DRAFT CLEANUP ACTION PLAN
UPLAND AREA OF THE PORT GAMBLE BAY AND MILL SITE

PORT GAMBLE, WASHINGTON

Washington State Department of Ecology
Olympia, Washington 98504

April 2019

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
bgs	below ground surface
BMP	best management practice
CAP	Cleanup Action Plan
CFR	Code of Federal Regulations
CoC	contaminant of concern
cPAH	carcinogenic polynuclear aromatic hydrocarbon
CSM	conceptual site model
DCAP	Draft Cleanup Action Plan
Ecology	Washington State Department of Ecology
EDR	Port Gamble Bay Cleanup Engineering Design Report
EPA	U.S. Environmental Protection Agency
MAF	Port Gamble Model Airplane Field Limited Purpose Landfill
mg/kg	milligrams per kilogram
Mill Site	former upland sawmill area
MTCA	Model Toxics Control Act
ng/kg	nanograms per kilogram
ng/L	nanograms per liter
OPG	OPG Properties LLC
P&T	Pope & Talbot, Inc.
PAH	polynuclear aromatic hydrocarbon
pg/L	picograms per liter
PQL	practical quantitation limit
PR	Pope Resources LP
RCW	Revised Code of Washington
RI/FS	remedial investigation/feasibility study
SEPA	State Environmental Policy Act
Site	Port Gamble Bay and Mill Site
TEQ	toxicity equivalent quotient
WAC	Washington Administrative Code

EXECUTIVE SUMMARY

This Draft Cleanup Action Plan (DCAP) describes the selected cleanup action for a portion of the Port Gamble Bay and Mill Site (Site), located in Port Gamble, Washington. Specifically, this DCAP selects a cleanup action for the former upland sawmill area (the "Mill Site"). These activities are separate from the in-water area addressed in the 2013 Consent Decree and Cleanup Action Plan between Pope Resources/OPG Properties (PR/OPG) and the Washington State Department of Ecology (Ecology; Kitsap County Case No. 13-2-02720-0).

This DCAP has been developed in accordance with the Model Toxics Control Act (MTCA), Revised Code of Washington (RCW) 70.105D, and its implementing regulations, Washington Administrative Code (WAC) 173-340. The selected cleanup action is based on site-specific data provided in remedial investigation/feasibility study (RI/FS) reports, including the Supplemental RI/FS prepared in March 2019. The RI/FS reports are on file at Ecology headquarters located at 300 Desmond Drive, Lacey, Washington.

Releases of hazardous substances to the Mill Site were initially identified by Ecology in 1997. In 1998, Ecology notified Pope & Talbot (P&T) of the potential listing of the Mill Site on Ecology's Confirmed and Suspected Contaminated Site List, and in 1999 PR/OPG began working with Ecology to characterize the nature and extent of contamination, supporting interim cleanup actions at the Mill Site. In November 2007, P&T filed for bankruptcy.

From 1999 through 2001, PR/OPG completed multiple soil and groundwater investigations in potential historical source areas at the Mill Site. These investigations informed a 2002 interim remedial action that included excavation of 20,460 tons of soil exceeding MTCA unrestricted use soil cleanup levels from ten upland areas and disposal of these materials at approved off-site landfills.

Post-remediation groundwater monitoring conducted after completion of the 2002 interim action identified two additional areas of contamination that were subsequently characterized, informing a second interim action. Like the earlier action, from 2004 to 2005 PR/OPG excavated an additional 5,850 tons of contaminated soil from two upland areas of

the Mill Site and disposed of these materials at approved off-site landfills (a total of 26,310 tons of contaminated soil were removed from the Mill Site between 2002 and 2005). Following several more years of additional post-construction groundwater monitoring, and under a 2008 Agreed Order, in 2012 Ecology and PR/OPG prepared a draft RI/FS for the Mill Site, which was provided for public comment. Subsequently, additional characterization of the nature and extent of dioxins/furans over a larger study area adjacent to the Mill Site was performed by Ecology and PR/OPG under a 2018 Agreed Order to complete the supplemental RI/FS of the Mill Site to inform this DCAP.

The sequential RI/FS investigations confirmed the protectiveness of the earlier soil removal actions, but also revealed elevated dioxin/furan concentrations remaining in soil in parts of the Mill Site, particularly in the northeastern area of the former sawmill facility coinciding with one of the 2004/2005 interim remedial action areas. Former sawmill operations in this area applied a mercury-based "end paint" in common use regionally beginning in the early 1900s, which by the 1950s was replaced with a chlorophenol-based product with characteristic residual dioxin/furan impurities, before being discontinued altogether in the 1970s. Possible spilling of these various lumber treatment paints over time originally released both mercury and subsequently dioxins/furans to soils in end paint application areas, particularly in the localized northeastern area of the Mill Site where end painting was often focused. Because the 2004/2005 interim action targeted mercury removal without concurrent dioxin/furan testing, some of the soils excavated from the mercury-impacted area that contained elevated dioxin/furan concentrations were inadvertently reused as deep backfill if mercury concentrations in these temporary stockpiles were below the MTCA unrestricted use soil cleanup level. The dioxin/furan congener profile in contaminated subsurface soil samples collected from this location is characteristic of residues from chlorophenolic wood treatment products, consistent with the conceptual site model. Because shellfish tissue levels adjacent to the Mill Site and in surrounding areas of Port Gamble Bay are currently within the background range and below health advisory and water quality criteria, significant dioxin/furan partitioning along the soil-groundwater-sediment-surface water transport pathway is unlikely.

In accordance with MTCA requirements, cleanup and remediation levels are developed in this DCAP for chemicals of concern remaining at the Mill Site, including dioxins/furans,

carcinogenic polynuclear aromatic hydrocarbons, lead, and arsenic. Protective cleanup levels were developed based on unrestricted future land use, along with site-specific groundwater, surface water, and sediment protection requirements under MTCA. Six remedial alternatives were developed for detailed MTCA evaluations, including full removal of soils exceeding cleanup levels, along with different combinations of focused removal, capping, and institutional controls. Based on the MTCA evaluation and disproportionate cost analyses, the remedial alternative selected by Ecology to complete cleanup of the Mill Site is as follows:

- Excavate and dispose at approved off-site landfills approximately 7,500 to 10,500 tons of soils in the northeast portion of the Mill Site with dioxin/furan concentrations exceeding remediation levels for wildlife, groundwater, surface water, and sediment protection
- Cap approximately 6 acres in four areas of the Mill Site with dioxin/furan soil concentrations below remediation levels, but exceeding MTCA unrestricted use soil cleanup levels, including lower-concentration excavated and treated soils from the northeast portion of the Mill Site (e.g., amended with activated carbon or other treatment agents to further sequester dioxins/furans as practicable)
- Record restrictive covenants to preclude use of the shallow aquifer throughout the Mill Site for future drinking water supply, and to ensure that soil caps in the Mill Site maintain their protectiveness

Following public review of this DCAP and the draft 2019 Consent Decree, PR/OPG and Ecology will implement final remedial actions at the Mill Site, with construction currently targeted to begin as early as 2020. Future redevelopment and/or habitat restoration actions at the Mill Site will also meet MTCA cleanup levels and other performance objectives described in this DCAP to ensure protectiveness. As practicable, implementation of final upland cleanup actions will be coordinated with concurrent redevelopment and/or habitat restoration actions to achieve a protective and cost-effective integrated remedy.

Together with the cleanup actions already completed by PR/OPG in Port Gamble Bay under a 2013 Consent Decree with Ecology, the actions outlined in this DCAP constitute the final cleanup actions required for the Port Gamble Bay and Mill Site.

1 INTRODUCTION

This Draft Cleanup Action Plan (DCAP) describes the selected cleanup action for a portion of the Port Gamble Bay and Mill Site (Site), located in Port Gamble, Washington. Specifically, this DCAP selects a cleanup action for the former upland sawmill area (the "Mill Site"), provides a description of the planned cleanup actions and sets forth functional requirements that the cleanup must meet to comply with the Model Toxics Control Act (MTCA).

1.1 Site Background

The Site is in north Kitsap County, Washington, and includes the Mill Site, which is bounded by Hood Canal to the north, Port Gamble Bay to the east, and the Kitsap Peninsula to the west and south (Figure 1). As defined in the 2008 and 2018 Agreed Orders, the Mill Site is generally located at the eastern terminus of Northeast View Drive in Port Gamble, Washington, and includes the uplands landward of the ordinary highwater line. The Mill Site is further defined by the extent of contamination caused by the release of hazardous substances at the Site, as described in this DCAP. The adjacent tidelands and Port Gamble Bay are covered under a separate 2013 Consent Decree between Pope Resources/OPG Properties (PR/OPG) and the Washington State Department of Ecology (Ecology; Kitsap County Case No. 13-2-02720-0).

In 1853, the corporate predecessor to Pope & Talbot (P&T) established one of the first sawmills on Puget Sound in Port Gamble, and continuously operated a forest products manufacturing facility, i.e., the Mill Site (as depicted on Figure 1), until 1995. In 1985, P&T transferred ownership of the uplands and adjacent tidelands portion of the sawmill as part of a spinoff that created the new company, Pope Resources (PR). By that time, most of the hazardous substance releases to the Site had already occurred. P&T continued wood products manufacturing at the sawmill until 1995 under a lease with PR. Sawmill operations ceased in 1995, and the facility was dismantled and mostly removed in 1997. OPG Properties, LLC (OPG), formerly known as Olympic Property Group, LLC, was formed in 1998 to manage PR's real estate in Kitsap County and presently manages the Mill Site, including making leasing arrangements and property improvements.

In January 1997, Ecology conducted an initial investigation of the Mill Site, which consisted of sampling sediment in four catch basins. The results of that investigation indicated that concentrations of petroleum hydrocarbons and metals were present at levels above MTCA chemical criteria for these compounds. In April 1997, PR/OPG removed accumulated materials from 12 catch basins, four valve vaults, and four sumps, and disposed of these materials at approved off-site landfills.

In July 1998, Ecology notified P&T of the potential listing of the Mill Site on Ecology's Confirmed and Suspected Contaminated Site List. Beginning in 1999, PR/OPG performed detailed upland investigations of the Mill Site based on a focused source area sampling strategy, as described in the Supplemental RI/FS (Anchor QEA 2019b). Potential source areas were delineated based on historical Mill Site maps, records, and recollections of former mill workers. Areas containing historical structures or activities where materials were processed or stored and could have released chemicals of concern (CoCs) into the soil or groundwater were identified as potential source areas. Eleven potential CoC source areas were identified at the Mill Site and included petroleum product storage areas, former transformer locations, wood treatment/end painting areas, and drum storage areas.

From 1999 to 2001, PR/OPG performed multiple soil and groundwater investigations at the Mill Site to characterize the nature and extent of CoCs in potential source areas (Anchor QEA 2019b). Soil explorations documented variable thicknesses of fill materials across the Mill Site, ranging from 2 and 18 feet below ground surface (bgs). Mill Site fill material consists of sand and gravel containing smaller amounts of debris (bricks, wood chips, concrete, and ash).

As an initial interim remedial action in coordination with Ecology under the Voluntary Cleanup Program, in 2002 PR/OPG excavated 20,460 tons of soil exceeding MTCA unrestricted use soil cleanup levels from 10 discrete areas of the Mill Site and disposed of these materials at approved off-site landfills (Anchor QEA 2019b). CoCs addressed by this initial interim action included arsenic, lead, mercury, total petroleum hydrocarbons, and polynuclear aromatic hydrocarbons (PAHs). Monitoring was performed during and following implementation of the interim action to ensure protectiveness and to verify post-construction natural attenuation (e.g., in groundwater).

Informed by the post-construction monitoring, in 2004/2005 PR/OPG removed an additional 5,850 tons of soil exceeding MTCA unrestricted use soil cleanup levels from two discrete areas of the Mill Site and disposed of these materials at approved off-site landfills (a total of 26,310 tons of contaminated soil were removed from the Mill Site between 2002 and 2005; Anchor QEA 2019b). CoCs addressed by this second interim action included arsenic, mercury, and PAHs. Between 2005 and 2016, eleven sequential arsenic, dioxin/furan, and other site characterization investigations were conducted at the Mill Site by PR/OPG, Ecology, and other stakeholders to verify the protectiveness of the interim remedial actions in reducing groundwater CoC concentrations and to further characterize the Mill Site.

In November 2007, P&T filed for bankruptcy (Delaware Case No. 07 11738). In May 2008, Ecology and PR/OPG entered into Agreed Order No. DE 5631, pursuant to which two focused RI/FS reports for portions of the Port Gamble Bay and Mill Site were completed, submitted, and released for public comment in 2011. In December 2012, the RI/FS for the Mill Site was revised to address comments (Anchor QEA and Environmental Partners 2012).

In December 2013, Ecology and PR/OPG entered a Consent Decree to design, permit, and construct sediment cleanup actions in Port Gamble Bay. The sediment cleanup design was detailed in the Engineering Design Report (EDR; Anchor QEA 2015). In-water construction actions were performed from September 2015 to January 2017 (Anchor QEA 2016 and 2018). Mixed sediment and wood debris dredged from Port Gamble Bay as part of the sediment cleanup project was rinsed ("sparged") on the Mill Site to protectively rinse salinity and ammonia from the stockpiles. All stockpiles were removed from the Mill Site between July and September 2017 and disposed at approved off-site landfills.

In October 2017, following visual confirmation of removal of the stockpiles, surface soil from non-hardscape areas of the Mill Site were sampled and analyzed for CoCs in accordance with the Ecology-approved *Post-Stockpile Removal – Sampling and Quality Assurance Project Plan* (Anchor QEA 2017). The post-stockpile removal sampling verified successful removal of sediments from the Mill Site consistent with antidegradation requirements; post-stockpile removal soil data were incorporated into the Supplemental RI/FS (Anchor QEA 2019b).

Between October 2017 and March 2018, PR/OPG performed supplemental investigations under the 2018 Agreed Order to fill remaining data gaps to complete the Supplemental RI/FS (Anchor QEA 2019b). The objectives of the final supplemental investigations included the following:

- Delineate the areal extent of the Mill Site, including potential dioxins/furans from historical wood treatment and/or hog fuel boiler releases, but excluding the influence of other anthropogenic sources; sampling extended across a larger study area adjacent to the Mill Site, as depicted in Figures 1 and 2
- Characterize vertical dioxin/furan profiles at the Mill Site

1.2 Purpose

The purpose of this DCAP is to:

- Describe the Mill Site, including the nature and extent of contamination
- Identify site-specific cleanup levels and points of compliance for the selected remedy
- Identify applicable state and federal laws for the selected cleanup action
- Identify and describe the selected cleanup action for the Mill Site
- Summarize the other cleanup action alternatives evaluated in the Supplemental RI/FS
- Discuss compliance monitoring requirements
- Present the schedule for implementing the Cleanup Action Plan (CAP)

2 SUMMARY OF SITE CONDITIONS

This section summarizes the findings of the Supplemental RI/FS (Anchor QEA 2019b), including a conceptual site model (CSM) of the nature and extent of Mill Site COCs. Under MTCA, a CSM is "*a conceptual understanding of a site that identifies potential or suspected sources of hazardous substances, types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors*." Once developed, a CSM informs the selection of appropriate remedial actions.

While additional CoCs were present at the Mill Site prior to the 2002 to 2005 interim actions, site characterization data collected since 2005 reveal that only the following CoCs currently remain at the Mill Site at levels that may trigger remedial action:

- Dioxin/furan toxicity equivalent quotient (TEQ)
- Carcinogenic PAH (cPAH) TEQ
- Lead
- Arsenic

Each of these CoCs is discussed below.

Delineation of the extent of dioxin/furan releases attributable to the Mill Site was performed as part of the 2017/2018 supplemental site investigations, which focused on distinguishing Mill Site-related releases from the potential influence of other anthropogenic sources including historical dwellings, treated poles, weed control, and highway emissions (Ecology 2011). For example, in the most recent national inventory, the U.S. Environmental Protection Agency (EPA; 2005) identified open burning of yard waste as the largest source of dioxin/furan exposure in the United States. Historical data and previous archeological investigations in Port Gamble have documented the historical patterns of residents dumping burned household materials over the edges of bluffs and ravines (see 1878 photograph to right showing numerous homes on the top of the bluff).

