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STATE OF WASHINGTON
SKAGIT COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

PORT OF ANACORTES, a municipal corporation,

Defendant.

NO. 14 2 01249 0

CONSENT DECREE

FORMER SHELL OIL TANK FARM
ANACORTES, WASHINGTON

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I. INTRODUCTION

A. The mutual objective of the State of Washington, Department of Ecology (Ecology) and the Port of Anacortes (Port) under this Decree is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Decree requires the Port to perform the cleanup action described in the Cleanup Action Plan attached hereto as Exhibit B.

B. Ecology has determined that these actions are necessary to protect human health and the environment.

C. The Complaint in this action is being filed simultaneously with this Decree. An Answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the Parties wish to resolve the issues raised by Ecology's Complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and in the public interest, and that entry of this Decree is the most appropriate means of resolving these matters.

D. By signing this Decree, the Parties agree to its entry and agree to be bound by its terms.

E. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under this Decree.

F. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts; provided, however, that the Port shall not challenge the authority of the Attorney General and Ecology to enforce this Decree.

G. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown:

Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:

II. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the Parties pursuant to the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

B. Authority is conferred upon the Washington State Attorney General by RCW 70.105D.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if, after public notice and any required hearing, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. RCW 70.105D.040(4)(b) requires that such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

C. Ecology has determined that a release or threatened release of hazardous substances has occurred at the Site that is the subject of this Decree.

D. Ecology has given notice to the Port of Ecology's determination that the Port is a PLP for the Site, as required by RCW 70.105D.020(21) and WAC 173-340-500.

E. The actions to be taken pursuant to this Decree are necessary to protect public health and the environment.

F. This Decree has been subject to public notice and comment.

G. Ecology finds that this Decree will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70.105D.030(2)(e) and Chapter 173-340 WAC.

H. The Port has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under MTCA.

III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties to this Decree, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with this Decree. The Port agrees to undertake all actions required by the terms and

conditions of this Decree. No change in ownership or corporate status shall alter the Port's responsibility under this Decree. The Port shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Decree.

IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70.105D.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as the Former Shell Oil Tank Farm Site and is generally located between 13th and 14th Streets east of Commercial Avenue in Anacortes, Washington. The Site is more particularly described in the Site Diagram (Exhibit A). The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology and the Port of Anacortes.

C. The Port: Refers to the Port of Anacortes.

D. Consent Decree or Decree: Refers to this Consent Decree and each of the exhibits to this Decree. All exhibits are integral and enforceable parts of this Consent Decree. The terms "Consent Decree" or "Decree" shall include all exhibits to this Consent Decree.

E. Remedial Construction: Refers to the phase of the cleanup when soil excavation, site grading and other active remedial measures are being implemented.

V. FINDINGS OF FACTS

Ecology makes the following findings of fact without any express or implied admissions of such facts by the Port.

A. The Site is located in Anacortes, Washington, and consists of approximately one acre. The Site is bounded by 13th and 14th Streets and Q Avenue. A diagram of the Site is attached as Exhibit A.

B. In 1929 the Site, which was previously part of the Fidalgo Bay tidelands, was filled to its current grade. The Port acquired the Site that same year and in 1930 leased the Site to Shell. Between approximately 1930 and 1987, the Site was used by Shell and various other bulk product distributors as a bulk fuel storage and distribution facility. The facility featured a pump house, a fill stand used to dispense petroleum products, both above-ground and underground storage tanks, and associated piping. The facility was supplied with fuel via pipelines connected to a dock to the east of the Site at which supply barges containing petroleum were offloaded to tanks located on the upland. The petroleum products were then distributed from the tanks by truck. The facility primarily handled gasoline and diesel. Bulk fuel storage and distribution operations ended in 1987 and the facility was decommissioned, including (reportedly) removal of all tanks, and associated piping and structures. Since 1987 the Site has been used by the Port as a gravel parking lot for vehicles and boat trailers.

C. A series of environmental investigations, beginning in 1987, has documented subsurface petroleum contamination in soil. The earliest investigation (in 1987) documented observations of surface petroleum contamination. Investigations also documented exceedances of polycyclic aromatic hydrocarbons (PAHs), benzene and cadmium in soil. Investigations in 1987 and 2005 documented petroleum exceedances in groundwater, however 2012 groundwater sampling showed no exceedances of groundwater screening levels.

D. The contaminants of concern at the Site that exceed MTCA cleanup levels are petroleum hydrocarbons, PAHs, benzene and cadmium in soil. Ecology has assigned the Site an overall priority ranking of three (3) pursuant to MTCA.

E. As documented in the Cleanup Action Plan (CAP) (Exhibit B), the cleanup action to be implemented at the Site includes the excavation and off-site disposal of approximately 3,000 cubic yards of contaminated soil, placement of oxygen-releasing material in the excavation area, prior to backfilling, to promote biological degradation of remaining petroleum contamination, and containment of inaccessible areas of soil contamination located

beneath the street and sidewalk surfaces of 14th Street and Q Avenue. Environmental covenants, signage and other institutional controls will be utilized to ensure the effectiveness of the containment of the remaining contamination underneath the street and sidewalk surfaces of 14th Street and Q Avenue.

VI. WORK TO BE PERFORMED

This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site.

A. The Port shall perform all tasks set forth in the Cleanup Action Plan (CAP) (attached as Exhibit B) and implement the CAP in accordance with the schedule set forth in Exhibit C. The CAP requires:

1. Excavation of approximately 4,000 in-place cubic yards of contaminated soil within the readily accessible portions of the Site.

2. Obtain confirmation soil samples during remedial excavation activities to verify the successful removal of contaminants and document soil conditions at the property boundary.

3. Transport and dispose of contaminated soil to approved disposal facilities

4. Backfill excavated areas with clean soil. During backfilling activities, an oxygen releasing material will be placed in lifts throughout the saturated and/or smear zone of the backfill to stimulate naturally occurring microbes to enhance biological degradation of organic contaminants remaining in-place.

5. Utilize existing engineering controls to contain contamination and mitigate risk of direct human/terrestrial wildlife contact with contaminated soil.

6. Monitor groundwater to confirm that the concentrations of gasoline-, diesel- and heavy oil-range petroleum hydrocarbons, cPAHs, VOCs (benzene) and metals (chromium) do not exceed groundwater cleanup levels.

7. Establish environmental covenants as necessary to restrict future development and control any future soil disturbance where contamination remains at the Site.

B. The Port agrees not to perform any remedial actions outside the scope of this Decree unless the Parties agree to modify the Cleanup Action Plan (Exhibit B) to cover these actions. All work conducted by the Port under this Decree shall be done in accordance with Chapter 173-340 WAC unless otherwise provided herein.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for Ecology is:

Nicholas M. Acklam
Toxics Cleanup Program
PO Box 47600, Olympia, WA 98504-7600
(360) 407-6913
E-mail: nack461@ecy.wa.gov

The project coordinator for the Port is:

Chris Johnson
Port of Anacortes
PO Box 297, Anacortes, WA 98221
(360) 293-3134
E-mail: johnson@portofanacortes.com

Each project coordinator shall be responsible for overseeing the implementation of this Decree. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and the Port and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff

contacts for all or portions of the implementation of the work to be performed required by this Decree.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

VIII. PERFORMANCE

All geologic and hydrogeologic work performed pursuant to this Decree shall be under the supervision and direction of a geologist or hydrogeologist licensed by the State of Washington or under the direct supervision of an engineer registered by the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Decree shall be under the direct supervision of a professional engineer registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Decree shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic, or engineering work shall be under the seal of an appropriately licensed professional as required by Chapters 18.220 and 18.43 RCW.

The Port shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

IX. ACCESS

Ecology or any Ecology authorized representative shall have full authority to enter and freely move about all property at the Site that the Port either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation

logs, and contracts related to the work being performed pursuant to this Decree; reviewing the Port's progress in carrying out the terms of this Decree; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by the Port. The Port shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by the Port where remedial activities or investigations will be performed pursuant to this Decree. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by the Port unless an emergency prevents such notice. All Parties who access the Site pursuant to this section shall comply with any applicable health and safety plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

With respect to the implementation of this Decree, the Port shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section XI (Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, the Port shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by the Port pursuant to the implementation of this Decree. The Port shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow the Port and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under

Section IX (Access), Ecology shall notify the Port prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

XI. PROGRESS REPORTS

The Port shall submit to Ecology written monthly Progress Reports that describe the actions taken during the previous month to implement the requirements of this Decree. The Progress Reports shall include the following:

A. A list of on-site activities that have taken place during the month;

B. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests;

C. Description of all deviations from the Cleanup Action Plan and Schedule (Exhibits B and C) during the current month and any planned deviations in the upcoming month;

D. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule;

E. All raw data (including laboratory analyses) received by the Port during the past month and an identification of the source of the sample; and

F. A list of deliverables for the upcoming month if different from the schedule.

G. At the conclusion of Remedial Construction the Port shall reduce the frequency of Progress Reports from monthly to quarterly to coincide with conformational groundwater monitoring.

All Progress Reports shall be submitted by the tenth (10th) day of the month in which they are due after the effective date of this Decree. Unless otherwise specified, Progress

Reports and any other documents submitted pursuant to this Decree shall be sent by certified mail, return receipt requested, to Ecology's project coordinator.

XII. RETENTION OF RECORDS

During the pendency of this Decree, and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXVIII (Duration of Decree), the Port shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, the Port shall make all records available to Ecology and allow access for review within a reasonable time.

Nothing in this Decree is intended by the Port to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product privilege and/or the attorney-client privilege. If the Port withholds any requested records based on an assertion of privilege, the Port shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

XIII. TRANSFER OF INTEREST IN PROPERTY

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by the Port without provision for continued operation and maintenance of any containment system, treatment system, and/or monitoring system installed or implemented pursuant to this Decree.

Prior to the Port's transfer of any interest in all or any portion of the Site, and during the effective period of this Decree, the Port shall provide a copy of this Decree to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, the Port shall notify Ecology of said transfer. Upon transfer of any interest, the Port shall notify all transferees of the restrictions on the activities

and uses of the property under this Decree and incorporate any such use restrictions into the transfer documents.

XIV. RESOLUTION OF DISPUTES

A. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under Section XXIV (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

1. Upon receipt of Ecology's project coordinator's written decision, or the itemized billing statement, the Port has fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision or itemized statement.

2. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.

3. The Port may then request regional management review of the decision. This request shall be submitted in writing to the Toxics Cleanup Program Land & Aquatic Lands Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

4. Ecology's Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of the Port's request for review.

5. If the Port finds Ecology's Section Manager's decision unacceptable, the Port may then request final management review of the decision. This request shall be submitted in writing to the Toxics Cleanup Program Manager within seven (7) days of receipt of the Section Manager's decision.

6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of the Port's request for review of the Section Manager's decision. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's final written decision is unacceptable to the Port, the Port has the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event the Port presents an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review.

C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the dispute resolution process in bad faith or for purposes of delay, the other party may seek sanctions.

D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

XV. AMENDMENT OF DECREE

The project coordinators may agree to minor changes to the work to be performed without formally amending this Decree. Minor changes will be documented in writing by Ecology.

Substantial changes to the work to be performed shall require formal amendment of this Decree. This Decree may only be formally amended by a written stipulation among the Parties that is entered by the Court, or by order of the Court. Such amendment shall become effective

upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any party.

The Port shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to the Decree is a substantial change, Ecology will provide public notice and opportunity for comment. Reasons for the disapproval of a proposed amendment to the Decree shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XIV (Resolution of Disputes).

XVI. EXTENSION OF SCHEDULE

A. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

1. The deadline that is sought to be extended;

2. The length of the extension sought;

3. The reason(s) for the extension; and

4. Any related deadline or schedule that would be affected if the extension were granted.

B. The burden shall be on the Port to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

1. Circumstances beyond the reasonable control and despite the due diligence of the Port including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by the Port;

2. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or

3. Endangerment as described in Section XVII (Endangerment).

However, neither increased costs of performance of the terms of this Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of the Port.

C. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give the Port written notification of any extensions granted pursuant to this Decree. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is granted.

D. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

1. Delays in the issuance of a necessary permit which was applied for in a timely manner;

2. Other circumstances deemed exceptional or extraordinary by Ecology; or

3. Endangerment as described in Section XVII (Endangerment).

XVII. ENDANGERMENT

In the event Ecology determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, Ecology may direct the Port to cease such activities for such period of time as it deems necessary to abate the danger. The Port shall immediately comply with such direction.

In the event the Port determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, the Port may cease such activities. The Port shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction, the Port shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with the Port's cessation of activities, it may direct the Port to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this section, the Port's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended, in accordance with Section XVI (Extension of Schedule), for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Decree shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

XVIII. COVENANT NOT TO SUE

A. Covenant Not to Sue: In consideration of the Port's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against the Port regarding the release or threatened release of hazardous substances covered by this Decree.

This Decree covers only the Site specifically identified in the Site Diagram (Exhibit A) and those hazardous substances that Ecology knows are located at the Site as of the date of entry of this Decree. This Decree does not cover any other hazardous substance or area. Ecology retains all of its authority relative to any substance or area not covered by this Decree.

This Covenant Not to Sue shall have no applicability whatsoever to:

1. Criminal liability;

2. Liability for damages to natural resources; and

3. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

If factors not known at the time of entry of this Decree are discovered and present a previously unknown threat to human health or the environment, the Court shall amend this Covenant Not to Sue.

B. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against the Port to require it to perform additional remedial actions at the Site and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050 under the following circumstances:

1. Upon the Port's failure to meet the requirements of this Decree, including, but not limited to, failure of the remedial action to meet the cleanup standards identified in the Cleanup Action Plan (CAP) (Exhibit B);

2. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment;

3. Upon the availability of new information regarding factors previously unknown to Ecology, including the nature or quantity of hazardous substances at the Site, and Ecology's determination, in light of this information, that further remedial action is necessary at the Site to protect human health or the environment; or

4. Upon Ecology's determination that additional remedial actions are necessary to achieve cleanup standards within the reasonable restoration time frame set forth in the CAP.

C. Except in the case of an emergency, prior to instituting legal or administrative action against the Port pursuant to this section, Ecology shall provide the Port with fifteen (15) calendar days notice of such action.

XIX. CONTRIBUTION PROTECTION

With regard to claims for contribution against the Port, the Parties agree that the Port is entitled to protection against claims for contribution for matters addressed in this Decree as provided by RCW 70.105D.040(4)(d).

XX. LAND USE RESTRICTIONS

In consultation with Ecology, the Port shall prepare the Environmental (Restrictive) Covenant consistent with WAC 173-340-440 and Chapter 64.70 RCW. After approval by Ecology, the Port shall record the Environmental (Restrictive) Covenant with the office of the Skagit County Auditor within ten (10) days of the completion of Remedial Construction required by the CAP. The Environmental (Restrictive) Covenant shall restrict future activities and uses of the Site. The Port shall provide Ecology with a copy of the recorded Environmental (Restrictive) Covenant within thirty (30) days of the recording date.

XXI. FINANCIAL ASSURANCES

Pursuant to WAC 173-340-440(11), the Port shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with the operation and maintenance of the remedial action at the Site, including institutional controls, compliance monitoring, and corrective measures.

Within sixty (60) days of the effective date of this Decree, the Port shall submit to Ecology for review and approval an estimate of the costs that it will incur in carrying out the terms of this Decree, including operation and maintenance, and compliance monitoring. Within sixty (60) days after Ecology approves the aforementioned cost estimate, the Port shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.

The Port shall adjust the financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:

A. Inflation, annually, within thirty (30) days of the anniversary date of the entry of this Decree; or if applicable, the modified anniversary date established in accordance with this section, or if applicable, ninety (90) days after the close of the Port's fiscal year if the financial test or corporate guarantee is used.

B. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the CAP that result in increases to the cost or expected duration of remedial actions. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified CAP will revise the anniversary date established under this section to become the date of issuance of such revised or modified CAP.

XXII. INDEMNIFICATION

The Port agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action (1) for death or injuries to persons, or (2) for loss or damage to property to the extent arising from or on account of acts or omissions of the Port, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, the Port shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

XXIII. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by the Port pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or other federal, state, or local requirements that the agency has determined are applicable and that are known at the time of entry of this Decree have been identified in the CAP (Exhibit B).

B. Pursuant to RCW 70.105D.090(1), the Port is exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, the Port shall 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, as they are known at the time of entry of this Decree, have been identified in the CAP (Exhibit B).

The Port has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree. In the event either Ecology or the Port determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of this determination. Ecology shall determine whether Ecology or the Port shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the Port shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by the Port and on how the Port must meet those requirements. Ecology shall inform the Port in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. The Port shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the state to administer any federal law, the exemption shall not apply and the Port

shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

XXIV. REMEDIAL ACTION COSTS

The Port shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Decree preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). Ecology has accumulated $3,588.01 in remedial action costs related to this facility as of October 31. 2013. Payment for this amount shall be submitted within thirty (30) days of the effective date of this Decree. For all costs incurred subsequent to October 31, 2013, the Port shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 70.105D.055, Ecology has authority to recover unreimbursed remedial action costs by filing a lien against real property subject to the remedial actions.

XXV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that the Port has failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to the Port, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of

the remedial action because of the Port's failure to comply with its obligations under this Decree, the Port shall reimburse Ecology for the costs of doing such work in accordance with Section XXIV (Remedial Action Costs), provided that the Port is not obligated under this section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Decree.

Except where necessary to abate an emergency situation, the Port shall not perform any remedial actions at the Site outside those remedial actions required by this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV (Amendment of Decree).

XXVI. PERIODIC REVIEW

As remedial action, including groundwater monitoring and soil containment, continues at the Site, the Parties agree to review the progress of remedial action at the Site, and to review the data accumulated as a result of monitoring the Site as often as is necessary and appropriate under the circumstances. At least every five (5) years after the initiation of cleanup action at the Site the Parties shall meet to discuss the status of the Site and the need, if any, for further remedial action at the Site. At least ninety (90) days prior to each periodic review, the Port shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Ecology reserves the right to require further remedial action at the Site under appropriate circumstances. This provision shall remain in effect for the duration of this Decree.

XXVII. PUBLIC PARTICIPATION

A Public Participation Plan (Exhibit D) is required for this Site. Ecology shall review any existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment Ecology shall maintain the responsibility for public participation at the Site. However, the Port shall cooperate with Ecology, and shall:

A. If agreed to by Ecology, develop appropriate mailing lists, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments. Likewise, Ecology shall notify the Port prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by the Port that do not receive prior Ecology approval, the Port shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

C. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter.

D. When requested by Ecology, arrange and/or continue information repositories at the following locations:

1. Anacortes Public Library
   1220 10th Street
   Anacortes, WA 98221

2. Washington Department of Ecology
   Headquarters Office
   300 Desmond Drive
   Lacey, WA 98503

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in these repositories. A copy of all documents

related to this Site shall be maintained in the repository at Ecology's Headquarters Office in Lacey, Washington.

XXVIII. DURATION OF DECREE

The remedial program required pursuant to this Decree shall be maintained and continued until the Port has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section XVIII (Covenant Not to Sue) and Section XIX (Contribution Protection) shall survive.

XXIX. CLAIMS AGAINST THE STATE

The Port hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the State of Washington or any of its agencies; and further, that the Port will make no claim against the State Toxics Control Account or any local Toxics Control Account for any costs incurred in implementing this Decree. Except as provided above, however, the Port expressly reserves its right to seek to recover any costs incurred in implementing this Decree from any other PLP. This section does not limit or address funding that may be provided under Chapter 173-322 WAC.

XXX. EFFECTIVE DATE

This Decree is effective upon the date it is entered by the Court.

XXXI. WITHDRAWAL OF CONSENT

If the Court withholds or withdraws its consent to this Decree, it shall be null and void at the option of any party and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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Attorney General

ATTORNEY GENERAL OF WASHINGTON
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Date: 7-9-14

PORT OF ANACORTES

ROBERT W. HYDE
Executive Director
(360) 293-3134

Date: 6-18-2014

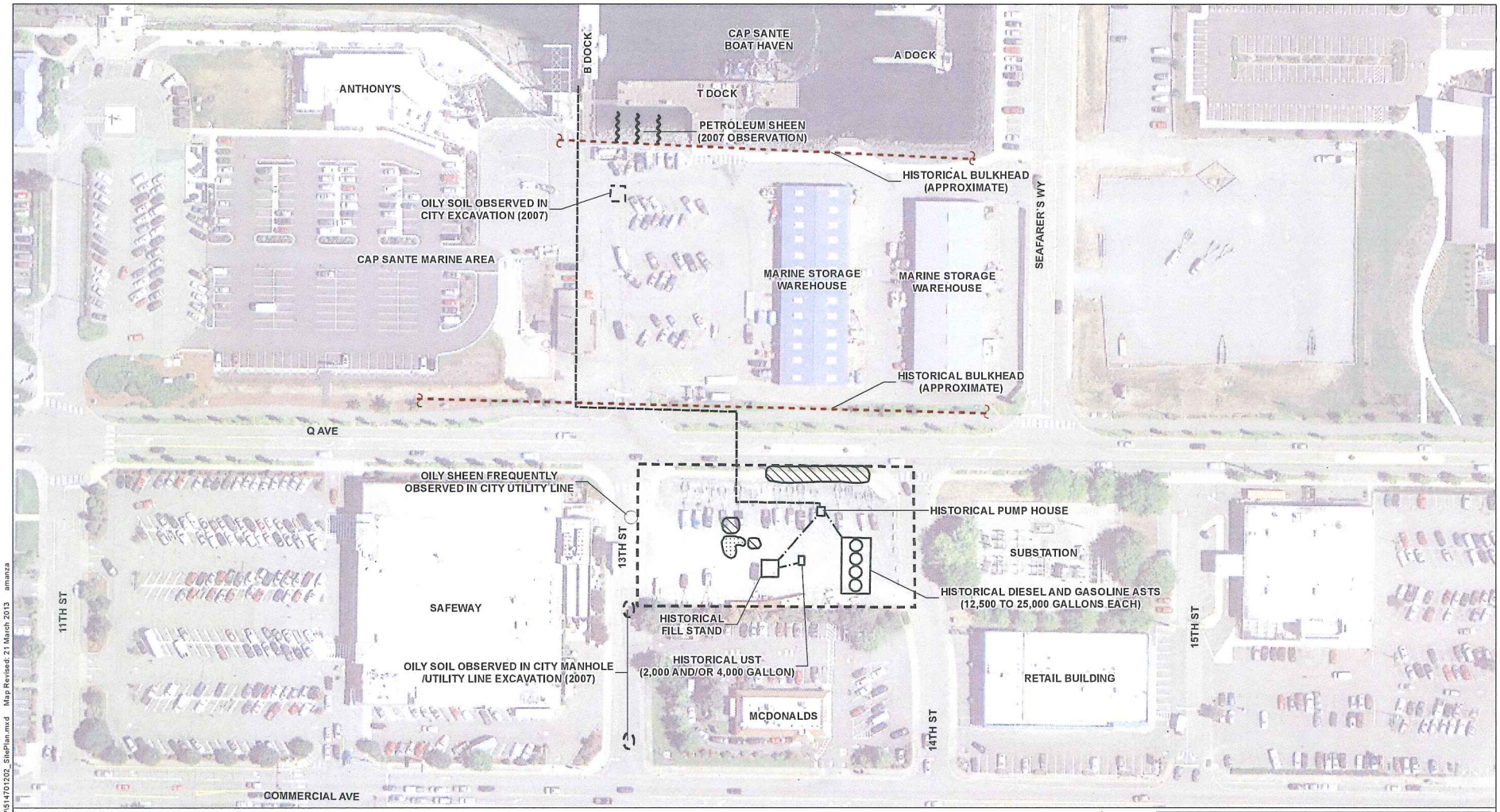
JUL 14 2014

ENTERED this _____ day of _____ 20____.

