of the site identified mercury in sediment at concentrations that exceed applicable standards, as well other contaminants from industrial releases.

The main state law that governs the cleanup of contaminated sites is the MTCA. When contaminated sediments are involved, the cleanup levels and other procedures are also regulated by the SMS. MTCA regulations specify criteria for the evaluation and conduct of a cleanup action. SMS regulations dictate the standards for cleanup. Under both laws, a cleanup must protect human health and the environment, meet environmental standards in other