Soil dioxin/furan TEQ data collected both within the Mill Site and in the adjacent study area are presented on Figure 2. Areas exceeding the MTCA Method B soil dioxin/furan cleanup level for unrestricted use of 12 nanograms per kilogram (ng/kg) TEQ are highlighted (in yellow or orange). Four discontinuous areas totaling approximately 6 acres within the northern, central, and southern portions of the Mill Site exceed the 12 ng/kg soil cleanup level. As depicted on 2017/2018 soil core profiles presented on Figure 2, the highest levels of dioxin/furan TEQ (up to an estimated concentration of 6,530 ng/kg) were detected in subsurface soils within the northeast area of the Mill Site, coinciding with one of the 2004/2005 interim remedial action areas that previously addressed mercury releases.

Former sawmill operations in the northeast area of the Mill Site included application of a mercury-based end paint in common use regionally beginning in the early 1900s, which by the 1950s was replaced with a chlorophenol-based product with characteristic residual dioxin/furan impurities, before being discontinued generally in the 1970s (NewFields et al. 2013). Possible spilling of these various lumber treatment paints over time originally released both mercury and dioxins/furans to soils in end paint application areas, particularly in the northeast area of the Mill Site, where end painting was often focused during sawmill operations. Because the 2004/2005 interim action targeted mercury removal without concurrent dioxin/furan testing, some of the soils excavated from the mercury-impacted area that contained elevated dioxin/furan concentrations were inadvertently reused as deep backfill if mercury concentrations in these temporary stockpiles were below the MTCA soil cleanup level for unrestricted use. The dioxin/furan congener profiles in surface and subsurface soil samples throughout the Mill Site with relatively higher (above 100 ng/kg) dioxin/furan TEQ levels are characteristic of residues from chlorophenolic wood treatment products, consistent with this CSM.

Surface and subsurface soil cPAH TEQ data collected after completion of the 2002 to 2005 interim remedial actions are depicted on Figure 3. One isolated surface soil sample collected within the northern Mill Site exceeded the MTCA Method B soil cleanup level for unrestricted use (190 micrograms per kilogram [µg/kg]). This sample is also within the footprint of co-located dioxin/furan TEQ levels exceeding the 12 ng/kg MTCA Method B soil cleanup level for unrestricted use (Figure 2).

Surface and subsurface soil lead data collected after completion of the 2002 to 2005 interim remedial actions are also depicted on Figure 3. Two isolated post-excavation confirmatory subsurface soil samples collected at completion of the 2002 to 2005 interim remedial actions exceeded the MTCA Method B soil cleanup level for unrestricted use (220 milligrams per kilogram [mg/kg]; based on a simplified terrestrial ecological evaluation; Anchor QEA 2019b). However, other adjacent post-excavation subsurface soil samples in these areas, as well as all surface soil lead concentrations across the Mill Site, are below cleanup levels. Soil lead concentrations remaining at the Mill Site comply with post-removal statistical compliance requirements of MTCA Section 173 340 740 (7) (i.e., no more than 10% of the post-excavation samples exceeded the cleanup level, and none of the samples exceeded the cleanup level by more than two-fold).

The most recent groundwater dioxin/furan TEQ, cPAH TEQ, and arsenic monitoring data collected from the Mill Site are depicted on Figure 4 (lead is not a CoC in Mill Site groundwater; Anchor QEA 2019b). All dioxin/furan TEQ and cPAH TEQ groundwater levels measured at the Mill Site have been below MTCA Method B groundwater cleanup levels for unrestricted use, based on practical quantitation limits (PQLs; 4.4 picograms per liter [pg/L] and 20 micrograms per liter [µg/L], respectively). However, groundwater dioxin/furan TEQ downgradient of the highest levels of soil dioxin/furan TEQ located within the northeast area of the Mill Site have not been characterized. As discussed in Section 3.1.3, soil dioxin/furan TEQ remediation levels were developed to ensure groundwater protection in this area, to be confirmed during remedial design or post-construction verification monitoring.

Groundwater arsenic concentrations in a relatively isolated area of the southern Mill Site exceed the MTCA Method B groundwater cleanup level for unrestricted use of 8 µg/L, based on natural background levels (Figure 4). As discussed in the Supplemental RI/FS (Anchor QEA 2019b), groundwater arsenic concentrations at the Mill Site are the result of localized reducing groundwater geochemical conditions in this area of the Mill Site, mobilizing naturally occurring arsenic concentrations in soil. However, groundwater arsenic concentrations throughout the Mill Site are below the marine surface water protection criterion of 36 µg/L, and groundwater arsenic concentrations in shoreline wells are within the natural background range. Current groundwater arsenic concentrations at the Mill Site are protective of Port Gamble Bay.

3 CLEANUP REQUIREMENTS

This section summarizes the basis for the Mill Site cleanup action, including development of site-specific cleanup standards and identification of locations and media requiring cleanup action evaluation.

3.1 Cleanup Standards

In accordance with MTCA, cleanup standards consist of cleanup levels that are protective of human health and the environment, and the point of compliance at which the cleanup levels must be met.

3.1.1 Cleanup Levels

The cleanup level is the concentration of a CoC that is protective of human health and the environment under site-specific exposure conditions. Future land use plans for the Mill Site are currently being developed by PR/OPG. To minimize limitations on future land use, this DCAP has been prepared assuming unrestricted land use cleanup levels, including future mixed residential/commercial land use throughout the 25-acre upland Mill Site.

Based on the evaluations described in the Supplement RI/FS (Anchor QEA 2019b), Table 1 summarizes MTCA soil and groundwater cleanup levels that are protective of human health and the environment under an unrestricted land use scenario.

Table 1
Mill Site Cleanup and Remediation Levels

Chemical of Concern	Soil Cleanup Level	Groundwater Cleanup Level	Soil Remediation Levels
Dioxin/furan TEQ	12 ng/kg	4.4 pg/L	260[a]/530 ng/kg
cPAH TEQ	190 µg/kg	20 ng/L	—
Lead	220 mg/kg	—	—
Arsenic	—	36 µg/L	—

Notes
a. The 260 ng/kg TEQ dioxin/furan soil remediation level for protection of terrestrial ecological receptors has a conditional point of compliance of 6 feet bgs.

3.1.2 Soil Remediation Levels

While the 12 ng/kg dioxin/furan TEQ MTCA Method B soil cleanup level for unrestricted use delineates Mill Site areas triggering remedial action, under MTCA (WAC 173-340-355) remediation levels are used to identify the concentrations of CoCs at which different cleanup action components will be used (e.g., excavation, containment, or institutional controls). As discussed in Section 2, because the 2002 to 2005 interim remedial actions successfully addressed all soil CoCs except dioxin/furan TEQ, and also because concentrations of groundwater CoCs are either below PQLs (dioxin/furan TEQ and cPAH TEQ) or are attributable to localized geochemical conditions but nevertheless protective of site-specific surface water exposure conditions (arsenic), final Mill Site remedial actions evaluated in this DCAP are appropriately focused on soil dioxin/furan TEQ levels.

Soil dioxin/furan TEQ remediation levels for the Mill Site were developed considering the following:

- Soil concentrations protective of terrestrial ecological receptors (based on site-specific terrestrial ecological evaluations)
- Soil concentrations protective of groundwater, surface water, and sediment (based on site-specific groundwater transport evaluations)

As discussed in the Supplement RI/FS (Anchor QEA 2019b), protective soil concentrations were calculated using Ecology's wildlife exposure model for site-specific evaluations (Table 749-4; WAC 173-340-900). Based on measured site-specific soil to biota accumulation data, the soil dioxin/furan TEQ for ecological protection (based on potential mammalian predator exposure) is 260 ng/kg.

To support development of protective cap designs for Port Gamble Bay, memorialized in the EDR (Anchor QEA 2015), contaminant transport modeling from the Mill Site to Port Gamble Bay was conducted consistent with EPA, Ecology, and other guidance. The modeling simulated the transport of dioxins/furans and cPAHs from Mill Site soils to Port Gamble Bay to ensure that sediment cleanup levels are maintained in perpetuity. The site-specific sediment cleanup levels for intertidal sediments (top 2 feet) set forth in the Port Gamble Bay Cleanup Action Plan (Ecology 2013) are as follows:

- Maintain average dioxin/furan TEQ levels below the sediment PQL of 5 ng/kg
- Maintain average cPAH TEQ levels below the sediment natural background level of 16 µg/kg

Based on existing Mill Site soil concentration data available at the time of the EDR and using conservative input parameters (e.g., no chemical degradation over time), the EDR modeling concluded that long-term dioxin/furan TEQ and cPAH TEQ levels in the top 2 feet of sediments in Port Gamble Bay would be maintained below 0.3 ng/kg and 3 µg/kg, respectively. Because these long-term (steady-state) concentrations were well below the site-specific cleanup standards listed above, protectiveness of the nearshore caps under these conditions was confirmed; upland soil source controls were determined to be unnecessary.

Compared with the data available at the time of the EDR, the 2017/2018 Supplemental RI/FS sampling detected higher levels of dioxin/furan TEQ in subsurface soils within the northeast area of the Mill Site (Figure 2); the representativeness soil cPAH TEQ levels was confirmed during the Supplemental RI/FS. Thus, the EDR modeling approach was used to back-calculate the soil dioxin/furan TEQ level at the Mill Site that would be protective of sediments. The modeling revealed that an average nearshore soil dioxin/furan TEQ level (across the entire Mill Site) of approximately 530 ng/kg TEQ would ensure compliance with the sediment dioxin/furan TEQ cleanup level of 5 ng/kg. This modeling also revealed that the 530 ng/kg TEQ soil remediation level is protective of groundwater and surface water. Monitoring of tissue of sediment-dwelling organisms within Port Gamble Bay immediately adjacent to the Mill Site during and after cleanup (Anchor QEA and Port Gamble S'Klallam Tribe 2015) revealed that post-construction dioxin/furan TEQ shellfish tissue levels adjacent to the Mill Site and in surrounding areas of Port Gamble Bay are within the background range and below health advisory and water quality criteria. Along with low post-construction intertidal sediment dioxin/furan levels measured adjacent to the Mill Site (Anchor QEA 2019a), these data confirm that significant dioxin/furan partitioning along the soil-groundwater-sediment-surface water transport pathway is unlikely.

3.1.3 Points of Compliance

Under MTCA, the point of compliance is the location on a site where the cleanup levels must be attained. In accordance with WAC 173-340-740(6)(d) and WAC 173-340-7490(4)(b), the standard point of compliance for the soil cleanup levels listed in Table 1 is throughout the soil column from ground surface to 15 feet bgs. For potential terrestrial ecological exposures, MTCA regulations allow a conditional point of compliance to be established from the ground surface to 6 feet bgs (the biologically active zone according to MTCA default assumptions), provided that institutional controls are used to prevent excavation of deeper soil (WAC 173-340-7490[4][a]). Accordingly, in areas of the Mill Site where appropriate institutional controls can be implemented, a conditional point of compliance for soil dioxin/furan levels to ensure protection of terrestrial ecological receptors (260 ng/kg TEQ) is to 6 feet bgs. The point of compliance for the soil dioxin/furan remediation level to ensure protection of groundwater, surface water, and sediment (530 mg/kg TEQ) is throughout the soil column. (To provide additional protection, this DCAP remediation level is being applied on a point-by-point basis, rather than as an average nearshore soil level across the entire Mill Site, as developed by the Supplemental RI/FS modeling.)

The standard point of compliance for the groundwater cleanup levels listed in Table 1 is throughout the Mill Site. As discussed in Section 2 and depicted on Figure 4, as the result of localized reducing groundwater geochemical conditions that mobilize naturally occurring arsenic concentrations in soil, groundwater arsenic concentrations in a relatively isolated area of the southern Mill Site exceed the MTCA Method B groundwater cleanup level for unrestricted use of 8 µg/L, based on natural background levels. However, groundwater arsenic concentrations in downgradient shoreline areas are within the natural background range, confirming Ecology's (2013) determination that groundwater arsenic concentrations at the Mill Site are protective of Port Gamble Bay. Accordingly, in areas of the Mill Site where appropriate institutional controls precluding potential drinking water use shall be implemented, a conditional point of compliance for groundwater cleanup levels is at the point of groundwater discharge to Port Gamble Bay.

3.2 Site Boundary and Management Areas

This section summarizes the Mill Site boundary and soil management areas.

3.2.1 Site Boundary

The extent of the Mill Site has been delineated based on exceedance of MTCA Method B soil cleanup levels for unrestricted use. As discussed in Section 2, the boundary of the Mill Site within the study area is delineated by soil dioxin/furan levels exceeding 12 ng/kg TEQ, as depicted on Figure 2.

3.2.2 Soil Management Areas

The four areas highlighted in yellow (and orange) on Figure 2 exceed the 12 ng/kg cleanup level for dioxin/furan TEQ. The single northeastern Mill Site area highlighted in orange exceeds both the 260 ng/kg dioxin/furan TEQ remediation level for protection of terrestrial ecological receptors (0 to 6 feet bgs conditional point of compliance), as well as the 530 ng/kg soil dioxin/furan TEQ remediation level for protection of groundwater, surface water, and sediment (anywhere in the soil column).

3.3 Cleanup Action Objectives

This section summarizes the cleanup action objectives and MTCA compliance requirements for chemical and media-specific goals.

3.3.1 Cleanup Action Objectives for Soil

As discussed in Section 2, no further remedial action, other than implementing institutional controls, is required for the isolated area of soil with lead concentrations exceeding the simplified terrestrial ecological evaluation level for lead. Soil in this area is within the requirements for statistical compliance as allowed by Section 173 340 740(7) of the MTCA regulation. Cleanup action objectives for soil containing dioxin/furan TEQ and/or cPAH TEQ levels exceeding MTCA Method B soil cleanup levels for unrestricted use include the following:

- Protect human health by removing, or by eliminating the potential for direct contact exposure, Mill Site areas with soil concentrations exceeding 12 ng/kg dioxin/furan TEQ and/or 190 µg/kg cPAH TEQ

- Protect terrestrial ecological receptors by removing, or eliminating the potential for wildlife exposure, Mill Site areas with soil concentrations exceeding 260 ng/kg dioxin/furan TEQ in the top 6 feet bgs
- Protect groundwater, surface water, and sediments by removing, or eliminating the potential for groundwater transport, Mill Site areas with soil concentrations exceeding 530 ng/kg dioxin/furan TEQ

3.3.2 Cleanup Action Objectives for Groundwater

Because groundwater at the Mill Site currently meets cleanup levels either at the conditional point of compliance (arsenic) or the standard point of compliance (dioxin/furan TEQ and cPAH TEQ), subject to additional confirmatory remedial design and/or post-construction verification monitoring, the cleanup action objective for groundwater is to further ensure that groundwater is not used as a future source of drinking water, by implementing institutional controls.

3.4 Applicable State and Federal Laws

In addition to cleanup standards developed through the MTCA process, other regulatory requirements must be considered in the selection and implementation of a cleanup action. MTCA requires that cleanup standards be "at least as stringent as all applicable state and federal laws" (WAC 173-340-700[6][a]). Besides establishing minimum requirements for cleanup standards, applicable state and federal laws may also impose certain technical and procedural requirements for performing cleanup actions; these requirements are described in WAC 173-340-710. Applicable state and federal laws are discussed below.

While upland cleanup implementation plans are still under development, the cleanup action at the Mill Site will be performed pursuant to MTCA under the terms of a Consent Decree between Ecology and PR/OPG. Accordingly, the anticipated cleanup action will meet the permit exemption provisions of MTCA, obviating the need to follow procedural requirements of the various local and state regulations that would otherwise apply to the action. While state and federal permits may not be needed, the substantive requirements associated with applicable permits will be adhered to.

3.4.1 MTCA Requirements

The primary law that governs the cleanup of contaminated sites in the state of Washington is MTCA. The MTCA Cleanup Regulation (WAC 173-340) specifies criteria for the evaluation and conduct of a cleanup action, including criteria for developing cleanup standards for soil and groundwater. The MTCA regulations require that cleanup actions must protect human health and the environment, meet environmental standards in other applicable laws, and provide for monitoring to confirm compliance with cleanup levels.

MTCA places certain requirements on cleanup actions involving containment of hazardous substances that must be met for the cleanup action to be considered in compliance with soil cleanup standards. These requirements include implementing a compliance monitoring program that is designed to ensure the long-term integrity of the containment system and applying institutional controls to the affected area (WAC 173-340-440), where appropriate.