SUSAN K. COOK

JUDGE
Skagit County Superior Court

EXHIBIT A



Notes:
1. AST = Above Ground Storage Tank, UST = Underground Storage Tank
2. The locations of all features shown are approximate.
3. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Roads from Skagit County. Point, line and polygon features digitized from figures 5.1 and 6.1 of November 2006 and Figure 2 of September 2005 by Floyd Snider. Imagery date: 2011.

Legend

- Former Shell Oil Tank Farm
- Historical Features
- Surface Oil (1987 Observation)
- White Powder (1987 Observation)
- Historical Fuel Supply Line
- Historical Product Line

100 0 100
Feet

Site Diagram

Former Shell Oil Tank Farm Site
Anacortes, Washington

Exhibit A

Path: \\sea\projects\SIS\147012\GIS\DOCAPIS147012_SitePlan.mxd Map Revised: 21 March 2013 amanza

EXHIBIT B

CLEANUP ACTION PLAN (CAP)

FORMER SHELL OIL TANK FARM SITE
ANACORTES, WASHINGTON

WASHINGTON STATE DEPARTMENT OF ECOLOGY

TOXICS CLEANUP PROGRAM

LACEY, WASHINGTON

February 3, 2014

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ARAR	Applicable or relevant and appropriate requirement
bgs	Below ground surface
CAP	Cleanup Action Plan
CFR	Code of Federal Regulations
COCs	Chemicals of concern
cPAHs	Carcinogenic polycyclic aromatic hydrocarbons
CSM	Conceptual Site Model
CWA	Clean Water Act
DCA	Disproportionate cost analysis
DMMP	Dredged Material Management Program
Ecology	Washington State Department of Ecology
FS	Feasibility Study
ft	Feet
GeoEngineers	GeoEngineers Inc.
HPA	Hydraulic Project Approval
mg/kg	Milligram per kilogram
mg/L	Milligrams per liter
MLLW	Mean lower low water
MTCA	Model Toxics Control Act
NWP	Nationwide Permit
PAHs	Polycyclic aromatic hydrocarbons
PLP	Potentially liable parties
Port	Port of Anacortes
RCW	Revised Code of Washington
RI	Remedial Investigation
RI/FS	Remedial investigation/feasibility study
SEPA	State Environmental Policy Act
TCLP	Toxicity characteristic leaching procedure
TEE	Terrestrial Ecological Evaluation
TEQ	Toxicity equivalent
TPH	Total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
UST	Underground Storage Tank
WAC	Washington Administrative Code

EXECUTIVE SUMMARY

This document presents the Cleanup Action Plan (CAP) for upland properties at the former Shell Oil Tank Farm Site (Site) generally located between 13th Street and 14th Street east of Commercial Avenue in Anacortes, Washington. This CAP was prepared as a collaborative effort by the Washington State Department of Ecology (Ecology) and the Port of Anacortes (Port) pursuant to an Agreed Order meeting the requirements of the Model Toxics Control Cleanup Act (MTCA) administered by Ecology under Chapter 173-340 of the Washington Administrative Code (WAC). This CAP describes Ecology's selected cleanup action for the Site and sets forth functional requirements that the cleanup must meet, including follow-up monitoring.

Site Background

The property was acquired by the Port in 1929 and in 1930, and was subsequently leased to the Shell Oil Company (Shell) who operated a bulk fuel storage and distribution facility. Fuel (primarily gasoline and diesel) was supplied to the facility from supply lines routed across Q Avenue from a historical fuel dock located within Fidalgo Bay. Prior to 1947, the fuel supply lines hung from a historical pier over the tide flats located east of Q Avenue bulkhead. In the late 1940s to early 1950s, the tide flats east of Q Avenue was filled with dredged material from the adjacent federal waterway behind a second bulkhead constructed near the current Fidalgo Bay shoreline. During this time, the hanging fuel lines were re-configured as underground lines. At the distribution facility, fuel was stored in above ground storage tanks (ASTs) and delivered to fuel trucks from a centrally located fill stand.

In 1987, bulk fuel storage and distribution operations ended and the facility was reportedly decommissioned, including removal of all tanks, and associated piping and structures. Currently, the area occupied by the former Shell Oil Tank Farm is generally flat, surfaced with crushed rock, and is used by the Port as a short-term parking lot for vehicles and boat trailers. The area east of Q Avenue is paved with asphalt and is used by the Port for boat launching and general parking.

Study Background

In 2013, a detailed Remedial Investigation (RI) and Feasibility Study (FS) were prepared by the Port under Ecology's direction. The RI utilized information about the history and environmental conditions of the Site gathered during prior investigations, supplemented with additional environmental investigations, to characterize the nature and extent of contamination. The RI identified petroleum hydrocarbons (gasoline, diesel and heavy oil), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), volatile organic compounds (benzene) and metals (cadmium) in soil at concentrations above preliminary cleanup levels. The 2012 RI groundwater sampling and analysis showed that there are no contaminants exceeding the preliminary cleanup levels at the Site.

The FS developed and evaluated cleanup action alternatives for addressing contamination identified at the Site.

Cleanup Action Plan Overview

Based on the findings of the RI/FS Ecology and the Port prepared this CAP, which provides the following:

- Identifies cleanup levels for soil and groundwater;
- Recommends cleanup actions to achieve these cleanup levels from the options identified in the RI/FS, and describes these actions;
- Presents a schedule to carry out the cleanup; and
- Identifies monitoring activities to demonstrate the effectiveness of the cleanup action.

The following actions are proposed to address soil contamination at the Site:

- Excavate approximately 4,000 in-place cubic yards (cy) of contaminated soil within the readily accessible portion of the Site (i.e., gravel surface within the former Shell Oil Tank Farm) using commonly available excavation techniques. Existing infrastructure (utilities, sidewalks and roads) will remain undisturbed and protected in-place during construction.
- Obtain confirmation soil samples during remedial excavation activities to verify the successful removal of contaminants from within the accessible portion of the Site and document soil conditions at the property boundary.

- Transport and dispose contaminated soil to approved disposal facilities.
- Backfill excavated areas with clean soil. During backfilling activities, an oxygen releasing material will be placed in lifts throughout the saturated and/or smear zone of the backfill to stimulate naturally occurring microbes to enhance biological degradation of organic contaminants remaining in-place beneath the sidewalk and asphalt surfaces of the 14th Street and the Q Avenue.
- Utilize existing engineering controls such as protective concrete, asphalt and/or topsoil caps combined with institutional controls (environmental covenants, signage, and/or other notification measures) to contain contamination and mitigate risk of direct human/terrestrial wildlife contact with contaminated soil.
- Monitor groundwater to confirm that the concentrations of gasoline-, diesel- and heavy oil-range petroleum hydrocarbons, cPAHs, VOCs (benzene) and metals (chromium) do not exceed groundwater cleanup levels.
- Establish environmental covenants to restrict future development and control any future soil disturbance where contamination remains at the Site.

1.0 INTRODUCTION

This document presents the Cleanup Action Plan (CAP) for the former Shell Oil Tank Farm Site (Site), located in Anacortes, Washington (Figure 1). The Site is formally referenced in the Washington State Department of Ecology (Ecology) databases as the Former Shell Tank Farm (Ecology Facility/Site Identification No. 4781157) and is generally located between 13th Street and 14th Street east of Commercial Avenue in Anacortes, Washington (Figure 2). This CAP was prepared as a collaborative effort by Ecology and the Port of Anacortes (Port) pursuant to the requirements of the Model Toxics Control Cleanup Act (MTCA) administered by Ecology under Chapter 173-340-360 of the Washington Administrative Code (WAC). Ecology is managing the Site as part of the Fidalgo and Padilla Bay component to the Puget Sound Initiative.

This CAP provides a general description of the Site history and environmental conditions as well as the proposed site-wide cleanup action and sets forth functional requirements that the cleanup must meet to achieve the cleanup action objectives for the Site.

1.1 Regulatory Framework

In 2007, the Port entered into Agreed Order No. DE-08TCPHQ-5474 (Agreed Order; Ecology, 2008) with Ecology. Pursuant to the Agreed Order, the Port completed a RI/FS to evaluate cleanup alternatives for addressing identified contamination at the Site. The RI/FS, when approved by Ecology and this CAP will complete the Scope of Work requirements described in the Agreed Order.

1.2 Purpose

The purpose of this CAP is to:

- Describe the Site, including a summary of its history and extent of contamination;
- Identify site-specific cleanup levels and points of compliance for each hazardous substance and medium of concern;
- Identify applicable state and federal laws for the selected cleanup action;
- Identify and describe the selected cleanup action alternative for the Site;
- Summarize the other cleanup action alternatives evaluated in the RI/FS;
- Discuss environmental covenants and Site use restrictions;
- Discuss compliance monitoring requirements, and;
- Present the schedule for implementing the cleanup action plan.

2.0 SUMMARY OF SITE CONDITIONS

Several environmental investigations have been conducted at the Site, beginning with an initial soil investigation in 1987 (Hart Crowser, 1987), and culminating in the RI/FS completed in 2013 (GeoEngineers, 2013a). Environmental investigations completed at and/or adjacent to the Site include:

- Preliminary Environmental Site Assessment in 1987 (Hart Crowser, 1987);
- Limited Due Diligence Investigation in 2005 (Floyd | Snider, 2005);
- Soil and groundwater investigation related to the Cap Sante Marine Site in 2007 (Landau, 2007a);
- Soil Characterization Study in 2007 (GeoEngineers, 2008), and,
- Soil and groundwater investigation related to the former Shell Oil Tank Farm Site in 2011 and 2012 (GeoEngineers, 2013b).

The results of these environmental investigations are presented in the RI/FS Report (GeoEngineers, 2013a) and provided sufficient information to allow the development and selection of an appropriate cleanup action for the Site. The media investigated as part of these studies included soil and groundwater. Environmental investigation sampling locations for soil and groundwater are shown on Figure 3.

The following sections summarize pertinent environmental conditions at the Site (i.e., nature and extent of contamination) and an overview of the Conceptual Site Model (CSM) for contamination of the Site. More detailed descriptions of Site conditions are provided in the Remedial Investigation/Feasibility Study Work Plan (Work Plan; GeoEngineers, 2009) and RI/FS Report.

2.1 Site History

The Tank Farm area was originally a portion of the Fidalgo Bay tide flats, which were filled to the current grade (up to the former bulkhead just east of Q Avenue shown in Figure 2) between 1925 and 1929. The property was acquired by the Port in 1929 and leased to Shell Oil Company in 1930 for use as a bulk fuel storage and distribution facility that primarily handled gasoline and diesel-range fuels. Site facilities included three 25,000 gallon aboveground storage tanks (ASTs) that contained and gasoline and diesel, product lines that connected the ASTs and pump house to a historical pier

located east of the Site across Q Avenue, and a 2,000 gallon underground storage tank (UST). Historically, gasoline and diesel were pumped from the pier to the bulk fuel facility for storage and distribution to various distributors. In the 1950s, two additional 12,500 gallon ASTs were installed at the Site and the 2,000 gallon UST was reportedly replaced with a 4,000 gallon UST. Gasoline, diesel and stove oil were reportedly stored in the ASTs and dry cleaning solvent was stored in the UST.