MTCA also requires that all known, available and reasonable methods of treatment be provided for hazardous substances released to surface waters (WAC 173-340-710 7[a]). As discussed in Section 2, site-specific monitoring of groundwater, sediments, and tissue of sediment-dwelling organisms has confirmed that significant dioxin partitioning from soils-groundwater-sediments-surface waters is unlikely; therefore, this requirement is not applicable.

Pursuant to RCW 70.105D.090(1), defendants on a MTCA Consent Decree are exempt from the procedural requirements of RCW Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 and the procedural requirements of any laws requiring or authorizing local government permits or approvals. However, defendants will comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals are outlined below.

3.4.2 Solid and Hazardous Waste Management

The Washington Hazardous Waste Management Act (RCW 70.105) and the implementing regulations, the Dangerous Waste Regulations (WAC 173-303), would apply if dangerous wastes are generated during the cleanup action. There is no indication of dangerous wastes

being generated or disposed of at the Mill Site. If dangerous wastes are generated during the cleanup action, they will be disposed at an appropriate off-site landfill or recycling facility. Related regulations include state and federal requirements for solid waste handling and disposal facilities (40 Code of Federal Regulations [CFR] 241, 257; WAC 173-350 and -351) and land disposal restrictions (40 CFR 268; WAC 173-303-340).

3.4.3 State Environmental Policy Act

The State Environmental Policy Act (SEPA; RCW 43.21C; WAC 197-11) and the SEPA procedures (WAC 173-802) are intended to ensure that state and local government officials consider environmental values when making decisions. Under WAC 197-11-250, MTCA and SEPA procedural requirements are integrated to reduce duplication and improve public participation, including common public review and comment. SEPA requires the identification, avoidance, minimization and/or mitigation of environmental impacts associated with agency permitting or actions such as the MTCA cleanup of the Mill Site. The impacts from this cleanup have been identified along with requirements to select construction methods and timing and implementation of best management practices (BMPs) that will mitigate those impacts that cannot be avoided during implementation of the cleanup action. Avoidance, minimization, and mitigation measures identified during preparation of the SEPA checklist are described in the Determination of Non-Significance, attached as Appendix A. Additional avoidance and minimization measures and/or mitigation requirements identified prior to and during construction must also be met.

3.4.4 Shoreline Management Act

The Shoreline Management Act (RCW 90.58) and its implementing regulations establish requirements for substantial developments occurring within water areas of the state or within 200 feet of the shoreline. Local shoreline management master programs are adopted under state regulations, creating an enforceable state law. Because the Mill Site cleanup action will be performed under a Consent Decree, compliance with substantive requirements are necessary, but a shoreline permit is not required.

3.4.5 Construction Stormwater General Permit

Construction activities that disturb 1 acre or more of land need to comply with the provisions of construction stormwater regulations. Ecology has determined that a construction stormwater general permit is not covered under the permit exemption provisions of MTCA, and thus a project-specific construction stormwater permit is required if land disturbance greater than 1 acre is necessary. A construction stormwater permit was previously obtained for work conducted in the in-water areas of the Mill Site. This permit remains active and will be used, as applicable, for upland remediation actions at the Mill Site.

3.4.7 Archaeological and Historic Preservation Act

The Archaeological and Historic Preservation Act (16 U.S.C.A. § 496a-1) is applicable if any covered materials are discovered during excavation activities performed as a part of the selected Mill Site cleanup action. A cultural resources overview was developed for the Mill Site and Port Gamble Bay to identify and map areas of known or possible historic, archaeological, and cultural resources (NWAA 2010). The overview was developed by a professional archaeologist for areas within and adjacent to the Mill Site and provided specific steps to complete identification, evaluation, and protection of cultural resources that may be affected by cleanup. Information from the overview was considered by Ecology in developing the selected cleanup remedy for the Mill Site. Significantly, the cleanup actions included in the selected remedy will occur in locations and at elevations (i.e., recent fill) that are not expected to coincide with the presence of cultural resources.

The 2013 Port Gamble Bay and Mill Site Cultural Resources Assessment Plan attached to the Port Gamble Bay Cleanup Consent Decree (Ecology 2013) provides information regarding the process for cultural resource assessment and consultation activities associated with cleanup. This process includes identifying cultural resources, developing cultural resources work plans, and defining provisions in an Inadvertent Discovery Plan. A *Cultural Resources Survey Report Addendum* (Appendix B of this DCAP) was prepared to address Mill Site areas where cleanup-related disturbance of cultural resources may occur, including excavation, staging, and transport routes, as appropriate.

3.4.8 Health and Safety

Mill Site cleanup construction activities will be performed in accordance with the requirements of the Washington Industrial Safety and Health Act (RCW 49.17) and implementing regulations and the federal Occupational Safety and Health Act and implementing regulations (29 C.F.R. §§ 1910, 1926). These applicable regulations include requirements that workers are to be protected from exposure to contaminants and that excavations are to be properly shored.

3.5 Exemptions from Procedural Requirements

3.5.1 Kitsap County Grading

The cleanup action will take place within Kitsap County. Ecology will consult with Kitsap County regarding the substantive requirements during the remedial design phase. Any cleanup work that requires substantial grading is potentially subject to the substantive requirements of the grading permit process under Section 12.16 of the Kitsap County Code. The code specifies requirements for setbacks, drainage, and erosion control for both excavation and fill projects. Exemptions apply for specific activities that disturb less than 1 acre of land.

4 SELECTED CLEANUP ACTION

The cleanup action selected by Ecology incorporates a combination of focused removal, capping, and institutional controls appropriately targeted to different areas of the Mill Site that provide the most benefits that are not disproportionately costly. The selected Mill Site cleanup remedy, depicted on Figure 5, includes the following:

- Within the remedial excavation area of the Mill Site (Area 2B), any surficial hardscape material (asphalt or concrete) will be demolished, processed, and disposed of at approved off-site landfills or recycling facilities, as appropriate.
- Soil excavation depths in Area 2B will extend up to approximately 15 feet bgs; the excavation prism will be refined during pre-design investigations.
- Soils from 0 to 5 feet bgs will be excavated using conventional earth moving equipment without shoring or dewatering; minor benching may be required.
- Excavations deeper than 8 feet bgs will be dewatered, as needed, by pumping groundwater from within and/or adjacent to the excavation; the pumped water may be stored in tanks to remove suspended solids (along with additional treatment, as determined during design), and then discharged back into Mill Site groundwater via an upland infiltration basin, like the 2005 interim action.
- Post-excavation confirmation sampling will be performed to verify the lateral extent of removal, and additional excavation performed as necessary.
- Excavated soils will be stockpiled on site for profiling and further dewatering (as needed).
- Stockpiles with dioxin/furan levels less than 12 ng/kg TEQ will be returned as backfill into the excavations, along with clean imported fill.
- Stockpiles with dioxin/furan levels greater than 12 ng/kg TEQ but less than 45 ng/kg TEQ will be disposed of at the Port Gamble Model Airplane Field Limited Purpose Landfill (MAF), if approved by the Kitsap Health District.
- Stockpiles with dioxin/furan levels greater than 45 ng/kg TEQ and any other stockpiles not approved by the Kitsap Health District for MAF disposal will be disposed of at an approved, off-site commercial landfill.

- In capping areas (i.e., Areas 1 to 4) of the Mill Site with soil dioxin/furan levels greater than 12 ng/kg TEQ and less than 260 ng/kg TEQ, surficial hardscape material will be perforated and left in place.
- Minimum 2-foot-thick permeable soil caps (or equivalent structural materials such as asphalt or building foundations) will be placed over all areas of the Mill Site with soil dioxin/furan levels greater than 12 ng/kg TEQ and less than 260 ng/kg TEQ.
- After completion of construction (and potentially beginning during remedial design, as practicable), groundwater monitoring will be performed in the northeastern portion of the Mill Site (see Figure 4) to verify that this area complies with the groundwater cleanup levels summarized in Table 1; appropriate contingency plans will be developed during remedial design.
- Restrictive covenants will be recorded to preclude future use of the shallow aquifer at the Mill Site for drinking water supply; restrictive covenants for soil caps will be recorded to ensure the integrity of the upland caps and prevent exposure to capped surficial soils.
- Notice and approval from Ecology will be required under WAC 173-340-440(9) for any future land use activity that is inconsistent with the restrictive covenants.
- The existing Kitsap County permitting (e.g., grading permit) process will be used as an additional administrative mechanism to further ensure that future actions at the Mill Site do not disturb capped areas.

Together with the cleanup actions already completed by PR/OPG in Port Gamble Bay under a 2013 Consent Decree with Ecology, the actions outlined in this DCAP constitute the final cleanup actions required for the Port Gamble Bay and Mill Site.

4.1 Compliance Monitoring

Compliance monitoring to ensure the protectiveness of the preferred cleanup remedy will be implemented in accordance with WAC 173-340-410, Compliance Monitoring Requirements. Detailed monitoring plans will be developed during remedial design. Compliance monitoring requirements are described in more detail in Section 7.

5 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTION

Potential cleanup action alternatives for the Mill Site were evaluated in the Supplemental RI/FS (Anchor QEA 2019b). This section summarizes the cleanup alternatives considered and the basis for the selected remedy.

5.1 Feasibility Study Alternatives

Ecology, PR/OPG, and stakeholders collaboratively developed six remedial alternatives for more detailed evaluation in the Supplemental RI/FS (Anchor QEA 2019b). Each of these alternatives is described below.

5.1.1 Alternative 1: Complete Removal with Off-Site Disposal

Under this alternative, all surface and subsurface (at any depth) soils at the Mill Site with soil dioxin/furan levels that exceed 12 ng/kg TEQ would be excavated and disposed of off-site, as described below. Institutional controls addressing arsenic in Mill Site groundwater would also be a component of this alternative. Alternative 1 would include the following:

- Within areas of the Mill Site with soil dioxin/furan levels greater than 12 ng/kg TEQ, surficial hardscape material (asphalt or concrete) would be demolished, processed, and disposed of at approved off-site landfills or recycling facilities, as appropriate.
- Soil excavation depths would extend to approximately 2 to 15 feet bgs, depending on the specific Mill Site area; excavation prisms would be refined during pre-design investigations, with the intent of delineating soils in each area for complete removal (i.e., all soils exceeding 12 ng/kg).
- Soils from 0 to 5 feet bgs would be excavated using conventional earth moving equipment without shoring or dewatering.
- Soils from 5 to 15 feet bgs would be excavated using conventional earth moving equipment, with shoring.
- Excavations deeper than 8 feet bgs would be dewatered by pumping groundwater from within and/or adjacent to the excavations; the pumped water would be stored in tanks to remove suspended solids (along with additional treatment as determined

during design), and then discharged back into Mill Site groundwater via an upland infiltration basin, like the 2005 interim action.

- Post-excavation confirmation sampling would be performed to verify removal, and additional excavation performed as necessary.
- Excavated soils would be stockpiled on-site for profiling and further dewatering (as needed)
- Stockpiles with dioxin/furan levels less than 12 ng/kg TEQ would be returned as backfill into the excavations, along with clean imported fill.
- Stockpiles with dioxin/furan levels greater than 12 ng/kg TEQ but less than 45 ng/kg TEQ would be disposed of at the MAF.
- Stockpiles with dioxin/furan levels greater than 45 ng/kg TEQ would be disposed of at an approved off-site commercial landfill.
- Shoreline excavations would be backfilled with clean imported fill and existing shoreline caps would be replaced.
- Restrictive covenants would be recorded to preclude future use of the shallow aquifer at the Mill Site for drinking water supply.

5.1.2 Alternative 2A: Partial Removal and Capping with Off-Site Disposal

Under this alternative, all surface soils (to 2 feet bgs) throughout the Mill Site, along with surface and subsurface (at any depth) nearshore soils within 50 feet of the Port Gamble Bay shoreline with dioxin/furan levels that exceed 12 ng/kg TEQ would be excavated. Surface and subsurface soils (at any depth) that exceed the 260 ng/kg dioxin/furan TEQ remediation level protective of terrestrial ecological receptors would also be excavated. All excavated materials that exceed the 12 ng/kg TEQ cleanup level would be disposed of off site, as described below. All residual subsurface soils that exceed the 12 ng/kg TEQ cleanup level would be capped. Institutional controls addressing arsenic in Mill Site groundwater would also be a component of this alternative. Alternative 2A would include the following:

- Within all areas of the Mill Site with soil dioxin/furan levels greater than 12 ng/kg TEQ, surficial hardscape material (asphalt or concrete) would be demolished,

processed, and disposed of at approved off-site landfills or recycling facilities, as appropriate.

- Soil excavation depths would extend to approximately 2 to 15 feet bgs, depending on the specific Mill Site area; excavation prisms would be refined during pre-design investigations with the intent of delineating soils in each area (see Figure 5):
  - Areas 1, 2B, 2D, 3A, 3C, 4A, and 4C: complete removal (lateral and vertical extent) of soils with dioxin/furan levels above 12 ng/kg TEQ, including capped nearshore subsurface sediments
  - Areas 2A, 2C, 3B, and 4B: surficial removal (upper 2 feet) of soils with dioxin/furan levels above 12 ng/kg TEQ and capping soils below 2 feet with dioxin/furan levels above 12 ng/kg TEQ and less than 260 ng/kg TEQ
- Soils from 0 to 5 feet bgs would be excavated using conventional earth moving equipment, without shoring or dewatering.
- Soils from 5 to 15 feet bgs would be excavated using conventional earth moving equipment, with shoring.
- Excavations deeper than 8 feet bgs would be dewatered by pumping groundwater from within and/or adjacent to the excavations; the pumped water would be stored in tanks to remove suspended solids (along with additional treatment, as determined during design) and then discharged back into Mill Site groundwater via an upland infiltration basin, like the 2005 interim action.
- Post-excavation confirmation sampling would be performed to verify removal, and additional excavation performed as necessary.
- Excavated soils would be stockpiled on-site for profiling and further dewatering (as needed).
- Stockpiles with dioxin/furan levels less than 12 ng/kg TEQ would be returned as backfill into the excavations, along with clean imported fill.
- Stockpiles with dioxin/furan levels greater than 12 ng/kg TEQ but less than 45 ng/kg TEQ would be disposed of at the MAF.

- Stockpiles with dioxin/furan levels greater than 45 ng/kg TEQ would be disposed of at an approved off-site commercial landfill.
- Shoreline excavations would be backfilled with clean imported fill and nearshore sediment caps replaced.
- Minimum 2-foot-thick permeable soil caps (or equivalent structural materials such as asphalt or building foundations) would be placed in areas of the Mill Site with residual dioxin/furan levels greater than 12 ng/kg TEQ.
- After completion of construction (and potentially beginning during remedial design, as practicable), groundwater monitoring would be performed in the northeastern portion of the Mill Site to verify that this area complies with the groundwater cleanup levels summarized in Table 1; appropriate contingency plans would be developed during remedial design.
- Restrictive covenants would be recorded to preclude future use of the shallow aquifer at the Mill Site for drinking water supply; restrictive covenants for soil caps would be recorded to ensure the integrity of the upland caps and prevent exposure to capped surficial soils.
- Notice and approval from Ecology would be required under WAC 173-340-440(9) for any future land use activity that is inconsistent with the restrictive covenants.
- The existing Kitsap County permitting (e.g., grading permit) process would be used as an additional administrative mechanism to further ensure that future actions on the Mill Site do not disturb capped areas.

5.1.3 Alternative 2B: Partial Removal and Capping with On-Site Disposal

Alternative 2B would include the same removal, capping, and institutional controls described above for Alternative 2A, except that all excavated materials with dioxin/furan levels between 12 and 260 ng/kg TEQ would be placed at the base of the bluff along the western edge of the Mill Site and covered with a minimum 2 foot-thick permeable soil cap (or equivalent structural materials such as asphalt or building foundations). All excavated materials with dioxin/furan levels above 260 ng/kg TEQ would be disposed of at approved off-site landfills.

5.1.4 Alternative 3: Focused Removal and Capping

Under this alternative, all near-surface soils (to 6 feet bgs) that exceed the 260 ng/kg TEQ dioxin/furan TEQ remediation level protective of terrestrial ecological receptors, along with surface and subsurface (at any depth) soils that exceed the 530 ng/kg TEQ dioxin/furan remediation level protective of groundwater, surface water, and sediment, would be excavated and disposed off site. All residual subsurface soils with dioxin/furan levels that exceed 12 ng/kg TEQ would be capped. Institutional controls addressing arsenic in Mill Site groundwater would also be a component of this alternative. Alternative 3 is the selected remedy described in Section 4.