Prior to 1947, the area east of Q Avenue (east of the former Tank Farm) consisted of tide flats (GeoEngineers, 2008b) and from 1930 to approximately 1947, the historic fuel supply lines hung from joists below the fuel pier. In the late 1940s to early 1950s, the area east of Q Avenue was filled with dredged material from the adjacent federal waterway behind a second bulkhead constructed near the current shore of Fidalgo Bay. During the filling activities in the late 1940s and early 1950s, the fuel supply lines east of Q Avenue were reportedly re-configured as underground lines.

The Site was operated by shell and various bulk product distributors as a bulk fuel storage facility until 1987 at which time operations ceased and the facility reportedly decommissioned, including removal of all tanks, associated piping, and structures. At this time, an unknown volume of soil was excavated from one or more of the areas in which surface staining was observed. Currently, the former Shell Oil Tank Farm is used by the Port as a vehicle and boat trailer parking lot supporting the trailer boat launch facility located to the east of Cap Sante Boat Haven. The alignment of the historical fuel supply lines east of former Shell Oil Tank farm is across Q Avenue which serves as a major thoroughfare and truck route for the City of Anacortes (City) and an asphalt-paved road that provides access to the Former Cap Sante Marine Lease Area and Cap Sante Boat Haven.

The approximate locations of the historical facilities, including USTs, ASTs, fuel supply lines, and areas of observed surface staining are shown relative to the Site on Figures 2 and 3.

2.2 Area Redevelopment

The current and anticipated future use of the former Shell Oil Tank Farm is as a vehicle and boat trailer parking lot supporting the trailer boat launch facility located to the east of Cap Sante Boat Haven. Q Avenue serves as a major thoroughfare and truck route for the City. The alignment of the historic fuel supply lines east of Q Avenue is an asphalt-paved road that provides access to the Former Cap Sante Marine Lease Area and Cap Sante Boat Haven. There currently are no plans to change the uses of the Site for the foreseeable future.

2.3 Prior Environmental Investigations

Investigation activities were first conducted at the Site in 1987 to evaluate soil and groundwater conditions at the former Shell Oil Tank Farm (Hart Crowser, 1987). The findings of this investigation indicated the presence of petroleum-related contaminants in the central portion of the property. Subsequent subsurface investigations were conducted by Floyd|Snider and Landau on behalf of the Port in 2005 and 2007 to further evaluate the extent of soil and groundwater contamination in the vicinity of the former Shell Oil Tank Farm and historical fuel supply lines located to the east of the former Shell Tank Farm facilities (Floyd|Snider, 2005 and Landau, 2007, respectively). Under the Agreed Order, investigation activities were conducted by GeoEngineers on behalf of the Port in 2011 and 2012 to delineate the nature and extent of Site contamination.

Based on the results of these investigations, elevated concentrations of petroleum hydrocarbons, benzene, cPAHs, and cadmium were identified in soil in the eastern and southern portions of the former Shell Oil Tank Farm. In addition, historical sample results identified PAHs and petroleum hydrocarbons in soil east of the former Shell facility near the historical fuel supply lines. However, sampling results of the 2011 soil investigation indicate that the identified soil contamination east of Q Avenue in the vicinity of GEI-23, CSM-12, CSM-13, SB-13 and SB-14 is not associated with the Shell Site. Soil contamination in this area is determined to be the result of historical actions at the Cap Sante Marine Site which is subject to cleanup action by the Port under Consent Decree No. 9917.

2.4 Summary of Environmental Conditions

This section summarizes environmental conditions at the Shell Tank Farm Site for soil and groundwater media, based on the previous environmental studies completed at the Site. Further details and sources of the information presented in this section are provided in the RI/FS Report.

2.4.1 Soils

Subsurface geology at the Site consists of dredged fill material overlying native marine sediment (silt and silty sand) and glacial deposits. The dredged fill material generally consist of fine to medium sand with varying amounts of silt and gravel and extend from the ground surface to depths of approximately 5 feet to 12 feet below ground surface (bgs).

Based on the results of previous RI studies (Hart Crowser, 1987; Floyd|Snider, 2005; Landau, 2007; GeoEngineers, 2007 and GeoEngineers, 2013b), gasoline-, diesel- and heavy oil-range petroleum hydrocarbons, benzene, cPAHs, and/or cadmium are present in soil at the southern and eastern portions of the former Shell Oil Tank Farm. In general, two areas with petroleum hydrocarbons and benzene contamination were identified; one generally located in the central and eastern portions of the former Shell Oil Tank Farm which are believed to extend beneath Q Avenue, and other located in the southwestern corner of the former Shell Oil Tank Farm. Additionally, an isolated area of cPAH contamination was identified in the southern portion of the former Shell Oil Tank Farm which is believed to extend beneath 14th Street, and an isolated area of cadmium contamination was identified in the southwest corner of the former Shell Oil Tank Farm. Petroleum hydrocarbon and benzene contaminated soil is present between approximately 2.5 feet and 17 feet below ground surface (bgs), cPAHs contaminated soil is present between approximately 9 feet and 14 feet bgs, and cadmium contaminated soil is present between approximately 5 feet and 8 feet bgs. The approximate extent of the petroleum hydrocarbon, benzene, cPAH and cadmium contaminated soil is shown on Figure 4 and in geologic cross-section on Figures 5 and 6.

2.4.2 Groundwater

Three hydrogeologic units have been identified in the vicinity of the Site, including: (1) a shallow, unconfined aquifer occurring in the dredged fill; (2) a native silt confining unit; and (3) a deeper, confined aquifer. Measured depth to groundwater at the Site ranges from approximately 3 feet to 6 feet bgs (approximately elevation 6.5 to 9.5 feet mean lower low water [MLLW]). Observed groundwater flow direction is generally to the east toward Fidalgo Bay. Based on the results of tidal studies completed in the vicinity of the Site (i.e. Former Cap Sante Marine Lease Area; Landau, 2007), tidal influence on groundwater levels and flow direction at the Site appears to be limited with a 0.8-foot fluctuation in groundwater levels in near shore wells during a high-low tide cycle. Measured fluctuation in groundwater levels away from the shore (approximately 100 to 200 feet) is on the order of approximately 0.1 foot.

Based on the results of the 1987 and 2005 investigations (Hart Crowser, 1987 and Floyd|Snider, 2005), elevated concentrations of lead and diesel-range petroleum hydrocarbons were identified in the central portion of the former Shell Oil Tank Farm in a grab sample collected from a temporary well. Subsequent groundwater samples collected from permanent monitoring wells (GeoEngineers, 2013b) indicate that lead and diesel-range petroleum hydrocarbons as well as the other contaminants of concern (COCs) are not present in groundwater within and downgradient of the Site at concentrations exceeding preliminary groundwater cleanup levels.

2.5 Conceptual Site Model (CSM)

This section summarizes the conceptual model for the fate and transport of contamination at the Site as described in the RI/FS Report. The CSM also describes the contaminant exposure pathways identified for the Site and the potential risks posed to human health and the environment by hazardous and/or deleterious substances in soil and groundwater.

The Site was historically a tidal mudflat which was later in filled with dredge materials from the adjacent federal waterway. Previous Site use included operations to support

bulk fuel storage and distribution. Petroleum-related contamination at the Site was likely the result of releases associated with historical Site operations and uses. The source of the localized areas of cPAH and cadmium impacted soil at the Site is not known, but are either suspected to have been deposited during the 1940s and 1950s when the tide flat was in filled with dredge material or the result of historic Site operations. The approximate location of soil contamination at the Site is shown on Figure 4.

Vertical and horizontal transport of COCs in soil may have been facilitated by groundwater flow and water level fluctuations at the Site however, groundwater within and downgradient of the current petroleum hydrocarbon, benzene, cPAH and cadmium contaminated soil is not adversely impacted based on the results of recent groundwater samples obtained from the Site as discussed in Section 2.4.

Potential exposure pathways and receptors based on the current soil and groundwater conditions are summarized in the following section (Sections 2.5.1).

2.5.1 Soil

Potential upland soil exposure pathways at the Site include:

- Contact (dermal, incidental ingestion, or inhalation) by visitors, workers (including excavation workers), and potential future residents or other Site users with hazardous substances in soil;
- Contact (dermal, incidental ingestion, or inhalation) by terrestrial wildlife with hazardous substances in soil, and;
- Contact by terrestrial plants and soil biota and/or food-web exposure to hazardous substances in soil.

Site areas where COCs were detected in soils at concentrations above preliminary cleanup levels for protection of human and terrestrial ecological receptors are shown on Figure 4. Soil exceedances occur between approximately 2.5and 17 ft bgs in the central and eastern portion of the former Shell Oil Tank Farm and are believed to extend beneath portions of Q Avenue. In the southern

portion of the former Shell Oil Tank Farm, soil exceedances occur between 5 and 14 ft bgs and are believed to extend beneath portions of 14th Street.

2.5.2 Groundwater

Because COCs were not detected in monitoring wells located within and/or downgradient of the identified soil exceedances at concentrations above levels protective of marine surface water, groundwater is not a media of concern.

3.0 CLEANUP REQUIREMENTS

The MTCA cleanup regulations provide that a cleanup action must comply with cleanup levels for identified COPCs, points of compliance, and applicable or relevant and appropriate requirements (ARARs) based on federal and state laws (WAC 173-340-710). The Site cleanup levels, points of compliance, and ARARs for the selected cleanup remedy are briefly summarized in the following sections.

3.1 Human Health and Environmental Concerns

Because Site groundwater is not a current or reasonably likely future source of drinking water, cleanup levels for Site soil need not be protective of groundwater as drinking water. Additionally, an empirical demonstration presented in the RI/FS verified that existing chemical concentrations in Site soils are protective of groundwater and marine surface water receptors.

3.1.1 Future Land Use Considerations

Soil cleanup levels for unrestricted land use were developed in accordance with WAC 173-340-740. The Site is currently zoned Commercial (C), which provides for a mix of commercial and recreational uses. Currently there are no plans to change the uses of the Site in the foreseeable future. Because the Site is not zoned for industrial use, soil cleanup levels were developed based on unrestricted land use, including the more stringent MTCA Method B cleanup levels that assume ground floor residential land use (WAC 173 340 740[3]).

3.1.2 Ecological Risk Considerations

A terrestrial ecological evaluation (TEE) was performed for the Site and is presented in the RI/FS Report. Because the Site is not located on or directly adjacent to a native or semi-native management area, threatened or endangered species are not present, threatened or sensitive plant species classified by the Washington State Department of Natural Resource are not present; there is less than ten acres of native vegetation within 500 feet of the Site, and there has been no determination that the Site may present a risk to significant wildlife populations, the Site qualified for a Simplified TEE. Results of the Simplified TEE exposure analysis (Table 749-1) indicated that the Site does not have a

substantial potential for posing a threat of significant adverse effects to terrestrial ecological receptors, therefore the Site is removed from further ecological consideration.

3.2 Indicator Hazardous Substances

Under MTCA, "indicator hazardous substances" means the subset of hazardous substances present at a Site for monitoring and analysis during any phase of remedial action for the purpose of characterizing the Site or establishing cleanup requirements for that Site. As outlined in Section 2.5, the list of COCs (hazardous and/or deleterious substances) identified at the Site includes:

- Gasoline-range petroleum hydrocarbons;
- Diesel- and heavy oil-range petroleum hydrocarbons;
- Benzene;
- Cadmium, and;
- cPAHs.

Indicator hazardous substances selected by Ecology for the Site include all of the above COCs.

3.3 Cleanup Levels

Cleanup standards consist of 1) cleanup levels that are protective of human health and the environment; and 2) the point of compliance at which the cleanup levels must be met. Preliminary site-specific cleanup standards were developed in the RI/FS and detailed information regarding the derivation of cleanup levels can be found in the RI/FS Report. Because COCs were detected in soil at concentrations exceeding preliminary soil cleanup levels, soil is a media of concern. However, because COCs were not detected in monitoring wells located within and/or downgradient of the identified soil exceedances at concentrations above levels protective of marine surface water, groundwater is not a media of concern. Site-specific Soil cleanup levels are summarized below.

3.3.1 Soil

Cleanup levels for soil indicator hazardous substances used in this CAP are presented in Table 1. These cleanup levels were developed as part of the Ecology-approved Work Plan and are based on MTCA Method A values for unrestricted land use, MTCA Method B standard formula values for the protection of human health and MTCA Method B soil concentrations protective of groundwater calculated using Ecology's fixed-parameter, three-phase partitioning model (MTCASGL Workbook; WAC173-340-747[4][b]). Preliminary soil cleanup levels developed for the Work Plan considered:

- Concentrations established under applicable state and federal laws;
- Concentrations protective of terrestrial ecological receptors;
- Concentrations protective of direct human contact with soil;
- Concentrations protective of groundwater, and;
- Concentrations protective of marine surface water.

Details regarding the sources/derivation of each of the regulatory criteria are provided in the Work Plan. Because the Site does not have a substantial potential for posing a threat of significant adverse effects to terrestrial ecological receptors as described in Section 3.1.2, cleanup levels protective of ecological receptors were not considered when developing soil cleanup levels. In addition, natural background soil metals concentrations in Washington State (Ecology, 1994) were considered in accordance with (WAC) 173-340-705(6) and WAC 173-340-709 where the lowest applicable regulatory criteria, adjusted for natural background metals concentrations, were selected as the soil cleanup levels.

3.4 Points of Compliance

Under MTCA, the point of compliance is the point or location on a site where the cleanup levels must be attained. This section describes the points of compliance for impacted media.

3.4.1 Soil

The standard point of compliance for the soil cleanup levels summarized in Table 1 will be throughout the soil column from the ground surface to 15 ft bgs, in accordance with WAC 173-340-740(6)(d) and WAC 173-340-7490(4)(b).

3.5 Applicable Regulatory Requirements

In addition to the cleanup standards developed through the MTCA process and presented in Section 3.3, other regulatory requirements must be considered in the selection and implementation of the cleanup action. MTCA requires the cleanup standards to 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 (WAC 173-340-710). Applicable or Relevant and Appropriate Requirements (ARARs) identified for the Site are presented in Table 2.

4.0 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTION

This section summarizes the results of the development and evaluation of remedial action alternatives performed in the RI/FS.

4.1 Remedial Alternatives Considered

A range of potential cleanup action alternatives were evaluated in the RI/FS report (GeoEngineers, 2013a). The process of developing remedial alternatives for evaluation involved screening applicable remediation technologies for inclusion in a reasonable set of complete remedial action alternatives. Each remedial action alternative addresses the contaminated media present at the Site. The screening and assembly of remedial technologies resulted in four complete remedial action alternatives that were evaluated in the RI/FS Report. The four remedial alternatives are listed below and described in more detail in Table 3.

- Alternative 1 – Engineering and Institutional Controls;
- Alternative 2 – In-Situ Soil Treatment;
- Alternative 3 – Partial Removal with In-Situ Soil Treatment, and;
- Alternative 4 – Complete Removal.

4.2 Evaluation Methodology

The four remedial alternatives (Alternatives 1 through 4) developed in the FS were evaluated in accordance with the process outlined in MTCA. The RI/FS Report presents a detailed screening evaluation of potentially applicable general response actions and remediation technologies. The screening evaluation was carried out for each of the environmental media requiring cleanup action evaluation. During the development of the RI/FS, cleanup action alternatives were developed by assembling the technologies that were carried forward from this screening evaluation.

As a first step, the alternatives were evaluated with respect to the threshold requirements. Remedial action alternatives that do not comply with the threshold requirements are not considered suitable cleanup actions under MTCA. As provided in WAC 173-340-360(2)(a), the four threshold requirements for cleanup actions are:

- Protect human health and the environment;
- Comply with cleanup standards;

- Comply with applicable state and federal laws; and
- Provide for compliance monitoring.

The MTCA disproportionate cost analysis (DCA) is used to evaluate which of the alternatives that meet MTCA threshold requirements are permanent to the maximum extent practicable. This analysis compares the relative benefits and costs of cleanup alternatives in selecting the alternative whose incremental cost is not disproportionate to the incremental benefits. Seven criteria are used in the disproportionate cost analysis as specified in WAC 173-340-360(2) and (3) include:

- Protectiveness
- Permanence
- Cost
- Long-Term Effectiveness
- Management of Short-Term Risks
- Implementability
- Consideration of Public Concerns

The comparison of benefits relative to costs may be quantitative, but will often be qualitative. Costs are disproportionate to the benefits if the incremental costs of a more permanent alternative exceed the incremental degree of benefits achieved by a lower-cost alternative (WAC 173-340-360[3][e][i]). When two or more alternatives are equal in benefits, Ecology shall select the less costly alternative (WAC 173-340-360[3][e][ii][C]).

The comparison of benefits relative to costs may be quantitative or qualitative based on the availability of quantitative data, such as mass of contaminants removed, estimated areas that will be contained, and volume of contaminated soils remaining on the Site. However, the benefits for some of the categories will be qualitative. For this reason, Ecology's analysis of which alternative is permanent to the maximum extent practicable is largely qualitative. The MTCA regulation allows Ecology to use best professional judgment to assess benefits qualitatively, and use its discretion to favor or disfavor qualitative benefits and use that information in selecting a cleanup action (WAC 173-340-360 [3][e][ii][C]). In order to document Ecology's qualitative analysis for the Site, Ecology assigned weighing factors to each of the six non-cost benefits criteria.

The weighting factors represent Ecology's opinion on the importance of each benefit criterion at the Site, relative to protection of human health and the environment. The factors weighed for each of the criteria are briefly discussed in the following sections and are presented in Tables 4 and 5.

4.2.1 Protectiveness

The overall protectiveness of a cleanup action alternative is evaluated based on several factors, including the extent to which human health and the environment are protected and the degree to which overall risk at a site is reduced (WAC 173-340-360[3][f][i]). Both on-site and off-site reductions in risk resulting from implementing the alternative are considered. Protectiveness is determined by evaluating the degree of improvement in overall environmental quality. At this Site, Ecology believes a weighting factor of 30 percent is appropriate for protectiveness. This represents the greatest value of all categories and is necessary based on the overall importance of protection of human health and the environment, especially in relation to Ecology's goal of restoring the health of Puget Sound.

4.2.2 Permanence

Under MTCA, the permanence of an alternative is evaluated based on the degree to which the remedy permanently reduces the toxicity, mobility, or mass of hazardous substances, including the effectiveness of the alternative in destroying hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment processes, and the characteristics and quantity of treatment residuals generated (WAC 173-340-360[3][f][ii]). Based on the importance of the restoration of Puget Sound, Ecology believes this factor to be second only to protectiveness in importance and used a weighting factor of 20 percent for this evaluation criterion.

4.2.3 Cost

The analysis of cleanup action alternative costs under MTCA includes consideration of all costs associated with implementing an alternative, including

design, construction, confirmational monitoring, and environmental covenants (WAC 173-340-360[3][f][iii]). Costs are intended to be comparable among different alternatives to assist in the overall analysis of relative costs and benefits of the alternatives. Costs are compared against benefits to assess cost-effectiveness and practicability of the cleanup action alternatives. No weighting factor is applied to this quantitative category, as costs are compared against the numeric analysis.

4.2.4 Long-Term Effectiveness

Long-term effectiveness expresses the degree of certainty that the alternative will be successful in maintaining compliance with cleanup standards over the long-term (WAC 173-340-360[3][f][iv]). The MTCA regulations contain a specific preference ranking for different types of technologies that is to be considered as part of the comparative analysis. The ranking places the highest preference on technologies such as reuse/recycling, treatment, immobilization/solidification, and disposal in an engineered, lined, and monitored facility. Lower preference rankings are applied to technologies such as on-site isolation/containment with attendant engineered controls, and environmental covenants and monitoring. The regulations recognize that, in most cases, the selected cleanup remedy will combine multiple technologies. The MTCA preference ranking must be considered along with other site-specific factors in the evaluation of long-term effectiveness. Ecology considers a weighting for this factor of 20 percent to be appropriate at this Site.

4.2.5 Management of Short-term Risks

This criterion is a measure of the relative magnitude and complexity of actions required to maintain protection of human health and the environment during implementation of the cleanup action (WAC 173-340-360[3][f][v]). Cleanup actions carry short-term risks, such as potential mobilization of contaminants during construction, or safety risks typical of large construction projects. Excavation of contaminated soils along the shoreline carries a risk of temporary water quality degradation and potential sediment recontamination. Some short-term risks can be managed through the use of best management practices during

the project design and construction, while other risks are inherent to certain project alternatives. A weighting factor of 10 percent is being used for this Site. This lower rating is based on the limited timeframe associated with the risks and the general ability to modify any alternative to reduce short-term risks during construction without significant effect on human health and the environment.

4.2.6 Implementability

Implementability is the ability to implement the selected remedy. It measures the overall relative difficulty and uncertainty of implementing the cleanup action. It includes technical factors such as the availability of proven technologies and experienced contractors to accomplish the cleanup work (WAC 173-340-360[3][f][vi]). It also includes administrative factors associated with permitting and completing the cleanup. The weighting factor Ecology used for implementability is 10 percent. Implementability is less associated with the primary goal of the cleanup action, protection of human health and the environment, and therefore has a lower weighting factor. In addition, the issues associated with the implementability of a remedy are often duplicated in the remedy costs. Engineering design considerations are often of primary importance in this category and often refined during the development of the engineering design report.

4.2.7 Consideration of Public Concerns

The public involvement process under MTCA is used to identify potential public concerns regarding cleanup action alternatives (WAC 173-340-360[3][f][vi]). The extent to which an alternative addresses those concerns is considered as part of the remedy selection process. This includes concerns raised by individuals, community groups, local governments, tribes, federal and state agencies, and other organizations that may have an interest in or knowledge of the Site. A weighting factor of 10 percent is being used for the evaluation of this category. The public concerns voiced during the public involvement process can also be included in the other categories identified above such as protectiveness and long-term effectiveness. Public concerns that can be incorporated into alternative categories are more appropriately considered in the scoring of those other

categories. In particular, the public concerns for this Site would generally be associated with environmental concerns and performance of the cleanup action, which are addressed under other criteria such as protectiveness and permanence.

4.3 Evaluation and Comparison of the Cleanup Action Alternatives

The evaluation of remedial alternatives performed in the FS showed that all four alternatives met the MTCA threshold requirements and warranted inclusion in the DCA evaluation process. The evaluation of disproportionate cost is based on a comparative analysis of costs against the six MTCA evaluation criteria identified above. Relative rankings of each alternative for these criteria using a numeric scoring scale of 1 (lowest) to 10 (highest) are summarized in Table 4. Table 5 summarizes how each alternative scored with respect to each of the DCA criterion and presents the estimated cost for each of the alternatives. Figure 7 presents the results of the alternative scores according to the DCA criteria and how the relative benefit corresponds to the relative cost of each alternative. The conclusions of DCA evaluation are summarized in the following sections.

4.3.1 Protectiveness

Alternatives 3 and to a lesser degree, Alternative 2 are less protective than Alternative 4. Alternative 4 is the most protective because it removes all contaminated soils to the maximum extent practicable. Alternative 3 has a lower ranking than Alternative 4 due to the lower degree of contaminant mass removal. Alternative 2 has a lower ranking than Alternative 3 due to uncertainty in short-term and long-term risks associated with in-situ treatment technologies. Alternative 1 is the least protective of each of the alternatives evaluated because contamination would remain in place at the Site following implementation.

4.3.2 Permanence

Alternative 4 achieves the highest level of performance relative to other three alternatives, since it includes the removal of soil contamination to the maximum extent practicable. Alternative 3 has a lower ranking than Alternative 4 due to the lower degree of contaminant mass removal. Alternative 2 has a lower ranking than Alternative 3 due to uncertainty in short-term and long-term risks

associated with in-situ treatment technologies. Alternative 1 is the least permanent of each of the alternatives evaluated because contamination would remain in place at the Site following implementation.