5.1.5 Alternative 4: Capping

Under this alternative, all surface and subsurface (at any depth) soils at the Mill Site with dioxin/furan levels that exceed 12 ng/kg TEQ would be capped. Institutional controls addressing arsenic in Mill Site groundwater would also be a component of this alternative. Alternative 4 would include the following:

- Within areas of the Mill Site with soil dioxin/furan levels greater than 12 ng/kg TEQ, surficial hardscape material would be perforated and left in place.
- Minimum 2-foot-thick permeable soil caps (or equivalent structural materials such as asphalt or building foundations) would be placed over all areas of the Mill Site with soil dioxin/furan levels greater than 12 ng/kg TEQ.
- After completion of construction (and potentially beginning during remedial design, as practicable), groundwater monitoring would be performed in the northeastern portion of the Mill Site to verify that this area complies with the groundwater cleanup levels summarized in Table 1; appropriate contingency plans would be developed during remedial design.
- Restrictive covenants would be recorded to preclude future use of the shallow aquifer at the Mill Site for drinking water supply; restrictive covenants for soil caps would be recorded to ensure the integrity of the upland caps and prevent exposure to capped surficial soils.
- Notice and approval from Ecology would be required under WAC 173-340-440(9) for any future land use activity that is inconsistent with the restrictive covenants.

- The existing Kitsap County permitting (e.g., grading permit) process would be used as an additional administrative mechanism to further ensure that future actions on the Mill Site do not disturb capped areas.

5.1.6 Alternative 5: Completed Interim Actions and Institutional Controls

As discussed in Section 1.1, between 2002 and 2005, PR/OPG excavated 26,310 tons of soils from the Mill Site containing CoC concentrations above MTCA unrestricted use (including mixed residential and commercial land use) cleanup levels and disposed of these materials at approved off-site landfills. Completed interim action areas are depicted on Figures 2 and 4. Monitoring following implementation of these interim actions verified expected natural attenuation of groundwater CoC concentrations resulting from removal of potential source materials.

Under this alternative, no further remedial construction would be performed; however, groundwater monitoring would be performed in the northeastern portion of the Mill Site to verify that this area complies with the groundwater cleanup levels summarized in Table 1. Appropriate contingency plans would be developed with Ecology based on these supplemental evaluations.

Institutional controls addressing arsenic in Mill Site groundwater would also be a component of this alternative. Restrictive covenants would be recorded to preclude future use of the shallow aquifer at the Mill Site for drinking water supply; restrictive covenants for soil caps would be recorded to ensure the integrity of the upland caps and prevent exposure to capped surficial soils maintained and recorded to minimize the potential for future impacts resulting from disturbance of these areas. In addition, the existing Kitsap County permitting (e.g., grading permit) process would be used as an administrative mechanism to further ensure that future actions on the Mill Site do not disturb capped areas. Any future land uses that require intrusive activities that disturb capped soil areas would require notice and approval from Ecology under WAC 173-340-440(9).

The evaluations of each alternative are summarized in Section 5.2.

5.2 Summary of Detailed Analysis of Alternatives

MTCA requires evaluation of cleanup actions that protect human health and the environment by eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. Proposed MTCA cleanup actions require achieving protection of human health and the environment, compliance with cleanup standards and applicable state and federal laws, consideration of public concerns, and monitoring.

The six alternatives described in Section 5.1 were evaluated against minimum MTCA requirements (Section 5.2.1). Then, alternatives were compared using the MTCA disproportionate cost analysis to identify the alternative that uses permanent solutions to the maximum extent practicable (Section 5.2.3). Alternatives that comply with threshold requirements were then evaluated to compare total benefit to associated cost, identifying the alternative that is permanent to the maximum extent practicable, as required by MTCA.

5.2.1 Minimum Requirements

Cleanup actions performed under MTCA must comply with minimum requirements (WAC 173-340-360[2]). These minimum requirements outline Ecology's expectation for potential remedies evaluated for implementation at a site and ensure that evaluated alternatives achieve the agency's goal of protection of human health and the environment. The minimum requirements are summarized as follows:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with all applicable state and federal laws
- Provide for compliance monitoring
- Provide a reasonable restoration time frame

These minimum requirements are evaluated below, relative to the six remedial alternatives. Follow-on evaluations on the use of permanent solutions to the maximum extent practicable are conducted in the following section. Public review of this DCAP and the Supplemental RI/FS (Anchor QEA 2019b) will provide an opportunity for review and comment by affected landowners and the public, and for Ecology to consider any concerns identified. Finally,

MTCA requires periodic review of non-removal remedies to verify the effectiveness and protectiveness of cleanup actions.

5.2.1.1 Protection of Human Health and the Environment

MTCA requires that cleanup actions protect human health and the environment. This section summarizes how the six remedial alternatives meet this requirement.

Complete Removal (Alternative 1) protects both human health and the environment by removing soil that exceeds MTCA cleanup levels throughout all areas of the Mill Site. Under this alternative, residual groundwater impacts that could pose a risk to human health would be addressed with institutional controls preventing the use of groundwater as drinking water. Restrictive covenants on use of Mill Site groundwater as a drinking water source is a component of all five alternatives.

Partial and Focused Removal and Capping (Alternatives 2A, 2B, and 3) use a combination of remediation technologies to protect human health and the environment. Under these alternatives, protection of human health would be addressed by using a combination of removal and capping, the latter in the form of permeable soil caps or equivalent structural materials, along with institutional controls in the form of deed restrictions. Combined removal, capping, and institutional controls would eliminate potential human exposure pathways. Protection of the environment would be addressed by removing soils that exceed site-specific remediation levels.

Capping (Alternative 4) relies on capping and institutional controls to protect human health. Completed Interim Actions and Institutional Controls (Alternative 5) relies on institutional controls to protect human health and the environment. Because near-surface (0 to 6 feet bgs) soil dioxin/furan TEQ levels would continue to exceed the 260 ng/kg TEQ remediation level protective of terrestrial ecological receptors, Alternatives 4 and 5 are not protective of the environment.

5.2.1.2 Compliance with Cleanup Standards

To be protective of human health and the environment, a remedial alternative must achieve cleanup levels at the applicable point of compliance (i.e., cleanup standard). Alternatives 1 through 3 meet cleanup standards as discussed below.

Complete Removal (Alternative 1) meets cleanup standards by removing all Mill Site soils that exceed cleanup standards.

Partial and Focused Removal and Capping (Alternatives 2 and 3, respectively) meet cleanup standards by using a combination of removal and capping, the latter in the form of permeable soil caps or equivalent structural materials.

Alternatives 4 and 5 do not comply with MTCA cleanup standards.

5.2.1.3 Compliance with Applicable State and Federal Laws

The selected cleanup alternative will be implemented under the terms of a Consent Decree and thus would be exempt from certain administrative permitting requirements, though the substantive requirements of state and local regulations must still be met. Upland cleanup actions would not require federal permitting. Other regulatory requirements that must be considered for each of the cleanup alternatives are discussed in Section 3.4. These requirements could be met by all six remedial alternatives.

5.2.1.4 Compliance Monitoring

As outlined in the alternative descriptions above, all six remedial alternatives provide for compliance monitoring.

5.2.2 Reasonable Restoration Time Frame

None of the proposed alternatives rely on an extended restoration time frame to meet cleanup standards.

5.2.3 Disproportionate Cost Analysis

MTCA specifies that preference shall be given to cleanup actions that are permanent solutions, to the maximum extent practicable. Identifying an alternative that is permanent to the maximum extent practicable requires weighing costs and benefits. MTCA uses the disproportionate cost analysis (WAC 173-340-360[3][e]) as the tool for comparing each remedial alternative's incremental environmental benefits with its incremental costs and is the primary method by which the alternatives are systematically compared to each other in this DCAP and the Supplemental RI/FS (Anchor QEA 2019b). Under MTCA, costs are considered disproportionate to benefits when the incremental costs of an alternative exceed the incremental benefits compared to other, lower cost, protective alternatives.

The seven MTCA criteria listed in WAC 173-340-360(3)(f) used to evaluate and compare remedial alternatives in the disproportionate cost analysis are as follows:

- Protectiveness
- Permanence
- Effectiveness over the long term
- Management of short-term risk
- Technical and administrative implementability
- Consideration of public concerns
- Cost

Consistent with recent disproportionate cost analyses performed by Ecology at similar cleanup sites, the first six evaluation criteria were weighted and assigned a score for total benefits, and the total benefit score was then compared with cost. The criteria were ranked using a combination of quantitative and qualitative criteria, following the descriptions in WAC 173-340-360(3)(f). The criteria were ranked numerically from 1 to 10, with 1 representing the lowest score or benefit and 10 representing the highest score or benefit. The scores for each criterion were then averaged to get a score for each of the six benefit criteria. The total benefit scores are a weighted average of the individual benefit criteria, using the following weighting:

- Protectiveness: 30%
- Permanence: 20%
- Effectiveness over the long term: 20%
- Management of short-term risk: 10%
- Technical and administrative implementability: 10%
- Consideration of public concerns: 10%

The weighted averaged benefits are compared to costs for the alternatives. The following sections describe the disproportionate cost analysis for the seven MTCA criteria relative to each remedial alternative.

5.2.4 Protectiveness

MTCA defines protectiveness as:

> *Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and off-site risks resulting from implementing the alternative, and improvement of the overall environmental quality.*
> (WAC 173-340-360(3)(f)(i))

The protectiveness of each alternative was evaluated based on its effectiveness in reducing risks and achieving cleanup standards (i.e., cleanup levels at the point of compliance). The protectiveness scores for each alternative were based on three MTCA sub-criteria: 1) protection of human health; 2) protection of the environment; and 3) risks resulting from implementation, as discussed below.

5.2.4.1 Protection of Human Health

Protection of human health was scored based on whether a complete human exposure pathway would remain after cleanup construction. Because excavation is more protective of human health than capping, complete excavation (Alternative 1) was given the highest score of 10. Conversely, Alternative 5, which only includes institutional controls and does not include caps to physically isolate surficial soils, was given the lowest score of 1 because

institutional controls alone do not fully eliminate the human exposure pathway. Alternatives that were predominantly capping (Alternatives 3 and 4) were scored 2, because capping is less protective than removal. Note that shellfish tissue levels adjacent to the Mill Site and in surrounding areas of Port Gamble Bay are currently within the background range and below health advisory and water quality criteria (Anchor QEA and Port Gamble S'Klallam Tribe 2015; Anchor QEA 2019a). Thus, significant dioxin/furan partitioning along the soil-groundwater-sediment-surface water transport pathway is unlikely. Nevertheless, to provide an additional conservative evaluation of their relative protection of human health, those alternatives that remove shoreline soils with elevated dioxin/furan TEQ levels were scored highest (Anchor QEA 2019b).

5.2.4.2 Protection of the Environment

Protection of the environment was scored based on whether a complete ecological exposure pathway would remain after cleanup construction. Alternatives 1, 2A, 2B, and 3 each achieve the risk-based dioxin/furan remediation level protective of terrestrial ecological receptors (260 ng/kg TEQ) at the point of compliance through excavation/removal. As a result, each of these alternatives were scored 10 for protection of the environment. Alternatives 4 and 5 were given the lowest score of 1 because near-surface (0 to 6 feet bgs) soil dioxin/furan TEQ levels would continue to exceed the 260 ng/kg TEQ remediation level protective of terrestrial ecological receptors.

5.2.4.3 Risks Resulting from Implementation

Each of the alternatives implement standard remediation technologies with well-established BMPs and safety protocols. No significant risks are associated with implementing any of the proposed alternatives. As a result, each alternative was scored 10 for risk resulting from implementation.

5.2.5 Permanence

MTCA defines permanence as:

> *The degree to which the alternative permanently reduces the toxicity, mobility, or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous*

> *substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.* (173 340 360(3)(f)(ii))

The permanence of each alternative was evaluated based on the degree to which toxicity, mobility, and quantity of contaminants would be permanently reduced by each of the alternatives. The basis for permanence scores for each alternative was evaluated relative to the two MTCA sub-criteria: 1) certainty and reliability of each alternative, considering seismic stability and potential climate change vulnerabilities; and 2) residual risk, considering relative percent mass removal of dioxin/furan TEQ associated with each alternative.

The seismic stability and climate change vulnerabilities used to evaluate certainty and reliability include the following:

- **Seismic stability of shoreline slopes**: No increased vulnerabilities were identified due to seismic stability of slopes; the steepest and tallest shoreline slopes at the Mill Site were projected in the EDR to deform by less than 6 inches under a conservative design-level earthquake, maintaining their integrity and protectiveness.
- **Stability of shoreline slope under inundated upland conditions**: Inundated upland future conditions could result from sea-level rise and/or increased frequency of severe storms; however, even under inundated conditions on the Mill Site uplands, shoreline slope stability would be maintained well within engineering safety factors targeted in the EDR.
- **Sea-level rise**: A scenario-based evaluation of potential sea-level rise in the next 100 years (i.e., by 2120) was conducted, using a range of sea-level rise predictions following Ecology and other guidance and building on Washington Sea Grant projections, resulting in a range of sea-level rise estimates, from 2.5 to 4.0 feet.
- **Increase storm intensity**: In 100 years, higher wind speeds could increase the significant storm wave height from approximately 3.5 to 4.5 feet, assuming the current estimated 200-year wind speed is approximately the 100-year wind speed by 2120, potentially requiring larger diameter shoreline armor stone to ensure stability.

- **Tidal pumping**: Additional modeling was conducted to evaluate risks from increased tidal pumping; using conservative assumptions (doubling tidal pumping of shallow groundwater), modeled dioxin/furan concentrations in groundwater and surface water would be maintained below MTCA cleanup levels.

Based on the average of both permanence scores, Alternative 1 (Complete Removal) received the highest score (10), while Alternatives 2A and 2B (Partial Removal and Capping), Alternative 3 (Focused Removal and Capping), Alternative 4 (Capping), and Alternative 5 (Institutional Controls) received incrementally lower scores (8.3, 7.5, 5.5, 3.5, and 1, respectively).

5.2.6 Long-Term Effectiveness

MTCA defines effectiveness over the long-term as:

> *Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes.* (WAC 173-340-360(3)(iv))

MTCA provides a hierarchy of remedial technologies with respect to their effectiveness over the long term. The basis for long-term effectiveness scores for each alternative was based on area-weighting of each technology incorporated into the alternative, as presented in Anchor QEA (2019b). Because none of the alternatives include the highest preference technologies (reuse/recycling, destruction/detoxification, or immobilization/solidification), the hierarchy was revised to assign a relative degree of long-term effectiveness for the applicable MTCA cleanup action components associated with each alternative, as follows:

- Excavation and off-site disposal: 10
- On-site isolation (capping): 5
- Institutional controls and monitoring: 1

5.2.7 Management of Short-Term Risks

MTCA defines management of short-term risk as:

> *The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.* (WAC 173-340-360(3)(f)(v))

Evaluation of this criterion considers the relative magnitude and complexity of actions required to maintain protection of human health and the environment during implementation of the cleanup. Cleanup actions can carry short-term risks, such as safety risks during construction. Other impacts to short-term effectiveness include noise, vehicle traffic, and air emissions. Some short-term risks can be managed to some degree by BMPs during project design and construction, while other risks are inherent to project alternatives. The evaluation for management of short-term risk was based on the relative number of truck trips through the small town of Port Gamble and on two-lane county roads. Frequent movement of large trucks and trailers through areas with high numbers of pedestrian tourists has been considered as part of the MTCA evaluation.

The alternative with the fewest truck trips (Alternative 5) was given the highest score (10) for management of short-term risks. Conversely, the alternative with the most truck trips (alternative 1) was given the lowest score (5). The full 10-point range of scoring was not used for this evaluation because BMPs can be used to partially mitigate the risk for high volumes of truck traffic. Alternatives with intermediate numbers of truck trips through town were scored based on a proportional incremental risk within the 10 to 5 scoring range.