4.3.3 Long-Term Effectiveness

Alternative 4 achieves a higher degree of long-term effectiveness than the other three alternatives as a result of the greater amount of contaminated removed under that alternative. Alternative 2 and 3 have lower rankings than Alternative 4 either due to the lower degree of immediate contaminant mass removal and uncertainty in short-term and long-term risks associated with in-situ treatment technologies and like Alternative 1, Alternatives 2 and 3 might eventually rely on use of institutional controls to reduce the risk to human health and the environment from the residual contamination left in place.

4.3.4 Management of Short Term-Risks

Alternative 1 receives the highest ranking due to the lack of construction activities involved in completing the components of the alternative (i.e., capping components are already in place). Alternative 3 and to a lesser degree, Alternative 2 have lower rankings than Alternative 1 either due to the uncertainty associated with in-situ treatment technologies or the level of Site disturbance that would be required. Alternative 4 has the lowest ranking due to the high level of Site disturbance that would be required (i.e., elective structure modification of the surface roads and buried utilities to access contaminated soil).

4.3.5 Implementability

The lowest score for implementability was assigned to Alternative 4. This is as a result of the high degree of Site disturbance that would be required to implement this alternative, and the design and coordination associated with shoring and rerouting of utilities in adjacent rights-of-way. Alternative 2 receives a slightly higher ranking due to the lesser degree of Site disturbance and uncertainty associated with in-situ treatment technologies (i.e., potential for multiple rounds of treatment to achieve the cleanup objectives). Alternatives 1 and 3 both receive

the highest ranking either due to the lack of construction activities involved in completing the components of the alternative (i.e., capping components are already in place) as with Alternative 1 or by excavation of a large volume of easily assessable contaminated soil utilizing standard excavation methods.

4.3.6 Consideration of Public Comments

Alternative 4 may result in concerns by the public and nearby property owners resulting from the temporary closure and rerouting of surface streets and buried utilities. However, closure and rerouting of surface streets and buried utilities would be on a short term basis. Alternative 3 would result in immediate contaminant mass removal without the temporary closure and rerouting of surface streets and buried utilities. Subsequently, Alternatives 3 and 4 are ranked equally. Because Alternative 2 requires the injection of strong surfactants and/or oxidation products in the vicinity of marine surface water which lead to public concern, Alterative 2 ranks lower than Alternatives 3 and 4. Alternative 1 has the lowest ranking due to long term public concern resulting from leaving contamination in place.

4.3.7 Reasonable Restoration Time Frame

The restoration time pertains to the time required to meet cleanup levels. The restoration time for all three alternatives is in the order of 1 to 3 years. This includes project design, permitting, construction, and closure activities. Alternatives 1 through 3 would leave residual contamination in place requiring confirmational monitoring and consequently could extend the duration of time for monitoring to confirm that cleanup levels are being maintained.

4.4 Overall Comparison of Remedy Costs and Benefits

Table 5 and Figure 7 summarize costs and remedy benefits for each alternative. The estimated costs of the alternatives range from $400,000 to 4.1 million. The RI/FS Report presents detailed cost estimates for the alternatives. These costs are expressed in 2012 dollars without adjustment to future cost inflation and without present value discount of future costs. The probable remedy costs are expected to vary with a range of +50 percent to -30 percent.

Using the MTCA DCA methodology, the alternatives were evaluated to determine which cleanup action provided the greatest benefits relative to cost. The calculated benefits integrate the rankings for each evaluation criterion discussed above, multiplied by the weighting within that category and summed to reach the benefits total. The calculated benefits using the categorical weighting factors are presented in Table 5 and summarized below:

- Alternative 1: The benefit ranking for Alternative 1 is 4.2 (out of 10) and has an estimated cleanup cost of $400,000.
- Alternative 2: The benefit ranking for Alternative 2 is 6.5 (out of 10) and has an estimated cleanup cost of $2,120,000.
- Alternative 3: The benefit ranking for Alternative 3 is 7.8 (out of 10) and has an estimated cleanup cost of $3,000,000.
- Alternative 4: The benefit ranking for Alternative 4 is 8.6 (out of 10) and has an estimated cleanup cost of $4,130,000.

The relatively high ranking of Alternative 4, in comparison to Alternatives 3 and 2, is due to the higher level of contaminant mass removal achieved through excavation and disposal of contaminated soil. Alternative 3 has a slightly lower ranking than Alternative 4 due to the lower degree of contaminant mass removal. Alternative 2 has a lower ranking than Alternative 3 due to the uncertainty in short-term and long-term risks associated with in-situ treatment technologies. Alternative 1 involves the lowest degree of removal or treatment and so is scored lower relative to the other alternatives evaluated given the potential short- and long-term risks associated with leaving the contaminant mass in place. However, the marginal gains in protectiveness and permanence resulting from Alternative 4 are determined to be disproportionately more costly given the higher potential for short-term risks and greater complexities related to implementability in comparison to Alternative 3. As a result, Alternative 3 is the alternative with the highest overall ranking. In addition, Alternative 3 minimizes disturbances to infrastructure and operations while providing a high level of calculated ranking and high degree of environmental benefits for the unit of incremental cost while still remaining practical.

5.0 SELECTED SITE CLEANUP ACTION

Based on the comparative analysis presented in the FS, the selected remedial action alternative for the Site is Remedial Alternative 3. This alternative for the Site relies on the existing empirical data that groundwater located downgradient of the impacted soils is not adversely impacted (i.e., does not exceed MTCA cleanup levels) by the presence of the identified contamination. The selected alternative (Alternative 3) reduces risk to potential human and ecological receptors through:

- Removal of contaminated soil within the readily accessible portion of the Site (i.e., gravel surface within the former Shell Oil Tank Farm) exceeding soil cleanup levels;
- Placement of a chemical reagent within the backfill to enhance attenuation of petroleum-related compounds in the less accessible portions of the Site (i.e., beneath the sidewalk and asphalt surfaces of the Q Avenue and the 14th Street);
- Utilizes existing engineering controls such as concrete and asphalt surfaces isolate remaining soil contamination at the Site from human and ecological receptors;
- Monitoring of groundwater to confirm plume stability and attenuation performance, and;
- Implementation of institutional controls (Environmental Covenant).

The following sections provide additional detail on the preferred remedial action alternative.

5.1 Excavation and Off-Site Disposal of Contaminated Soil

Soil in which concentrations of petroleum hydrocarbons, benzene, cadmium and cPAHs will be excavated within the portion of the Site that is readily accessible (i.e., gravel surface within the former Shell Oil Tank Farm) and transported from the Site for disposal at a permitted landfill facility. Based on the results of previous environmental investigations, approximately 1,000 in-place cubic yards of overburden soil will be excavated to access approximately 3,000 in-place cubic yards of contaminated soil (approximately 75% of the total volume) within the readily accessible portion of the Site using commonly available excavation techniques. Due to insufficient space to cost effectively segregate, stockpile and test the overburden soil for reuse and geotechnically unsuitable nature of the material (i.e., high silt content), all excavated soil will be transported from the Site for permitted disposal. During remedial excavation activities existing utility infrastructure (power, phone, sewer, water, etc.) will remain undisturbed

and protected in-place. In addition, excavation slopes and/or shoring will be required to protect adjacent utilities, sidewalks and roads.

Soil generated by the remedial excavation will be transported from the Site to an approved landfill facility for permitted disposal. Landfill disposal authorization will be obtained using the chemical analytical results from previous environmental studies. Chemical analytical results from previous RI studies indicate that soil generated from the Site will designate as non-dangerous and will be suitable for disposal at a Subtitle D landfill.

During backfilling activities, an oxygen releasing material will be placed in lifts throughout the saturated and/or smear zone to stimulate naturally occurring microbes to enhance biological degradation of organic contaminants remaining in-place beneath the sidewalk and asphalt surfaces of the 14th Street and the Q Avenue. Treatment of organic contaminants in these inaccessible portions of the Site will rely on groundwater as a transport mechanism to carry the chemical reagent and/or to expand the zone of bioremediation conditions beyond the limits of remedial excavation.

5.2 Contamination Remaining On-Site Following Remedy

The selected cleanup action for the Site is expected to remove a significant amount of contamination from the Site while causing minimal disturbance to existing infrastructure (roads, sidewalks and utilities). Following completion of the cleanup action, contamination is believed to remain in-place beneath portions of 14th Street and Q Avenue at concentrations exceeding the soil cleanup levels.

As described above, the selected cleanup alternative relies on utilizing existing engineering controls (i.e., asphalt and concrete surfaces) for the purpose of removing exposure pathways. Areas in which residual soil contamination remains in-place will continue to be addressed through the use of confirmational groundwater monitoring and environmental covenants as described in Sections 5.3 and 5.6, respectively. The areas where contaminated soil is believed to remain in-place include:

- Q Avenue Right-of-Way – Soil contaminated with petroleum hydrocarbons and benzene is believed to underlie existing utility infrastructure including buried

power, phone and water lines as well as concrete and asphalt paved surfaces. The contaminated soil at this location is between approximately 1 and 13 feet bgs based on data collected from previous environmental studies. Soil samples will be obtained during the remedial excavation to characterize the nature and extent of remaining contamination at this location. Soil sampling activities are further discussed in Section 5.3.

- 14th Street Right-of-Way – Soil contaminated with cPAHs is believed to underlie existing utility infrastructure including buried power, phone and water lines as well as concrete and asphalt paved surfaces. The contaminated soil at this location is between approximately 10 and 14 feet bgs based on data collected from previous environmental studies. Soil samples will be obtained during the remedial excavation to characterize the nature and extent of remaining contamination at this location. Soil sampling activities are further discussed in Section 5.3.

Section 5.6 below discusses environmental covenants required for the portions of the Site where contaminated soil exceeding cleanup levels (Table 1) remains in place.

5.3 Compliance Monitoring

Compliance monitoring and contingency responses (as needed) will be implemented in accordance with WAC 173-340-410, Compliance Monitoring Requirements. Detailed requirements will be described in the Compliance Monitoring Plan (CMP) to be prepared as a part of the remedial design. The objective of the CMP is to confirm that cleanup standards have been achieved, and also to confirm the long-term effectiveness of cleanup actions at the Site. The plan 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:

- **Protection Monitoring** to confirm that human health and the environment are adequately protected during the implementation of the cleanup action;
- **Performance Monitoring** to confirm that the cleanup action has attained cleanup standards and other performance standards; and

- **Confirmation Monitoring** to confirm the long-term effectiveness of the cleanup action once performance standards have been attained.

Compliance monitoring activities are described in Sections 5.3.1 through 5.3.3 below.

5.3.1 Protection Monitoring

Protection monitoring will include monitoring of worker health and safety and environmental protection practices such as stormwater, erosion, and sediment controls. The purpose of protection monitoring is to confirm that human health and the environment are adequately protected during the cleanup action. Personnel engaged in work that involves hazardous material excavation and handling shall comply with the provisions of WAC 173-340-810 (MTCA Cleanup Regulation, Worker Safety and Health) and be HAZWOPER, OSHA, and WISHA certified. In addition, spill prevention and pollution control (SPCC) measures will be implemented and maintained throughout the duration of the cleanup action including all necessary stormwater management, surface water runoff control, temporary erosion and sediment control measures to meet the substantive requirements of the applicable local, state and federal regulations.

5.3.2 Performance Monitoring

Performance monitoring will involve collecting soil samples from the base and sidewalls of the remedial excavation to confirm that the soil cleanup levels presented in Table 1 have been achieved and/or to document contaminant concentrations remaining at the Site. Performance monitoring activities will include the collection discrete grab samples from the final limits of the remedial excavations, with the sampling density appropriately tailored to the location and size of the excavation. The confirmatory soil samples will be submitted for analysis of indicator hazardous substances on a short turnaround to verify whether the final limits of the remedial excavation has been achieved or to document remaining contaminant mass at the Site in portions of the Site that are not accessible (i.e., beneath portions of 14th Street and Q Avenue).