5.2.8 Technical and Administrative Implementability

Implementability is the criterion expressing the relative difficulty and uncertainty of implementing the cleanup action. MTCA defines technical and administrative implementability as:

> *Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary off-site facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration*

> *with existing facility operations and other current or potential remedial actions.* (WAC 173-340-360(3)(f)(vi))

All the technologies included in the alternatives incorporate well established and proven methods of remediation. As a result, materials are readily available locally, there is a pool of qualified contractors, and no significant permitting challenges are anticipated. Future redevelopment and/or restoration of the Mill Site can be practicably integrated with all remediation alternatives. Thus, Alternatives 1 (Complete Removal), 2A and 2B (Partial Removal and Capping), and 3 (Focused Removal and Capping) were scored high (10) for both technical and administrative feasibility. Alternative 4 (Capping) has additional technical and administrative challenges associated with demonstrating a conditional point of compliance required for, so it was scored low (2) for both technical and administrative feasibility. Alternative 5 (Institutional Controls) was given the lowest score (1) for both technical and administrative feasibility, because it would not meet all technical and administrative requirements.

5.2.9 Consideration of Public Concerns

MTCA defines consideration of public concerns as:

> *Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.* (WAC 173-340-360(3)(f)(vii))

The public involvement process under MTCA is used to identify potential public concerns regarding cleanup action alternatives. The extent to which an alternative would address those concerns is considered as part of the evaluation process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, local businesses, and other organizations with an interest in the Mill Site. Potential impacts to cultural resources from a given remedy and potential impacts during remedy implementation are considered under this evaluation criterion. Ecology will continue to evaluate public concerns through public review of this DCAP.

Input from members of the community is used to shape the remedial actions with respect to timing, local or cultural considerations, effects from disturbances including noise, light, and traffic that result from implementation methods or transportation routes, and the like. Different members of the community may have different priorities, and these priorities may or may not be aligned with the goals of the cleanup and/or the specific requirements of MTCA. Based on public comment received on the 2012 Mill Site RI/FS, and consistent with cleanup evaluations conducted by Ecology at other similar cleanup sites, preliminary consideration of public concerns for this disproportionate cost analysis balanced two potentially conflicting public interests:

1. One interest is environmental and generally supports remedial actions that remove the maximum amount of contamination
2. Another interest is economic and generally supports remedial actions that achieve regulatory requirements while minimizing impacts on local businesses

Preliminary public concern scores for each alternative were based on the degree that an alternative may balance these potentially conflicting priorities. In contrast to the other disproportionate cost analysis criteria, which tend to favor alternatives at one end of the range or the other, consideration of public concerns tends to score alternatives in the middle the highest, because of these countervailing priorities. Thus, Alternatives 2A and 2B (Partial Removal and Capping) received the highest overall public concern score (10), while Alternative 1 (Complete Removal) and Alternative 3 (Focused Removal and Capping) received a slightly lower score (8); Alternative 4 (Capping) received a lower score (2) than Alternative 3, because it is unlikely to satisfy the public desire for active cleanup; and Alternative 5 (Institutional Controls) was given the lowest score of 1.

5.2.10 Cost

The analysis of cleanup action alternative costs includes all costs associated with implementing an alternative, including design, construction, long-term monitoring, and institutional controls. Projected costs of the different alternatives were compared, to assist in the overall analysis of relative costs and benefits of the alternatives. The costs to implement an alternative include long-term costs (e.g., operation and maintenance, monitoring, equipment replacement, and maintaining institutional controls), along with agency oversight

costs. Cost estimates for excavation and disposal technologies include processing, analytical, labor, and waste management costs.

Detailed costs for each remedial alternative are summarized in the Supplemental RI/FS (Anchor QEA 2019b), informed by recent cleanup projects in the Port Gamble region. Detailed remedial alternative cost estimates for each alternative include line items for site mobilization and demobilization, excavation, material handling and disposal, cap material placement, cultural resource assessment and monitoring, remedial design, permitting, long-term monitoring, and other elements as appropriate. The cost assumptions for each alternative carried forward were developed to be accurate within the MTCA target range of -30% to +50%.

The estimated costs for the remedial alternatives carried forward into the disproportionate cost analysis range from approximately $0.2 million to $9.6 million, as follows:

- Alternative 1 (Complete Removal with Off-Site Disposal): $9.6 million
- Alternatives 2A and 2B (Partial Removal and Capping with Off- or On-Site Disposal, respectively): $7.9 million and $7.0 million, respectively
- Alternative 3 (Focused Removal and Capping): $2.7 million
- Alternative 4 (Capping): $1.3 million
- Alternative 5 (Completed Interim Actions and Institutional Controls): $0.2 million

Costs for each of the alternatives are largely driven by excavation volume and the associated cost for off-site transportation and disposal.

5.2.11 Total Benefits and Costs

As discussed in Section 5.2.3, MTCA specifies that preference shall be given to cleanup actions that are permanent solutions to the maximum extent practicable. Identifying an alternative that is permanent to the maximum extent practicable requires weighing costs and benefits. The MTCA evaluation outlined in Sections 5.2.4 to 5.2.9 was used to score remedial alternatives. The total benefit scores are a weighted average of the benefit criteria, as discussed in Anchor QEA (2019b).

Total weighted benefit scores for the Mill Site remedial alternatives are summarized in Figure 6, which graphically depicts the relationship of costs and weighted benefits of the alternatives to identify the alternative that uses permanent solutions to the maximum extent practicable. Alternative 1 (Complete Removal with Off-Site Disposal) received the highest overall weighted benefit score (9.3) and Alternatives 2A and 2B (Partial Removal and Capping with Off- and On-Site Disposal, respectively) received the next highest overall weighted benefit scores (8.4 and 8.3, respectively). Alternative 3 (Focused Removal and Capping) and Alternative 4 (Capping) received lower overall benefit scores of 7.0 and 4.3, respectively. Because of significantly higher projected costs, Alternatives 1, 2A, and 2B are disproportionately costly compared to the incremental benefits provided by Alternatives 3, 4, and 5. As depicted on Figure 6, Alternative 3 (Focused Removal and Capping) is identified as the alternative with the most benefits that are not disproportionately costly. Alternatives 4 (Capping) and 5 (Completed Interim Actions and Institutional Controls) do not comply with MTCA cleanup standards.

6 IMPLEMENTATION OF THE CLEANUP ACTION

Future land use plans for the Mill Site are currently being developed by PR/OPG and may include residential and commercial redevelopment as well as open space and habitat restoration. Future redevelopment and/or habitat restoration actions at the Mill Site will be performed to meet MTCA cleanup levels and other performance objectives to ensure protectiveness; these coordination requirements will be detailed in an Operation, Maintenance, and Monitoring Plan to be developed during remedial design. As practicable, the schedule(s) for implementation of final upland cleanup actions will be coordinated with concurrent redevelopment and/or habitat restoration actions.

For example, future residential and commercial redevelopment may include raising the grade in portions of the Mill Site at least several feet to comply with flood regulations and to facilitate gravity sewers. Placement of redevelopment fill in this situation would be coordinated as practicable with construction of soil caps (or equivalent structural materials such as asphalt or building foundations).

Alternatively, future open space and habitat restoration land use actions in 16 acres of the southern and eastern Mill Site being considered by PR/OPG as part of a separate process (i.e., outside of cleanup) may include excavating portions of the shoreline to restore intertidal beach and adjacent riparian habitat functions. Assuming additional restrictive covenants are recorded to preclude future use of the 16 acres of the Mill Site for residential or commercial development, excavated materials with dioxin/furan levels up to 260 ng/kg TEQ would be placed at the base of the bluff along the western edge of the Mill Site and covered with a minimum 2-foot-thick permeable soil cap. Construction/reconstruction of caps would comply with Port Gamble Bay and Mill Site cleanup requirements. Shoreline excavation actions in this situation would be coordinated as practicable with construction of upland and in-water caps to achieve a protective and cost-effective integrated remedy.

Remedial design will begin with development of a Remedial Design Work Plan and concept-level engineering designs (generally 30 percent design). Engineering design schedules accommodate initiation of remedial actions as early as summer 2020, subject to efficient

coordination with concurrent redevelopment and/or habitat restoration actions to achieve a protective and cost-effective integrated remedy.

Appendix B is the Cultural Resources Survey Report Addendum, which summarizes consultation activities that will inform the design of the Mill Site cleanup action, along with inadvertent discovery provisions during implementation of the actions, consistent with state and federal requirements.

Appendix C contains an outline of the required schedule for completing remedial design and implementation activities.

Consistent with RCW 70.105D, as implemented by WAC 173-340 (MTCA Cleanup Regulation), Ecology has determined that the selected Mill Site cleanup action described in Section 4 of this DCAP is protective of human health and the environment, will attain federal and state requirements that are applicable or relevant and appropriate, complies with cleanup standards, and provides for compliance monitoring. The selected cleanup action satisfies the preference expressed in WAC 173-340-360 for the use of permanent solutions to the maximum extent practicable and provides for a reasonable restoration timeframe.

7 COMPLIANCE MONITORING

Compliance monitoring and contingency responses (as needed) will be implemented in accordance with WAC 173-340-410, Compliance Monitoring Requirements. PR/OPG will comply with detailed requirements in the Construction Quality Assurance Plan and Operations, Maintenance, and Monitoring Plan to be prepared as a part of the remedial design. The objective of these plans is to confirm that cleanup standards have been achieved. The plans will contain discussions on duration and frequency of monitoring, the trigger for contingency response actions, and the rationale for terminating monitoring. The three types of compliance monitoring to be conducted include the following:

- **Protection Monitoring** to confirm that human health and the environment are adequately protected during the construction period of the cleanup action
- **Performance Monitoring** to confirm that the cleanup action has attained cleanup standards and other performance standards
- **Confirmation Monitoring** to confirm the long-term effectiveness of the cleanup action once performance standards have been attained

Cleanup levels and associated points of compliance for the cleanup action are described in Section 3.

8 FIVE-YEAR REVIEW

Because the cleanup action described in Section 4 will result in hazardous substances remaining at the Mill Site at concentrations exceeding cleanup levels (e.g., beneath caps), Ecology will review the selected cleanup action described in this DCAP at least every 5 years to ensure protection of human health and the environment. Consistent with the requirements of WAC 173-340-420, the 5-year review shall include but is not limited to the following:

- A review of available monitoring data to verify the effectiveness of completed cleanup actions, including engineered caps, in limiting exposure to hazardous substances remaining at the Mill Site
- A review of new scientific information for individual hazardous substances or mixtures present at the Mill Site
- A review of new applicable state and federal laws for hazardous substances present at the Mill Site
- A review of current and projected future land uses at the Mill Site
- A review of the availability and practicability of more permanent remedies
- A review of the availability of improved analytical techniques to evaluate compliance with cleanup levels

Ecology will publish a notice of all periodic reviews in the site register and will provide an opportunity for review and comment by the potentially liable persons and the public. If Ecology determines that substantial changes in the cleanup action are necessary to protect human health and the environment at the site, a revised CAP will be prepared and provided for public review and comment in accordance with WAC 173-340-380 and 173-340-600.

9 REFERENCES

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FIGURES

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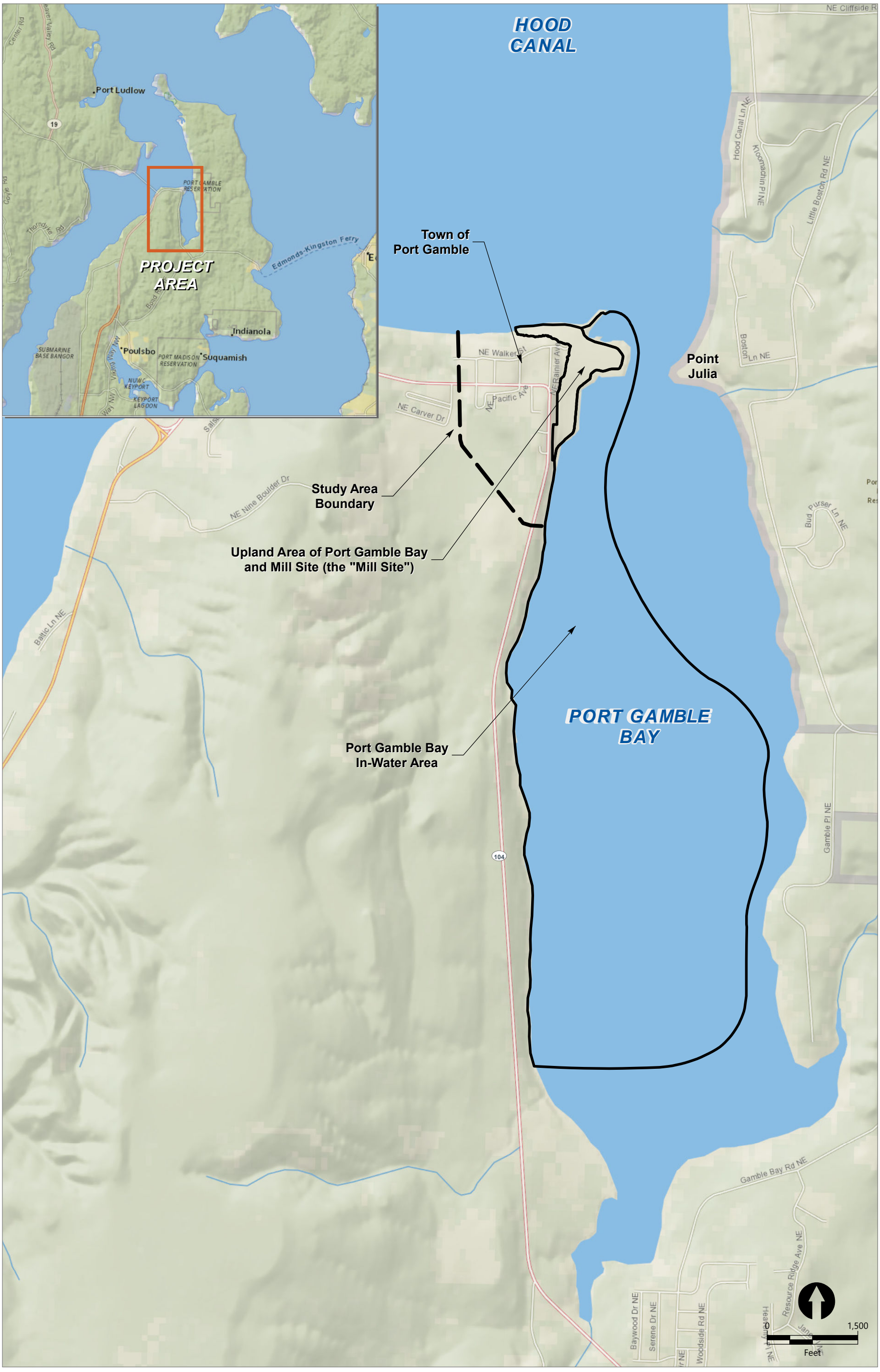

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Figure 1
Site Vicinity Map
Draft Cleanup Action Plan
Upland Area of the Port Gamble Bay and Mill Site

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PG17-GP-01	
0 - 1 ft	6.9 J
1 - 3 ft	11 J
3 - 5 ft	0.12 U

PG17-GP-02	
0 - 1 ft	0.025 J
1 - 3 ft	0.12 J
3 - 5 ft	3.7 J
5 - 7 ft	0.06 J
9 - 11 ft	0.04 J
13 - 15 ft	0.38 J

PG17-Soil-07
0 - 1 ft
3.2 J

PG17-GP-06	
0 - 1 ft	18 J
1 - 3 ft	1.6 J
3 - 5 ft	0.53 J

PG17-GP-07	
0 - 1 ft	9.7 J
1 - 3 ft	0.03 J
1 - 3 ft	0.77 J (dup)
3 - 5 ft	0.59 J

PG17-GP-03	
0 - 1 ft	4.7 J
1 - 3 ft	22 J
3 - 5 ft	4.2 J

PG17-Soil-06
0 - 1 ft
3.0 J

PG17-Soil-05
0 - 1 ft
12 J

PG17-Soil-01
0 - 1 ft
14 J

PG17-Soil-04
0 - 1 ft
8.0 J
5.6 J (dup)

PG17-GP-04	
0 - 1 ft	57 J
1 - 3 ft	10 J
3 - 5 ft	0.57 J
5 - 7 ft	0.58 J
9 - 11 ft	0.07 J
13 - 15 ft	0.01 J

PG17-Soil-02
0 - 1 ft
4.1 J

PG17-Soil-03
0 - 1 ft
0.14 J

PG18-GP-13	
0 - 1 ft	5.4 J
1 - 3 ft	0.81 J
3 - 5 ft	0.3 J
5 - 7 ft	0.67 J
9 – 11 ft	7.3 J
11 – 13 ft	85.7
13 - 15 ft	101

PG18-GP-14	
0 - 1 ft	6.8 J
1 - 3 ft	69
3 - 5 ft	6.7 J
5 - 7 ft	0.26 J
9 - 11 ft	18 J
13 - 15 ft	1.2 J

PG18-GP-15	
0 - 1 ft	1.5
1 - 3 ft	11 J
3 - 5 ft	67 J
3 - 5 ft	67 J (dup)
5 - 7 ft	1.6 J
9 - 11 ft	51 J
13 - 15 ft	1.2 J

PG18-GP-12	
0 - 1 ft	23 J
1 - 3 ft	2.7 J
3 - 5 ft	9.6 J
5 - 7 ft	9.3 J
5 - 7 ft	14 J (dup)
7 – 9 ft	0.82 J
9 - 11 ft	6,530 J
11 - 13 ft	750 J
13 - 15 ft	1.28 J

PG18-GP-17	
0 - 1 ft	48 J
1 - 3 ft	12
3 - 5 ft	18 J
5 - 7 ft	7.0 J
9 - 11 ft	9.3 J
13 - 15 ft	0.09 J

PG18-GP-16	
0 - 1 ft	7.4 J
1 - 3 ft	20 J
3 - 5 ft	14 J
5 - 7 ft	9.8 J
9 - 11 ft	26 J
13 - 15 ft	0.18 J

PG17-GP-10	
0 - 1 ft	530 J
1 - 3 ft	1,850 J
3 - 5 ft	1,800 J
5 - 7 ft	2,900 J
7 -9 ft	810 J
9 - 11 ft	22 J
13 - 15 ft	0.4 J

PG17-GP-11	
0 - 1 ft	33 J
1 - 3 ft	110 J
3 - 5 ft	6.1 J
3 - 5 ft	9.1 J (dup)
5 - 7 ft	1.3 J
9 - 11 ft	0.94 J
13 - 15 ft	0.039 J

PG17-GP-08	
0 - 1 ft	15
1 - 3 ft	1.3 J
3 - 5 ft	0.72 J
5 - 7 ft	1.3 J
9 - 11 ft	0.07 J
13 - 15 ft	0.04 J

PG17-GP-09	
0 - 1 ft	2.0 J
1 - 3 ft	210 J
3 - 5 ft	23 J
5 - 7 ft	26 J
9 - 11 ft	22 J
13 - 15 ft	0.04 J

PG17-GP-05	
0 - 1 ft	19 J
1 - 3 ft	4.7 J
3 - 5 ft	21 J
3 - 5 ft	23 J (dup)
5 - 7 ft	16 J
9 - 11 ft	0.62 J
13 - 15 ft	0.16 J

LEGEND:

- 2017 Surface Soil Sampling Station
- 2017 Post-Stockpile Sampling Location
- Existing Surface Soil Sample Location
- 18J Detected concentration is greater than MTCA Method B unrestricted land use soil screening criterion

Total Dioxin/Furan TEQ 2005 (ng/kg)

- < 12
- 12 - 45
- 45 - 260
- > 260

- Approximate Recent Top of Bank
- Study Area Boundary

Remedial Excavation Area

- Mercury
- Other

NOTES:
1. Total Dioxin/Furan TEQ reported in ng/kg. Surface-Weighted Average Concentration (SWAC) in the upland area shown is 31.3 ng/kg.
2. Data was log-normalized and interpolated using the inverse distance weighting technique taking the maximum value at all locations.
3. Results flagged with "J" indicate the compound was positively identified and the associated value is an estimated concentration.

0 350
Feet

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Figure 2
Dioxin/Furan TEQ Concentrations in Soil
Draft Cleanup Action Plan
Upland Area of the Port Gamble Bay and Mill Site

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LEGEND:

cPAH (µg/kg)
- < 190
- > 190
- Composite
- Non-detect

Lead (mg/kg)
- < 220
- > 220

- Approximate Recent Top of Bank
- Study Area Boundary

Analyte	Units	Cleanup Level
cPAH	µg/kg	190
Lead	mg/kg	220

0 300
Feet

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Figure 3
Lead and cPAH Concentrations in Soil
Draft Cleanup Action Plan
Upland Area of the Port Gamble Bay and Mill Site

DRAFT

MW-1			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/18/04	Not Detected (< 20)	ng/L
Arsenic	2/18/04	Not Detected (< 5)	µg/L

MW-12			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/18/04	Not Detected (< 20)	ng/L
Arsenic	6/2/04	Not Detected (< 5)	µg/L

MW-2			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/18/04	Not Detected (< 20)	ng/L
Arsenic	9/22/04	Not Detected (< 5)	µg/L

MW-4			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/19/04	Not Detected (< 20)	ng/L
Arsenic	6/2/04	Not Detected (< 5)	µg/L

MW-13			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/18/04	Not Detected (< 20)	ng/L
Arsenic	7/30/03	Not Detected (< 4)	µg/L

MW-11			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/18/04	Not Detected (< 20)	ng/L
Arsenic	6/2/04	Not Detected (< 5)	µg/L

MW-5 (abandoned)

MW-10			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/19/04	Not Detected (< 20)	ng/L
Arsenic	9/22/04	Not Detected (< 5)	µg/L

MW-3 (abandoned)

MW-9			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/19/04	Not Detected (< 20)	ng/L
Arsenic	9/22/04	Not Detected (< 5)	µg/L

MW-6			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/19/04	Not Detected (< 20)	ng/L
Arsenic	6/1/04	Not Detected (< 5)	µg/L

MW-14			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	--	--	ng/L
Arsenic	2/13/06	Not Detected (< 5)	µg/L

MW-7			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	--	--	pg/L
cPAH TEQ	2/19/04	Not Detected (< 20)	ng/L
Arsenic	9/22/04	Not Detected (< 5)	µg/L

MW-16			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	2/11/16	1.07 J	pg/L
cPAH TEQ	2/11/16	Not Detected (< 10)	ng/L
Arsenic	2/11/16	2.40	µg/L

MW-8			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	2/11/16	2.97 J	pg/L
cPAH TEQ	2/11/16	14.8 J	ng/L
Arsenic	2/11/16	33.9	µg/L

MW-15			
Analyte	Sample Date	Concentration	Units
Dioxin/furan TEQ	2/11/16	4.0 J	pg/L
cPAH TEQ	2/11/16	Not Detected (< 10)	ng/L
Arsenic	2/11/16	1.32	µg/L

LEGEND:

- Monitoring Well
- **Remedial excavation area**
  - Mercury
  - Other
- Approximate Recent Top of Bank
- Study Area Boundary
- 33.9 Exceeds Cleanup Level

Analyte	Units	Cleanup Level
Dioxin/furan TEQ (U=1/2)	pg/L	4.4
cPAH TEQ (U=1/2)	ng/L	20
Arsenic	µg/L	8

NOTE:
1. Results flagged with "J" indicate the compound was positively identified and the associated value is an estimated concentration.

0 300
Feet

Publish Date: 2019/04/04, 2:39 PM | User: ckiblinger
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ANCHOR QEA

Figure 4
CoC Concentrations in Groundwater
Draft Cleanup Action Plan
Upland Area of the Port Gamble Bay and Mill Site

DRAFT

LEGEND:

- Capping
- Excavation
- 2A Area IDs
- Approximate Recent Top of Bank
- Upland Area of Port Gamble Bay and Mill Site (the Site)
- Study Area Boundary

0 300
Feet

Publish Date: 2019/04/04, 2:37 PM | User: ckiblinger
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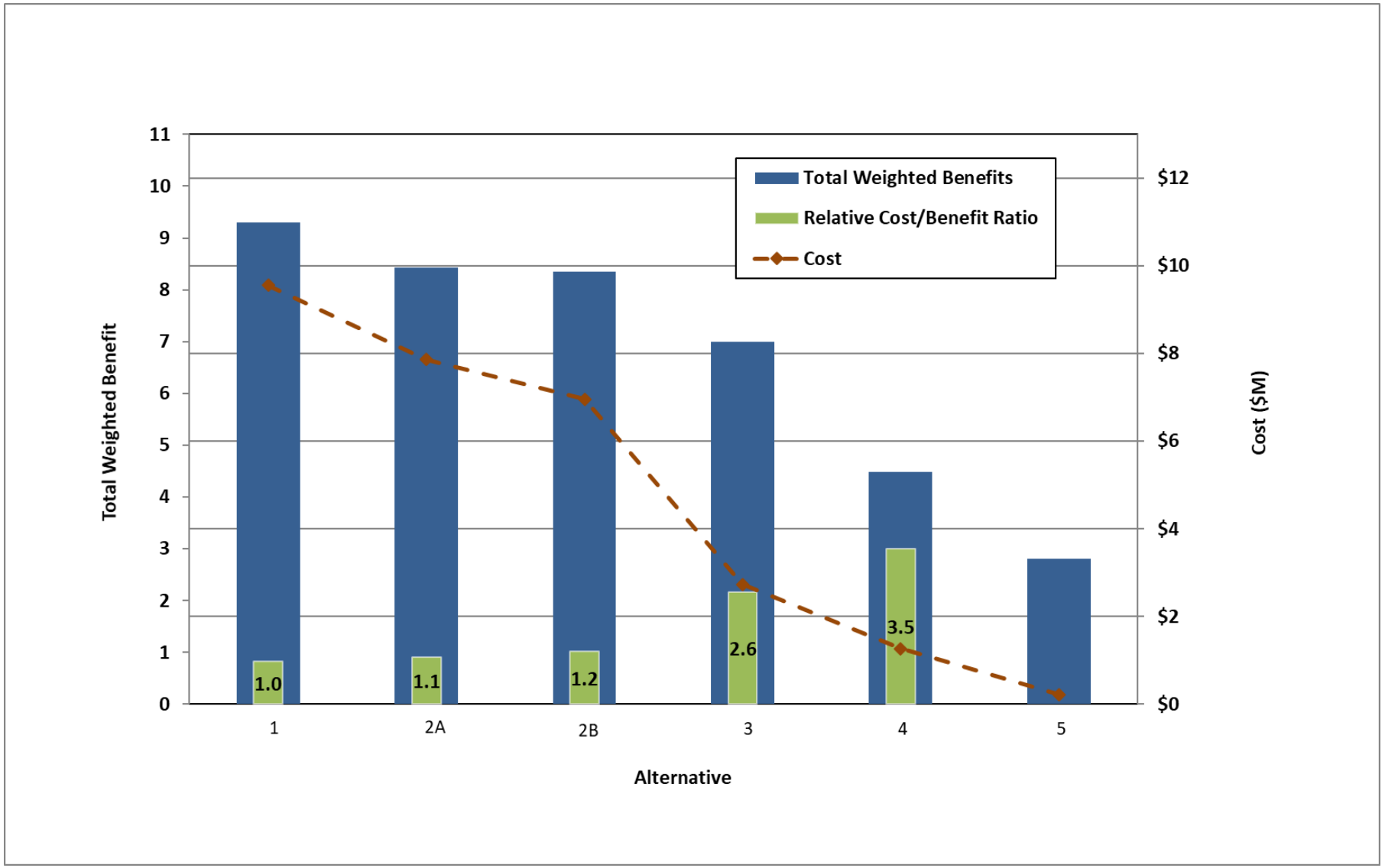
ANCHOR QEA

Figure 5
Mill Site Selected Cleanup Remedy
Draft Cleanup Action Plan
Upland Area of the Port Gamble Bay and Mill Site



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ANCHOR QEA

Figure 6
Mill Site Disproportionate Cost Analysis
Draft Cleanup Action Plan
Upland Area of the Port Gamble Bay and Mill Site

APPENDIX A
SEPA DETERMINATION OF NONSIGNIFICANCE

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

STATE ENVIRONMENTAL POLICY ACT

Determination of Non Significance

Date of Issuance: April 20, 2020

Lead Agency: Washington State Department of Ecology Toxics Cleanup Program

Agency Contact:

John Evered
Cleanup Site Manager
Toxics Cleanup Program
PO Box 47600
Olympia, WA 98504-7600
(360) 407-7071
john.evered@ecy.wa.gov

Description of Proposal:

The Project includes a cleanup action for a portion of the Port Gamble Bay and Mill Site (Site), located in Port Gamble, Washington. Specifically, the cleanup action will take place at the former upland sawmill area (Mill Site). Cleanup activities will include the following:

- Excavation and disposal at approved off-site landfills of approximately 7,500 to 10,500 tons of soils in the northeast portion of the Mill Site with dioxin/furan concentrations exceeding remediation levels for wildlife, groundwater, surface water, and sediment protection.
- Capping of approximately six acres in four areas of the Mill Site that have dioxin/furan soil concentrations below remediation levels, but exceeding Model Toxics Control Act (MTCA) unrestricted use soil cleanup levels, including lower-concentration excavated and treated soils from the northeast portion of the Mill Site (e.g., amended with activated carbon or other treatment agents to further sequester dioxins/furans as practicable).
- Recording of restrictive covenants to preclude use of the shallow aquifer throughout the Mill Site for future drinking water supply and to ensure that soil caps in the Mill Site maintain their protectiveness.

Location of Proposal:

Port Gamble, Washington
Parcel numbers: 052702-3-004-2008, 052702-3-003-2009
Latitude/Longitude: 47.8557, -122.5807

Applicant Contact Information:

Linda Berry-Maraist
Pope Resources, LP/OPG Properties LLC
19950 7th Avenue NE, Suite 200
Poulsbo, WA 98370
(360) 394-0574

The Washington State Department of Ecology has determined that this proposal will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). We have reviewed the attached Environmental Checklist and this information is available at:
https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=3444

This determination is based on the following findings and conclusions:

The Washington State Department of Ecology Toxics Cleanup Program, after reviewing the completed environmental checklist and other supporting documents, has determined that the Project will not have a probable significant adverse impact on the environment. An EIS is not required under Revised Code of Washington 43.21C.030 (2)(c), provided the State Environmental Policy Act conditions listed below are used to avoid, minimize, or compensate for potential adverse impacts.

The comment period for this Determination of Non Significance corresponds with the comment period on the Draft Cleanup Action Plan, Draft Remedial Investigation and Feasibility Study and Draft Consent Decree for the Upland Area of the Port Gamble Bay and Mill site, which will end on May 25, 2020.

Responsible Official:

Barry Rogowski
Section Manager
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600
(360) 407-7226

Signature:  Date: 4/20/2020

SEPA ENVIRONMENTAL CHECKLIST

A. Background

1. **Name of proposed project, if applicable:**
   Port Gamble Upland Mill Site Cleanup Action (Project)

2. **Name of applicant:**
   Pope Resources LP/OPG Properties LLC (PR/OPG)

3. **Address and phone number of applicant and contact person:**
   Applicant:
   Linda Berry-Maraist
   Pope Resources, LP/OPG Properties LLC
   19950 7th Avenue NE, Suite 200
   Poulsbo, Washington 98370
   360.394.0574

4. **Date checklist prepared:**
   April 15, 2020

5. **Agency requesting checklist:**
   Washington State Department of Ecology (Ecology)

6. **Proposed timing or schedule (including phasing, if applicable):**
   Construction of the proposed Project may begin as early as 2021. The Project schedule will be refined during design and permitting and will be further refined by contractors for PR/OPG to determine final construction sequencing and duration based on regulatory permit conditions and availability of cap material, subject to Ecology approval.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**
   There are no plans for future additions, expansions, or further activity related to or connected with this proposal.