5.3.3 Confirmation Monitoring

To verify that the selected cleanup action is protective of groundwater, existing and/or new monitoring wells will be installed at the Site and sampled for Site indicator hazardous substances. The exact number and location of the monitoring wells will be determined following the completion of remedial actions based on the final dimensions of the excavation area.

Groundwater will be sampled on a quarterly basis at each of the monitoring well locations (either retained or installed following remedial activities) for a minimum of four consecutive quarters. Groundwater samples will be analyzed indicator hazardous substances (see Table 1), including total and dissolved metals, gasoline-, diesel- and heavy oil-range hydrocarbons, VOCs (benzene) and PAHs to ensure that groundwater within and/or downgradient of areas in which contaminated soils remains in place meet the cleanup standards for the Site (see Table 1).

5.4 Contingency Actions

Groundwater monitoring will ensure that contaminated soils left in place do not pose a hazard to marine surface water through the soil to groundwater exposure pathway. Environmental investigations completed during the RI/FS demonstrated that groundwater within and/or downgradient of the contaminant plumes complies with the groundwater cleanup levels presented in Table 1, indicating that leaching of soil contaminants to groundwater is not an exposure pathway of concern. However, if contaminants exceed the cleanup levels in groundwater samples after four consecutive quarters of confirmational monitoring, semi-annual groundwater monitoring will be conducted for an additional two years. If the groundwater samples continue to exceed the groundwater cleanup levels after two years without abating, additional response actions will be considered.

5.5 Future Site Use

The selected cleanup action is compatible with future expected land use for by the Port and causes minimal disturbance to existing and surrounding property infrastructure, Site use and operations. The future expected land use of the property is as a vehicle and

boat trailer parking lot supporting the Cap Sante Boat Haven trailer boat launch facility located east of Q Avenue. The selected cleanup action allows for this expected future Site use.

5.6 Environmental Covenants

The selected cleanup action is anticipated to leave soil exceeding soil cleanup levels presented in Table 1 in place below portions of Q Avenue and 14th Street. While the contaminated soil will be isolated and will not pose a direct threat for exposure to human health and terrestrial ecological receptors, future development within areas of the remaining contaminated soil could potentially generate conditions requiring appropriate safe handling procedures, stormwater controls, and consideration of disposal options for the specific indicator hazardous substances and concentrations encountered.

Environmental covenants will be required for the portions of the Site where soil exceeding cleanup levels presented in Table 1 remain in place. The covenants will identify specific contaminated soil locations and depths that will require special management if disturbed, unless the soil contamination is removed at a later time. Soil management plans will be required instructing property owners of Ecology's requirements for performing invasive work in areas of remaining contaminated soil. The environmental covenants will be recorded following completion of excavation activities described in the CAP.

5.7 Potential Habitat Restoration Opportunities

Under the Puget Sound Initiative, MTCA cleanup actions are expected, where appropriate, to coincidentally enhance and/or restore habitat. Given the physical nature of the Site and that no critical habitat is present, habitat restoration opportunities have not been identified for the selected cleanup action.

6.0 IMPLEMENTATION OF THE CLEANUP ACTION

Consistent with Chapter 70.105D RCW, as implemented by Chapter 173-340 WAC (MTCA Cleanup Regulation), Ecology has determined that the selected Site cleanup action described in Section 5.0 of this CAP 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. The selected cleanup action will require development of remedial design documents, permit applications, and contract documents prior to construction. The following sections describe the necessary steps to construct the selected cleanup action.

6.1 Permits/Other Requirements

The remedial action will be conducted under a Consent Decree. The Consent Decree will be entered in Skagit County Superior Court, and will become effective once entered. Accordingly, the remedial action meets the permit exemption provisions of MTCA (WAC 173-340-710[9]), obviating the need to follow the procedural requirements of most federal, state and local laws that would otherwise apply to the action. The remedial action will, however, comply with the substantive requirements of the applicable federal, state and local laws presented in Table 2. The exemption is not applicable if Ecology determines that the exemption would result in the loss of approval from a federal agency that may be necessary for the state to administer any federal law. Permits and authorizations required to implement the selected cleanup action are discussed below.

6.1.1 Solid and Hazardous Waste Management

The Washington Hazardous Waste Management Act and the implementing regulations, the Dangerous Waste Regulations (Chapter 173-303 WAC), will apply if dangerous wastes are generated during the cleanup action. There is no indication of listed wastes will be generated or disposed of at the Site. The Dangerous Waste Regulations would be applicable only if excavation were to occur as part of the cleanup action and sampling of excavated material (e.g., toxicity characteristic leaching procedure [TCLP] sampling, if required by

the receiving landfill) or confirmation soil sampling indicated contaminant concentrations exceeding levels associated with dangerous waste characteristics or criteria. Related regulations include state and federal requirements for solid waste handling and disposal facilities (40 Code of Federal Regulations [CFR] 241, 257; Chapter 173-350 and -351 WAC) and land disposal restrictions (40 CFR 268; WAC 173-303-340).

Prior to the disposal of material generated by the selected cleanup action, landfill use authorizations will be obtained for the acceptance of this material to each receiving facility utilized.

6.1.2 State Environmental Policy Act

The State Environmental Policy Act (SEPA) (Revised Code of Washington [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. The SEPA process begins when an application for a permit is submitted to an agency, or an agency proposes to take some official action such as implementing a MTCA cleanup action. Prior to taking any action on a proposal, agencies must follow specific procedures to ensure that appropriate consideration has been given to the environment. The severity of potential environmental impacts associated with a project determines whether an Environmental Impact Statement is required.

A SEPA checklist will be prepared as part of the permitting process for the remedial action. The Port will be the lead SEPA agency for this action.

6.1.3 Water Quality Management

The Clean Water Act (CWA) is the primary federal law for protecting water quality from pollution. In addition to federal law, water quality is regulated by Ecology under the state water quality act, RCW 90.48. The CWA regulations prescribe requirements for point source and non-point source discharges. Section 401 of the CWA requires the state to certify that federal permits are consistent with state water quality standards. Because applicable provisions of

state water quality standards are reflected in the Section 401 certification, the certification generally stands in the stead of a stand-alone determination by Ecology of state water quality provisions applicable to the cleanup action. The substantive requirements of a certification determination are applicable. State and federal standards for marine waters will be applicable if there are any discharges to surface water during implementation of the cleanup action.

Construction activities that disturb one acre or more of land need to comply with the provisions of state construction stormwater regulations, and a stormwater permit will be required for the cleanup action (RCW 90.48.260; 40 CFR 122.26; Chapter 173-226 WAC).

6.1.4 Health and Safety

Site cleanup-related activities will need to be performed in accordance with the requirements of the Washington Industrial Safety and Health Act (RCW 49.17) and the federal Occupational Safety and Health Act (29 CFR 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.

6.2 Engineering Design Report

An Engineering Design Report will be prepared that includes construction plans and specifications that document the engineering concepts and design criteria for the remedial action to be performed at the Site. The information required under WAC 173-340-400(4)(a) will be included in the Engineering Design Report. The Engineering Design Report will include an Operations, Maintenance, and Monitoring Plan describing long-term operations, maintenance, and monitoring required following completion of remedial action construction. The Engineering Design Report will also include the proposed language of environmental covenants required to be implemented as institutional controls.

6.3 Construction Plans and Specifications

Construction plans and specifications will be prepared that detail the design criteria and construction requirements to perform the remedial actions at the Site. As required by

WAC 173-340-400(4)(b), the documents will include the following information, as applicable:

- A description of the work to be performed, and a summary of the engineering design criteria from the Engineering Design Report;
- A site location map and a map of existing conditions;
- A copy of applicable permit applications and/or approvals;
- Detailed plans, procedures, and specifications necessary for the remedial action;
- Specific quality control tests to be performed to document the construction, including specifications for testing or reference to specific testing methods, frequency of testing, acceptable results, and other documentation methods; and
- Provisions to ensure that the health and safety requirements of WAC 173-340-810 are met.

All aspects of construction will be performed and documented in accordance with WAC 173-340-400(6). These aspects include approval of all of the plans listed above prior to commencement of work, oversight of construction by a Professional Engineer licensed in the State of Washington, and submittal of a Construction Completion Report that documents all aspects of the cleanup and includes an opinion of the engineer as to whether the cleanup was conducted in substantial compliance with the CAP, the Engineering Design Report, and the Construction Plans and Specifications.

6.4 Anticipated Schedule for Design and Implementation

Preliminary design of the cleanup remedy and the selected cleanup action described in this CAP was initiated in April 2012 under Agreed Order DE-08TCPHQ-5474 between Ecology and the Port. Remedial actions are currently targeted to begin in the fall of 2014, subject to issuance of a Consent Decree. When completed, the Consent Decree will contain an outline of the schedule to complete selected cleanup action. The Consent Decree will be entered in Skagit County Superior Court, and will become effective once entered.

The anticipated schedule for implementation of the cleanup action includes the following:

- Draft Engineering Design Report – Submitted to Ecology for review within 60 days of the Consent Decree effective date.
- Final Engineering Design Report – Submitted to Ecology 45 days after receipt of comments from Ecology on the Draft Engineering Design Report.
- Draft Compliance Monitoring Plan – Submitted to Ecology for review within 60 days of the Consent Decree effective date.
- Final Compliance Monitoring Plan – Submitted to Ecology 45 days after receipt of comments from Ecology on the Draft Compliance Monitoring Plan.
- Cleanup Action Construction – Commence within 120 days of Ecology approval of the Final Engineering Design Report and Final Compliance Monitoring Plan, and estimated to occur over a period of 3 to 6 months beginning in the fall of 2014.
- Draft Construction Completion (As-Built) Report – Submitted to Ecology within 90 days of completion of cleanup action construction.
- Final Construction Completion (As-Built) Report – Submitted to Ecology 45 days after receipt of comments from Ecology on the Draft Construction Completion (As-Built) Report.

The cleanup action construction is tentatively planned to commence in the fall of 2014 to correspond to the Port's use of the property for short-term trailer storage during the boating season (i.e., spring and summer months). The cleanup action construction may be delayed with approval from Ecology.

7.0 FIVE-YEAR REVIEW

Because the cleanup action described in Section 5.0 will result in contamination remaining at the Site at concentrations exceeding Site cleanup levels, and because environmental covenants are included as part of the remedy, Ecology will review the selected cleanup action described in this CAP 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 the following:

- A review of the title of the real property subject to the environmental covenant to verify that the covenant is properly recorded;
- A review of available monitoring data to verify the effectiveness of completed cleanup actions, including engineered and institutional controls, in limiting exposure to hazardous substances remaining at the Site;

- A review of new scientific information for individual hazardous substances or mixtures present at the Site;
- A review of new applicable state and federal laws for hazardous substances present at the Site;
- A review of current and projected future land and resource uses at the Site;
- A review of the availability and practicability of more permanent remedies; and
- 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.

8.0 REFERENCES

Floyd | Snider, "Limited Environmental Due Diligence Investigation Report, Former Shell Oil Tank Farm, Cap Sante Marine Lease Area," prepared for the Port of Anacortes, November 8, 2005

GeoEngineers, Inc., "Independent Remedial Action Completion Report, Former Shell Tank Farm, Storm Drain Re-Route, 13th Street and Q Avenue, Anacortes, Washington," GEI File No. 5147-012-00 prepared for the Port of Anacortes, April 18, 2008.

GeoEngineers, Inc., "Work Plan, Remedial Investigation/Feasibility Study, Former Shell Oil Tank Farm," GEI File No. 5147-012-01 prepared for the Washington State Department of Ecology on behalf of Port of Anacortes, September 1, 2009.

GeoEngineers, Inc. (2013a), "Draft Remedial Investigation Data Report, Former Shell Tank Farm, Anacortes, Washington," GEI File No. 5147-012-02, prepared for the Washington State Department of Ecology on behalf of Port of Anacortes, January 17, 2013.