   Separate and independent of this proposal, future land use plans for the Mill Site are currently being developed by PR/OPG and includes residential and different types of commercial redevelopment, as well as open space and habitat restoration. Future redevelopment and/or habitat restoration actions at the Mill Site will be performed to meet Model Toxics Control Act (MTCA) cleanup levels and other performance objectives to ensure protectiveness.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**
   - *Cultural Resources Overview for the Port Gamble Bay Cleanup and Restoration Project Northwest Archaeological Associates* (NWAA 2010)
   - *Port Gamble Partial Remedial Investigation/Feasibility Study Report* (Ecology 2012a)
   - *Port Gamble Bay Consent Decree* (Ecology 2013c)
   - *Port Gamble Bay Cleanup Action Plan* (Ecology 2013b)
   - *Port Gamble Bay Cultural Resources Assessment Plan* (Ecology 2013a)
   - *Port Gamble Bay Cultural Resources Survey Plan (SWCA and Anchor QEA 2014)*
   - *Results of Surveying the North Boundary of the Point Totten Shell Midden (SWCA 2017, Brandy Rinck).*
   - *Technical Report of Archaeological Field Investigations to Support the Port Gamble Redevelopment Plan SEPA EIS, Kitsap County, Washington (Rinck et al. 2018)*
   - *Port Gamble Redevelopment Project: Archaeological Resources Discipline Report, Kitsap County SEPA EIS (Piper et al. 2014)*
   - *Port Gamble Bay Notice of Intent for National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit* (Anchor QEA 2015)
   - *Upland Area of the Port Gamble Bay and Mill Site Supplemental Remedial Investigation/ Feasibility Study (Anchor QEA 2019)*
   - *Note: additional environmental documents are referenced in the reports listed above*

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

   The Port Gamble Dock Project applications have been submitted; however, the permit review process is currently on hold. A draft Port Gamble Master Plan and Environmental Impact Statement (showing two alternatives), Plat Performance Based Development application, Grading Permit and Shoreline Substantial Development Permit for the ~320 acre project has been submitted to Kitsap County. A Legislative Amendment process for the project is in process currently and the Development Agreement is anticipated in late 2020 or early 2021.

10. **List any government approvals or permits that will be needed for your proposal, if known.**

    NPDES Construction Stormwater General Permit – Ecology

11. **Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

    The Project includes a cleanup action for a portion of the Port Gamble Bay and Mill Site (Site), located in Port Gamble, Washington. Specifically, the cleanup action will take place at the former upland sawmill area (the "Mill Site"). Cleanup activities will include the following:
    - Excavation and disposal at approved off-site landfills approximately 7,500 to 10,500 tons of soils in the northeast portion of the Mill Site with dioxin/furan

concentrations exceeding remediation levels for wildlife, groundwater, surface water, and sediment protection
- Capping of approximately 6 acres in four areas of the Mill Site that have dioxin/furan soil concentrations below remediation levels, but exceeding MTCA unrestricted use soil cleanup levels, including lower-concentration excavated and treated soils from the northeast portion of the Mill Site (e.g., amended with activated carbon or other treatment agents to further sequester dioxins/furans, as practicable)
- Recording of restrictive covenants to preclude use of the shallow aquifer throughout the Mill Site for future drinking water supply and to ensure that soil caps in the Mill Site maintain their protectiveness

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Project is located in Port Gamble, Unincorporated Kitsap County, Washington (Township 27 North, Range 2 East, Sections 5 and 8). The Project area is adjacent to Port Gamble Bay and Hood Canal, which is connected to the Strait of Georgia/Puget Sound (see Figure 1). State Route (SR) 104 is the main access road to the Mill Site, which is located east of Rainier Street and the adjacent bluff.

B. Environmental Elements

1. *Earth*

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

The former sawmill site upland area is generally relatively flat and slopes down toward Port Gamble Bay but is adjacent to a steep bluff.

b. What is the steepest slope on the site (approximate percent slope)?

Transition slopes on the shoreline between the uplands and Port Gamble Bay are approximately 30% and are protected from erosion by rock riprap. Shoreline riprap repairs were most recently performed in summer 2019 to ensure the protectiveness of earlier cleanup actions. Bluff slopes adjacent to the former sawmill site are approximately 30% to 50%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Upland areas were developed through historical fill activities on an existing tideflat adjacent to the Bay. The surficial fill typically consists of sand and gravel, with locally variable fines content, scattered debris, and woody organics. Portions of the uplands are paved with asphalt or concrete. Underlying the upland fill is a native sand layer of variable thickness.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The steep bluff adjacent to the former sawmill site is identified in Kitsap County critical area maps as an area of potential geological hazard (Kitsap County 2019) (note that this map includes all areas that exceed 30% slope in this category). Fill in portions of the former sawmill site (primarily the deepest fill in the most eastern portion of Mill Site) could be subject to liquefaction.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The Project will include excavation and disposal of approximately 7,500 to 10,500 tons of contaminated soils. Soil excavation depths will extend up to approximately 15 feet below ground surface. The excavated areas will then be filled with soils that have contaminant concentrations below the remediations levels or with clean imported fill. Minimum of 2-foot-thick soil caps will be placed over all areas of the Mill Site with contaminant concentrations above unrestricted use cleanup levels. Exact excavation and fill amounts will be determined during design development.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion could occur from the Project during capping, grading, and fill activities. Best management practices (BMPs), including preparation of a Temporary Erosion and Sedimentation Control (TESC) Plan in coordination with Ecology and other applicable agency requirements, will be implemented during construction activities so that any potential erosion from capping, stockpiling, and grading/filling activities will not contribute to erosion in the area. An existing berm constructed around the perimeter of the former sawmill site during the in-water cleanup will remain in place during the upland cleanup.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The Project does not propose any new impervious surfaces, and the existing level of impervious surfaces will be reduced. Surficial hardscape overlying the portion of remedial excavations in the Mill Site will be demolished, processed, and disposed of at approved off-site landfills or recycling facilities, as appropriate. Surficial hardscape in other remedial areas will be perforated prior to placing permeable soil caps.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

A TESC Plan will be developed, and construction BMPs will be implemented to minimize erosion from the Project.

2. *Air*

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Fugitive dust could be generated during dry periods during construction from upland activities associated with material stockpile management (e.g., moving and loading). Construction machinery such as cranes, loaders, and trucks will likely emit exhaust gases. These emissions

will be temporary in nature and generally of short-term duration; therefore, no long-term adverse effects on local air quality are anticipated.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no known off-site sources of air emissions that would affect the Project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Construction equipment used on the Project will be maintained in good working order to minimize airborne emissions. BMPs for dust control, such as application of water, will be employed during construction, as necessary.

3. *Water*

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Port Gamble Bay is located to the east of the Project area and just south of the Strait of Juan de Fuca.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The Project will not require any in-water work. Proposed cleanup activities will take place within 200 feet of Port Gamble Bay. See Figure 2 for a map of the cleanup activity locations.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill or dredge material will be placed in or removed from surface waters or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No surface water withdrawals or diversions are proposed.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Work would occur within or adjacent to the Federal Emergency Management Agency floodplain designated as Zone AE (FEMA 2017). Areas designated as Zone AE indicate those areas subject to inundation by the 1-percent-annual-chance flood.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No waste materials would be discharged to ground or surface water from the Project. An existing berm constructed around the perimeter of the former sawmill site will remain in place during the upland cleanup. Treated water from dewatering excavations will be discharged back into groundwater at the Mill Site (see 3.b.1).

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Groundwater will not be withdrawn from a well. As needed, groundwater may be pumped from within and/or adjacent to the excavated areas. The pumped water may be stored in tanks to remove suspended solids (along with additional treatment, as determined during design), and then discharged back into Mill Site groundwater via an upland infiltration basin.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material is anticipated to be discharged to groundwater as part of the Project.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater runoff is anticipated during construction, but an existing berm constructed around the perimeter of the former sawmill site during the in-water cleanup, will remain in place during the upland cleanup, facilitating stormwater infiltration. Some stormwater runoff currently discharges into Port Gamble Bay and Hood Canal, and no change in discharge rate is proposed as a result of this Project. Surface water runoff will be managed using BMPs, as appropriate, consistent with Ecology's 2019 *Stormwater Management Manual for Western Washington* (2019) or the most current version at the time of construction. Collection and disposal of stormwater runoff is not proposed. Conditions of the issued NPDES construction stormwater general permit will be adhered to during construction.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials will be discharged to ground or surface water from the completed Project.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

The Project will not alter or affect drainage patterns at or adjacent to the property.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Imported fill material necessary to complete the Project will be clean and obtained from an approved source. Material chemistry will be tested in accordance with Ecology protocols to demonstrate its suitability for its intended use.

An existing berm constructed around the perimeter of the former sawmill site during the in-water cleanup will remain in place during the upland cleanup, facilitating stormwater infiltration. Contractors for PR/OPG will be responsible for the preparation of a Spill Prevention, Control, and Countermeasures (SPCC) Plan to be used for the duration of the Project in order to safeguard against the nominal chance that an unintentional release of fuel, lubricants, or hydraulic fluid from the construction equipment could occur.

4. *Plants*

a. Check the types of vegetation found on the site:

X___deciduous tree: alder, maple, aspen, other
X___evergreen tree: fir, cedar, pine, other
X___shrubs – sparse native and non-native shrubs
____grass – sparse non-native grasses
____pasture
____crop or grain
____orchards, vineyards or other permanent crops.
____wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
____other types of vegetation (see below for "other" vegetation types)

The former sawmill site portion of the Project site contains little to no vegetation, but the bluff adjacent to the mill site has deciduous and evergreen trees, as well as native and non-native shrubs.

b. What kind and amount of vegetation will be removed or altered?

Very little vegetation will be removed or altered as a part of the Project, except if necessary to facilitate engineered capping in localized areas of the bluff.

c. List threatened and endangered species known to be on or near the site.

No listed plant species are known to be on or near the Project site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Very little vegetation will be removed or altered as a part of the Project; therefore, there is no need for landscaping.

e. List all noxious weeds and invasive species known to be on or near the site.

Scot's broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus armeniacus*) are found on areas around the Mill Site, including the bluff adjacent to the site.

5. *Animals*

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

Port Gamble Bay and the surrounding upland areas provide habitat to a variety of wildlife species, including various bird and aquatic species. ESA-listed species that may occur in the vicinity of the Project are described in Section B.5.b. In addition, the WDFW's Priority Habitats and Species map identifies the following species as potentially occurring in or near the project area (WDFW 2019):

- Pacific sand lance (*Ammodytes hexapterus*)
- Pacific herring (*Clupea pallasi*)
- Subtidal hardshell clam
- Geoduck (*Panopea generosa*)

Harbor seal (*Phoca vitulina*) haul-out areas are located near Point Julia (Anchor QEA 2013). An osprey (*Pandion haliaetus*) nest is documented just south of Port Gamble (Berry-Maraist 2019). Marbled murrelets (*Brachyramphus marmoratus*) have not been observed in the vicinity but may occur there due to their use of old-growth forested areas and marine habitats in Washington State, habitats that occur in the region. The Project site and surrounding area were not identified as marbled murrelet nesting sites during a survey of occupied areas (WDFW and USFWS 2018).

b. List any threatened and endangered species known to be on or near the site. Table 2 summarizes the ESA-listed threatened or endangered species known to be near the site. There are no ESA-listed species on the site.

Table 2
Port Gamble Bay Potential Threatened or Endangered Species

Species	Status	Agency	Critical Habitat
Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*)	Threatened (Puget Sound ESU)	NMFS	Designated
Puget Sound steelhead (*Oncorhynchus mykiss*)	Threatened (Puget Sound ESU)	NMFS	None in Project area
Hood Canal summer-run chum salmon (*Oncorhynchus keta*)	Threatened (Hood Canal ESU)	NMFS	Designated
Bull trout (*Salvelinus confluentus*)	Threatened (Coastal-Puget Sound ESU)	USFWS	None in Project area
Dolly varden *(Salvelinus malma*)	Proposed threatened	USFWS	None designated
Killer whale (*Orcinus orca*)	Endangered (Southern Resident DPS)	NMFS	Designated
Humpback whale (*Megapterus novaeangliae*)	Endangered	NMFS	None designated
Leatherback sea turtle *(Dermochelys coriacea*)	Endangered	USFWS	None in Project area

Species	Status	Agency	Critical Habitat
Bocaccio (*Sebastes paucispinus*)	Endangered (Georgia Basin DPS)	NMFS	Designated
Yelloweye rockfish *(Sebastes ruberrimus*)	Threatened (Puget Sound/Georgia Basin DPS)	NMFS	Designated
Pacific eulachon (*Thaleichthys pacificus*)	Threatened (Southern DPS)	NMFS	None in Project area
Marbled murrelet *(Brachyramphus marmoratus*)	Threatened	USFWS	None in Project area
Streak Horned Lark *(Eremophila alpestris strigata)*	Threatened	USFWS	None in Project area
Yellow-billed cuckoo *(Coccyzus americanus)*	Threatened	USFWS	None designated

Notes:
Sources: NOAA Fisheries 2019; USFWS 2019
ESU: Evolutionarily Significant Unit
DPS: Distinct Population Segment
NMFS: National Marine Fisheries Service
USFWS: U.S. Fish and Wildlife Service

c. Is the site part of a migration route? If so, explain.

Port Gamble is within the Pacific Flyway for migratory birds. Migratory species of geese and ducks can be found in the Port Gamble area and along the shorelines of Port Gamble Bay throughout the year.

d. Proposed measures to preserve or enhance wildlife, if any:

No in-water work is proposed, which will avoid impacts to marine species. Protection compliance monitoring will be implemented to confirm that the environment is adequately protected during construction. Long-term confirmation monitoring will also be implemented.

e. List any invasive animal species known to be on or near the site.

There are no known invasive animal species on or near the site.

6. *Energy and Natural Resources*

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Once completed, the Project will not create any long-term energy needs.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The completed Project will not affect the potential use of solar energy.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Construction practices that encourage efficient energy use, such as limiting idling equipment, encouraging carpooling of construction workers, and locating staging areas near work areas, will be implemented.

7. *Environmental Health*

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Yes. Existing exposure to contaminated soil is discussed in subbullets below. Environmental health hazards could result from a spill of fuel or oil from operating equipment or from equipment accidents. Hazards will be limited to those encountered during construction and will be controlled through Project construction plans (such as the SPCC Plan), as well as health and safety plans.

The Washington Hazardous Waste Management Act (Revised Code of Washington 70.105) and the implementing regulations, the Dangerous Waste Regulations (Chapter 173-303 WAC), will apply if dangerous wastes are generated during the sediment cleanup action. Sediment cleanup action is not expected to generate dangerous hazardous wastes.

1) Describe any known or possible contamination at the site from present or past uses.

The Project is located on a known contaminated site from a sawmill that was in operation from 1853 to 1995. Initial cleanup activities began in 1997 to remove petroleum hydrocarbons and metals. Additional cleanup activities have continued since then to remove various chemicals of concern. This Project will focus on the removal of soil with dioxin/furan concentrations greater than remediation levels and capping remaining soils with dioxin/furan concentrations greater than the cleanup level (12 parts-per-trillion toxicity equivalent quotient).

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

The Project will be designed to protectively remove and/or cap soils with elevated dioxin/furan concentrations. There are no existing hazardous chemicals or conditions that might affect the Project development or design.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

The Project will be designed to protectively stockpile and profile excavated soils to determine proper on- and off-site disposal locations. The Project will not store, use, or produce toxic or hazardous chemicals.

4) Describe special emergency services that might be required.

There are no special emergency services required for this Project.

5) Proposed measures to reduce or control environmental health hazards, if any:

Hazards will be limited to those encountered during construction. Workers will be properly

trained for work at the Project site; proper construction methods, personal protective equipment, and safety equipment will be employed.

Environmental health hazards that could result from a spill of fuel or oil from operating equipment will be addressed within the SPCC Plan and TESC Plan.

Appropriate material generated by the Project will be collected and screened to remove debris, and the screened material will be reused or disposed of in upland areas, as allowed, following chemical analysis. If no other allowed reuse or disposal alternatives are identified, the material will be disposed at an approved regional upland disposal facility.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

No noise sources exist in the area that are anticipated to affect the Project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

All noise generated by the Project will be short-term in duration and would be generated from construction equipment.

3) Proposed measures to reduce or control noise impacts, if any:

Construction activities will be performed in accordance with Kitsap County Code Chapter 10.28, and are anticipated to occur during the day. All equipment will be required to comply with pertinent U.S. Environmental Protection Agency equipment noise standards.

8. *Land and Shoreline Use*

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The Project is located within and adjacent to a former industrial yard in the rural, historic town of Port Gamble. The Port Gamble district was listed on the U.S. National Register in 1966 as a Historic Place and a Historic Landmark District and is a popular tourist destination. The Project is also adjacent to the waterbodies of Hood Canal and Port Gamble Bay, which are used for a variety of marine activities, such as recreational and commercial fishing, shellfish harvesting, and boating. The Project is not expected to affect current land uses on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

There is no history of agricultural use or forestry on the Project area (Mill Site). The site housed a sawmill for almost 150 years. The Project will not convert any agricultural or forest lands to other uses. (There is a working farm in the southwest corner of the ~320 acre Port Gamble Master Plan, which will not be affected by this cleanup).

1) **Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:**

The Project will not affect any working farm or forest operations.

c. Describe any structures on the site.

Nearly all structures on the Project site have been removed. The only remaining structure is a fence around the perimeter of the Mill Site.

d. Will any structures be demolished? If so, what?

No structures will be demolished as part of the Project.

e. What is the current zoning classification of the site?

The Project site is zoned “Rural Historic Town Waterfront” (Kitsap County 2019).

f. What is the current comprehensive plan designation of the site?

The Project is designated as “Limited Area of More Intense Rural Development - I” (Kitsap County 2019).

g. If applicable, what is the current shoreline master program designation of the site?

The Project is located within the “Urban Conservancy” shoreline environmental designation (Kitsap County 2019).

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The Project is located in a geologic critical area, a critical aquifer recharge area, and a flood hazard area. Kitsap County identifies a bald eagle nest as occurring south of the Project site (Kitsap County 2019), but documentation has been submitted to the County and Washington Department of Natural Resources to verity that it no longer exists (Berry-Maraist 2019). An active osprey nest was documented west of the Project site, but it blew down during the winter of 2019-20 (Berry-Maraist 2020).

i. Approximately how many people would reside or work in the completed project?

The Project will not change existing levels of employment after completion.

j. Approximately how many people would the completed project displace?

The Project will not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No measures are proposed to avoid or reduce displacement impacts.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The Project is consistent with local land uses and plans. Cleanup activities have been occurring at or near the Project site since 1997.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

The Project will not affect agricultural and forest lands of long-term commercial significance; therefore, no measures are proposed.

9. *Housing*

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be provided by the Project.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated by the Project.

c. Proposed measures to reduce or control housing impacts, if any:

There will be no impacts to housing; therefore, no measures to reduce or control impacts are proposed.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No new structures are proposed.

b. What views in the immediate vicinity would be altered or obstructed?

Views in the immediate vicinity of the site will not be obstructed or altered as a result of the Project.

c. Proposed measures to reduce or control aesthetic impacts, if any:

No aesthetic impacts are anticipated from the Project; therefore, no measures to reduce or control aesthetic impacts are proposed.

11. *Light and Glare*

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Construction activities are anticipated to be performed during the day. Depending upon the final schedule of specific cleanup activities, temporary work lighting may be used to provide a safe work environment during low light conditions. Temporary work lighting, if necessary, is anticipated to be localized and short-term in duration.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Light or glare from the Project is not expected to create a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

There are no known sources of off-site light or glare that may affect the proposed Project.

d. Proposed measures to reduce or control light and glare impacts, if any:

Because there are no proposed impacts, no measures are proposed to reduce or control light

and glare impacts.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Access to the Project area is generally restricted and not accessible to the public, except for the northern portion of the former sawmill site. In the Project vicinity, Port Gamble Bay is used for recreational boating; recreational, commercial, and tribal fishing; shellfish harvesting; and other water-related activities.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Most of the Project area is currently closed to the public except for the northern portion of the former sawmill site. During construction, the northern portion of the Project area will be closed to the public.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The Project area will be temporarily closed during construction. The current kayak launch will shift west to the beach on Hood Canal during construction.

13. *Historic and cultural preservation*

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

Port Gamble is a National Historic District and several archaeological sites are recorded in the Project vicinity along with the former sawmill site itself. The Pre-contact Point Totten Shell Midden Site (46KP252) has been recommended as eligible for the National Register of Historic Places. In addition, other Port Gamble sites are recommended eligible for listing in the National Register of Historic Places.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

Precontact archaeological materials could be present on the Mill site in the following contexts:

- Within the boundaries of intact midden
- In fill soils, especially where disturbance and stratigraphic mixing have been observed
- In native soils below fill anywhere on the Mill Site

It is also possible that historic archaeological materials could be located on the Mill Site within or at the base of historic fill. The location of those soils with archaeological potential were estimated using geotechnical information, historical maps, and documentation of prior disturbance.

The environmental and cultural context of Port Gamble Bay has been extensively documented in the last 10 years, primarily for projects within and adjacent to the Project area. Relevant reports include the following:

- *Port Gamble Bay Cultural Resources Assessment Plan* (Ecology 2013a)

- *Cultural Resources Survey Plan, Port Gamble Bay Cleanup* (SWCA and National Oceanic and Atmospheric Administration 2014)
- *Results of Surveying the North Boundary of the Point Totten Shell Midden (SWCA 2017, Brandy Rinck).*
- *Technical Report of Archaeological Field Investigations to Support the Port Gamble Redevelopment Plan SEPA EIS, Kitsap County, Washington* (Rinck et al. 2018)
- *Port Gamble Redevelopment Project: Archaeological Resources Discipline Report, Kitsap County SEPA EIS* (Piper et al. 2014)
- *Cultural Resources Overview for the Port Gamble Bay Cleanup and Restoration Project, Kitsap County, Washington* (Sharley et al. 2010)
- *Analysis of Sonicore Samples from the Point Totten Shell Midden (45KP252), Port Gamble, Kitsap County, Washington* (Rink 2016)

Full details can be found in the Cultural Resources Survey Report Addendum, which is Appendix B to the Draft Cleanup Action Plan.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Assessment methods included review of geotechnical investigations, previous archaeological studies and site records, documentation of previous disturbance, and historic maps and photographs. Native American tribes received a copy of the Cultural Resources Survey Report Addendum for their review and input in 2019.

Full details can be found in the Cultural Resources Survey Report Addendum, which is Appendix B to the Draft Cleanup Action Plan.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

As discussed in the Cultural Resources Survey Report Addendum (Appendix B to the Cleanup Acton Plan), ground disturbance for the Project is unlikely to disturb historic or cultural resources as defined by SEPA. The Port Gamble S'Klallam Tribe commented on the Cultural Resources Survey Report Addendum with two requests: that a tribal monitor be allowed to access the site during construction and that an Inadvertent Discovery Plan (IDP) be kept on site during construction. Tribal representatives will be invited to a pre-construction meeting with the contractor, archeologist and the property owner to review the IDP and construction processes, prior to the start of construction. This IDP will be in place during construction in the event that archaeological materials are encountered, and tribal monitoring will be permitted to the extent that it is safe and feasible.

14. *Transportation*

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

SR 104 borders the western boundary of the project area and can be used to access the site.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

The Project area is not served by transit. The nearest transit stop is approximately 3 miles away.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The Project will not affect existing parking.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The Project will not require new or improved roadways or pedestrian, bicycle, or state transportation facilities.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The Project may utilize surface water, road, or rail for the transportation of excavated material, depending on the final disposition of this material.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The import of sand and gravel from an upland commercial or private source may generate construction-related traffic. The amount of construction traffic and peak traffic times will be a function of the selected contractor's operations plan and the amount of material that needs to be managed on site. Construction traffic impacts will be temporary. The completed Project is expected to result in no net change in traffic.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The Project will have no impacts on the movement of agricultural or forest products.

h. Proposed measures to reduce or control transportation impacts, if any:

In coordination with Ecology, a communication outreach plan will be developed prior to construction that is responsive to the needs of the community. The outreach plan will include strategies and opportunities to be implemented by the Project for identifying community events that could be affected during construction as well as avoidance and minimization measures to mitigate these potential effects. To support this effort, a sign will be posted in Port Gamble that will include website and contact information to support communication and outreach needs during construction activities for north Port Gamble Bay including the Town of Port Gamble.

15. *Public Services*

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The Project will not result in the need for additional public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No measures are proposed to reduce or control impacts on public services.

16. *Utilities*

a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No new utilities are proposed as part of this project.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee _____

Position and Agency/Organization _____

Date Submitted: _____

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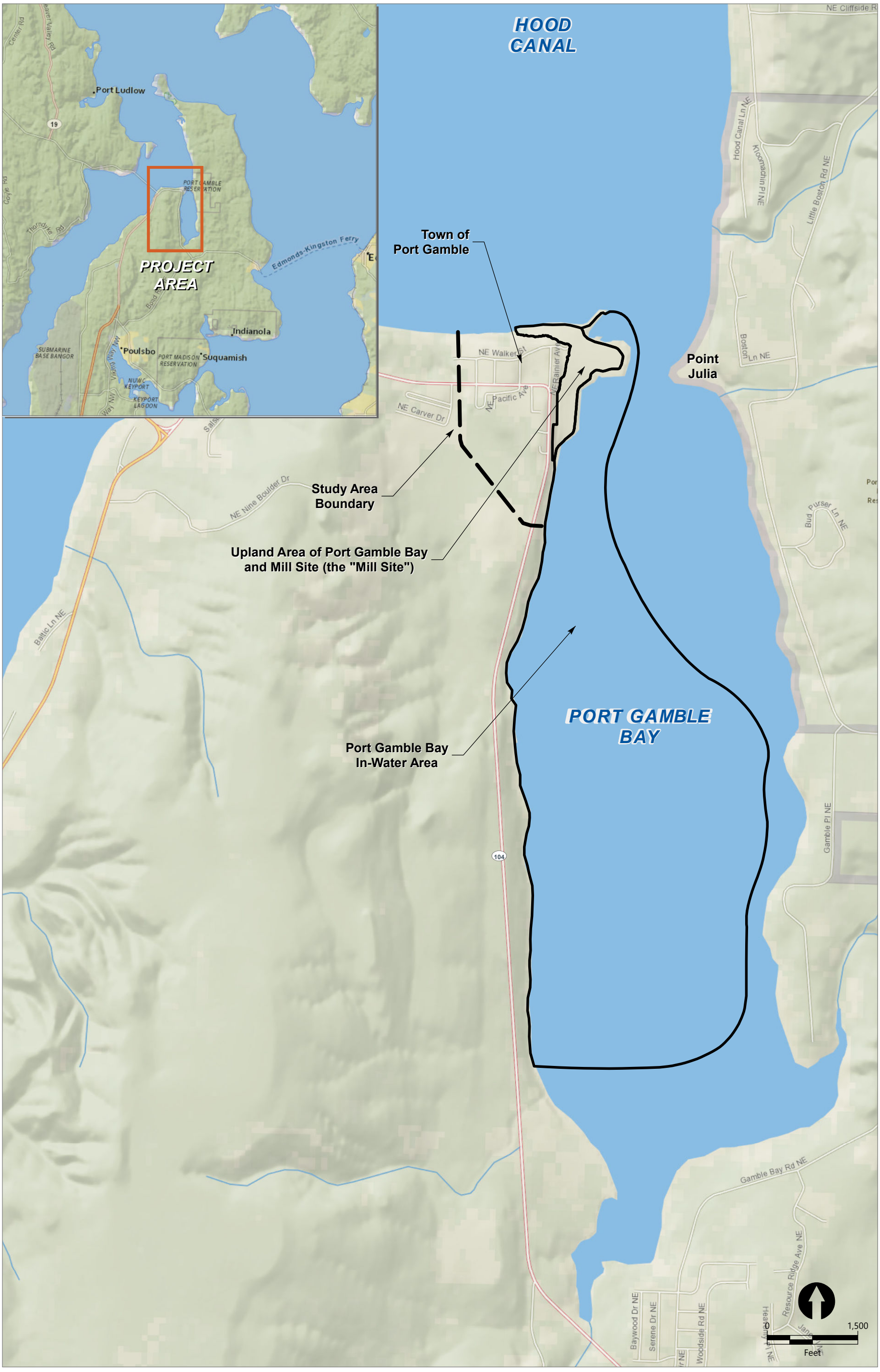
Figures

DRAFT



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ANCHOR QEA

Figure 1
Site Vicinity Map
SEPA Checklist
Upland Area of the Port Gamble Bay and Mill Site

DRAFT

LEGEND:

- Capping
- Excavation
- 2A Area IDs
- Approximate Recent Top of Bank
- Upland Area of Port Gamble Bay and Mill Site (the Site)
- Study Area Boundary

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Feet

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ANCHOR QEA

Figure 5
Mill Site Selected Cleanup Remedy
SEPA Checklist
Upland Area of the Port Gamble Bay and Mill Site

APPENDIX B

CULTURAL RESOURCES SURVEY REPORT ADDENDUM

APPENDIX C
MILESTONES AND SCHEDULE

DRAFT CLEANUP ACTION PLAN
UPLAND AREA OF THE PORT GAMBLE BAY AND MILL SITE

PORT GAMBLE, WASHINGTON

Washington State Department of Ecology
Olympia, Washington 98504

April 2019

1 PROJECT MILESTONES

- **Draft and Final Remedial Design Work Plan**: In accordance with the schedule below, PR/OPG will submit a draft and final Remedial Design Work Plan, which will identify project milestones, work products, sampling and analyses, plans/specifications, and schedules that meet the requirements of the MTCA Cleanup Regulation, WAC 173-340.
- **Draft and Final Engineering Design Report and Plans/Specifications:** In accordance with the schedule set forth in the Ecology-approved Final Remedial Design Work Plan below, PR/OPG will submit a draft and final Engineering Design Report with plans/specifications that comply with the requirements of WAC 173-340-400(4)(a), including engineering concepts and design criteria for major components of the selected cleanup action. The Engineering Design Report and plans/specifications will include but not be limited to the following components: excavation prisms, extent/design of caps, stormwater controls, and institutional controls.
- **Compliance Monitoring:** Compliance monitoring requirements will be developed during development of the Engineering Design Report and will comply with requirements of WAC 173-340-10. PR/OPG will submit a draft and final construction quality assurance plan (CQAP) and operations, maintenance and monitoring plan (OMMP) that will satisfy the following objectives:
  - Protection Monitoring – confirm protection of human health and the environment during construction
  - Performance Monitoring – confirm cleanup attains required standards
  - Confirmation Monitoring – confirm long-term effectiveness of cleanup

  The CQAP and OMMP will include but not be limited to specific monitoring objectives, scope and frequency, duration, contingency responses and triggers for implementing them.
- **Cleanup Action Report:** After completion of the construction of the cleanup, PR/OPG will submit a Cleanup Action Report in accordance with WAC 173-340-400 (6)(b). The Cleanup Action Report will be submitted with graphical representations of the work performed. The report will also provide documented evidence that institutional controls have been implemented.

- **Data Acquisition and Submittal:** All data collection and analyses shall be in accordance with requirements of WAC 173-340 and Ecology's Data Submittal Policy 840 (http://www.ecy.wa.gov/programs/tcp/policies/pol840.pdf), which include Ecology's prior review and approval of a Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP). Laboratory data shall be included in reports and must have met the quality assurance and quality control procedures outlined in the associated SAP and QAPP. QA'd data shall be submitted and successfully entered into Ecology's Environmental Information Management database within 90 days of receipt of the final data package from the analytical laboratory to facilitate Ecology's review of the data.

2 PROJECT PERMITTING

- PR/OPG must obtain permits and identify substantive requirements of laws for which MTCA creates a permit exemption. Permits will be required for work performed as part of the Engineering Design Study and for construction of the cleanup. Required public review and comment on the permits and substantive conditions will be provided.

3. PROJECT SCHEDULE

Deliverables	Date Due
PR/OPG submits: – Draft Remedial Design Work Plan	30 days after effective date of Consent Decree
PR/OPG submits: – Final Remedial Design Work Plan	30 days after PR/OPG receives Ecology's final comments on Draft Remedial Design Work Plan
PR/OPG submits: – Draft Engineering Design Report – Draft Plans/Specifications – Draft CQAP – Draft OMMP	As set forth in the Ecology-approved Final Remedial Design Work Plan
PR/OPG submits: – Final Engineering Design Report – Final Plans/Specifications – Final CQAP – Revised Draft OMMP	60 days after PR/OPG receives Ecology's final comments on Draft Engineering Design Report, Plans/Specifications, CQAP, and OMMP

Deliverables	**Date Due**
Construction Schedule	As set forth in the Ecology-approved Final Engineering Design Report
PR/OPG implements institutional controls	90 days after construction is complete
PR/OPG submits: – Draft Cleanup Action Report – Draft Final OMMP	90 days after construction is complete
PR/OPG submits: – Final Cleanup Action Report – Final OMMP	30 days after PR/OPG receives Ecology's final comments on Draft Cleanup Action Report and Draft Final OMMP
PR/OPG submits: – Progress Reports	In accordance with Consent Decree