GeoEngineers, Inc. (2013b), "Draft Remedial Investigation/Feasibility Study, Former Shell Oil Tank Farm, Anacortes, Washington, Ecology Agreed Order No. DE-08TCPHQ-5474," GEI File No. 5147 012-02, prepared for the Washington State Department of Ecology on behalf of Port of Anacortes, January 17, 2013.

Hart Crowser & Associates, Inc., "Preliminary Environmental Site Assessment, Petroleum Bulk Storage Facility, Anacortes Washington," prepared for Port of Anacortes, May 27, 1987.

Landau Associates (2007a), "Work Plan, Remedial Investigation/Feasibility Study and Interim Action, Cap Sante Marine Lease Area, Anacortes, Washington," prepared for the Port of Anacortes, June 19, 2007.

Landau Associates (2007b), "Landau Associates, Investigation Data Report, Cap Sante Marine Lease Area, Anacortes, Washington," prepared for the Port of Anacortes, August 21, 2007.

Table 1

Cleanup Levels for Indicator Hazardous Substances

Former Shell Oil Tank Farm

Anacortes, Washington

Indicator Hazardous Substances	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (µg/L)
Petroleum Hydrocarbons		
Gasoline-Range	30/100[1]	800/1,000[2]
Diesel-Range	2,000	500
Heavy Oil-Range	2,000	500
Volatile Organic Compound (VOC)		
Benzene	0.13	23.00
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)		
Benzo(a)anthracene	0.13	0.02
Chrysene	0.14	0.02
Benzo(b)fluoranthene	0.43	0.02
Benzo(k)fluoranthene	0.43	0.018
Benzo(a)pyrene	0.137	0.018
Indeno(1,2,3-cd)pyrene	1.3	0.0
Dibenz(a,h)anthracene	0.65	0.018
Total cPAHs (TEQ)	0.137	0.100
Metals		
Cadmium	1.2	8.0

Notes:

[1]Cleanup level is 30 mg/kg when benzene is present.

[2]Cleanup level is 800 µg/L when benzene is present.

mg/kg = milligrams per kilogram

µg/L = microgram per liter

TEQ = toxicity equivalency

Table 2

Summary of Applicable or Relevant and Appropriate Requirements

Former Shell Oil Tank Farm

Anacortes, Washington

Standard, Requirement, Criterion, or Limitation	Citation	Description	ARAR
Federal			
Resource Conservation and Recovery Act (RCRA), Identification and Management of Hazardous Wastes	40 CFR 261 et seq.	Specifies how to determine whether a solid waste is considered hazardous (whether listed or based on characteristic) and how to manage hazardous wastes.	Relevant and appropriate (state is authorized for RCRA)
Hazardous Materials Transportation Act	49 USC 1801-1813 49 CFR 107, 171-177	Regulates the transportation of hazardous waste.	Applicable (if offsite disposal included in cleanup action).
Clean Air Act (CAA), National Ambient Air Quality Standards	42 USC 7401 et seq. 40 CFR 50	Provides air quality standards for six criteria pollutants, including particulate matter, to protect public health and welfare.	Applicable
Clean Water Act--National Pollution Discharge Elimination System (NPDES)	33 USC § 1342	Prohibits discharge of pollutants to waters of the U.S. without a permit issued by EPA or a delegated state agency. In the State of Washington, WDOE has delegated authority to issue NPDES permits, including Construction Stormwater General Permits. Construction Stormwater General Permits are required where a proposed project involving clearing, grading, or evacating may disturb one or more acres of land, and result in discharge of stormwater to surface waters of the State.	Substantive requirements, including substantive elements of a Construction Stormwater General Permit, are applicable for any point source discharge of pollutants to surface water, including stormwater runoff in the Site.
Endangered Species Act (ESA)	16 U.S.C. §§ 1531 – 1544 50 CFR Parts 17, 402	Provides for the protection of species of fish, wildlife, and plants that are listed as threatened or endangered with extinction. It also protects designated critical habitat for listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, including consultation with resource agencies.	Applicable to the site for listed and proposed to be listed threatened or endangered species and their habitat areas which will, or could, be impacted by cleanup action.

Standard, Requirement, Criterion, or Limitation	Citation	Description	ARAR
Fish and Wildlife Coordination Act	16 U.S.C. § 661 et seq	Requires that adequate provision must be made for the conservation, maintenance, and management of wildlife resources and habitat and requires consultation with the U.S. Fish and Wildlife service and appropriate state agencies.	Applicable to the site if listed threatened or endangered species habitat areas will, or could, be impacted by cleanup action.
Migratory Bird Treaty Act (MBTA)	16 USC § 703 et seq	Makes it unlawful to "hunt, take, capture, kill" or take various other actions adversely affecting a broad range of migratory birds, including tundra swans, hawks, falcons, songbirds, without prior approval by the U.S. Fish and Wildlife Service.	Applicable for protecting migratory bird species if identified. The selected response action must be carried out in a manner that avoids the taking of protected migratory bird species, including individual birds or their nests or eggs.
Federal Coastal Zone Management Act (CZMA)	16 USC 1451-1464 15 CFR 923-930	Requires that construction activities near the shoreline must be consistent with the State's Coastal Zone Management Program.	Applicable if construction is completed within 200 feet of the shoreline.
Archaeological Resources Protection Act	16 USC § 470aa et seq.; 43 CFR Part 7	Prohibits the unauthorized disturbance of archaeological resources on public or Indian lands. Archaeological resources are "any material remains of past human life and activities which are of archaeological interest," including pottery, baskets, tools, and human skeletal remains. The unauthorized removal of archaeological resources from public or Indian lands is prohibited without a permit, and any archaeological investigations at a site must be conducted by a professional archeologist.	Applicable for the conduct of any selected cleanup actions that may result in ground disturbance.
American Indian Religious Freedom Act	42 USC § 1996 et seq	The American Indian Religious Freedom Act and implementing regulations are intended to protect Native American religious, ceremonial, and burial sites, and the free practice of religions by Native American groups. The requirements of this Act must be followed if sacred sites graves are discovered in the course of ground-disturbing activities.	Potentially applicable to a site where response actions involve disturbance/alteration of the ground and/or site terrain.

Standard, Requirement, Criterion, or Limitation	Citation	Description	ARAR
Native American Graves Protection and Repatriation Act	25 USC § 3001 et seq 43 CFR Part 10 25 USC 3001 et seq. 43 CFR 10	Intended to protect Native American graves from desecration through the removal and trafficking of human remains and "cultural items" including funerary and sacred objects. The requirements of this Act must be followed when graves are discovered or ground-disturbing activities encounter Native American burial sites.	Potentially applicable to a site where response actions involve disturbance/ alteration of the ground and/or site terrain.
Occupational Safety and Health Act	29 CFR 1904, 1910, 1926	Specifies minimum requirements to maintain worker health and safety during hazardous waste operations, including training and construction safety requirements.	Appropriate
State of Washington			
State Environmental Policy Act (SEPA)	RCW 43.21C WAC 197-11 WAC 173-802	Prior to taking any action on a proposal, agencies must follow specific procedures to ensure that appropriate consideration has been given to the environment. The severity of potential environmental impacts associated with a project determines whether an Environmental Impact Statement is required.	Applicable (a SEPA checklist is required prior remedial construction activities).
Shoreline Management Act	RCW 90.58 WAC 173-27-060	Provides requirments for the development and management of shorelines of the state.	Substantive requirements are applicable for construction within 200 feet of the shoreline.
Model Toxics Control Act (MTCA), Cleanup Standards	WAC 173-340-700 through 173-340-760	Provides standards for cleanup of contamination in soils, surface water and groundwater.	Applicable
MTCA, Site Cleanup and Monitoring	WAC 173-340-400 through 173-340-440	Provides requirements for implementation of the cleanup action, compliance monitoring, periodic review, interim action and institutional controls.	Applicable
Washington Clean Air Act	RCW 70.94, 43.21A WAC 173-400	Requires all sources of air contaminants to meet emission standards for visible, particulate, fugitive, odors, and hazardous air emissions. Requires use of reasonably available control technology.	Substantive requirements are applicable for any response actions in the project area that may create fugitive dust or other regulated air emissions.
Puget Sound Clean Air Agency (PSCAA)	Regulation 1, Section 9.15.	Provides regulation for the visible emissions of fugitive dust and reasonable precautions that should be employed to minimize these emissions.	Substantive requirements are applicable for any response actions in the project area that may create fugitive dust or other regulated air emissions.

Standard, Requirement, Criterion, or Limitation	Citation	Description	ARAR
Hazardous Waste Management Act, Dangerous Waste Regulations	RCW 70.105 WAC 173-303	Governs handling and disposition of dangerous waste, including identification, accumulation, storage, transport, treatment, and disposal.	Substantive requirements are applicable handling, storage, and disposal of hazardous material.
Solid Waste Handling Standards	WAC 173-350 WAC 173-351	Regulates the handling and disposal of solid waste.	Applicable
Regulation and Licensing of Well Contractors and Operators	RCW 18.104 WAC 173-162-020 and -030	Provides regulation and licensing of well contractors and operators and for the regulation of well design and construction.	Applicable
City of Anacortes			
City of Anacortes land disturbance/grading permit	Chapter 17.54.090 Chapter 18.12	Provides the criterial or standards for the land clearing and grading.	Permit Exempt (the substantive requirements are applicable).
City of Anacortes noise ordinance	Chapter 17.54.010 Ordinance 2316 (part), 1994	Establishes noise levels and standerds.	Applicable
City of Anacortes Publicly Owned Treatment Water (POTW) discharge authorization	Chapert 13.40.060	Establishes the requirments and limitatoins for dishcarges to the POTW.	Permit Exempt (the substantive requirements are applicable).
City of Anacortes stormwater management program	Chapter 13.36 Chapert 17.54.050	Provides the necessary measures to control the quantity and quality of stormwater produced by new development and redevelopment such that they comply with water quality standards and contribute to the protection of beneficial uses of the receiving waters.	Applicable

Notes:

ARAR = Applicable or Relevant and Appropriate Requirement

CFR = Code of Federal Regulations

RCW = Revised Code of Washington

WAC = Washington Administrative Code

USC = United States Code

Table 3
Description of Cleanup Action Alternatives
Former Shell Oil Tank Farm
Anacortes, Washington

Contaminants of Concern	Matrix	Objective	Cleanup Action Alternative Components			
			Alternative 1 - Engineering and Institutional Controls	**Alternative 2 - In-Situ Soil Treatment**	**Alternative 3 - Partial Removal with In-Situ Soil Treatment**	**Alternative 4 - Complete Removal**
Gasoline-, Diesel-, Heavy Oil-Range Hydrocarbons, Benzene, cPAHs and Cadmium	Soil	■ Prevent direct human contact with soil containing contaminants exceeding proposed cleanup levels. ■ Prevent potential leaching/migration of soil contaminants into groundwater.	■ Leave in place soil with contaminant concentrations exceeding cleanup levels. ■ Maintain existing protective concrete, asphalt and/or soil surfaces isolating Site contaminants from human contact. ■ Monitor groundwater conditions quarterly for at least one year and annually (or as agreed upon with Ecology) for approximately ten years to evaluate contaminant concentrations, plume stability and natural attenuation performance. ■ Implement deed notifications to inform future owners of the presence of potentially hazardous substances at the Property and /or Implement deed restrictions to restrict certain specific site activities.	■ Maintain existing protective concrete, asphalt and/or soil surfaces outside of the in-situ treatment area to isolate Site contaminants from human contact. ■ Injection of a chemical oxidant and an oxygen releasing material to break down and/or enhance bioremediation/degradation of organic contaminants and/or immobilize inorganic contaminants. ■ Monitor groundwater conditions quarterly for at least one year following treatment and then annually (or as agreed upon with Ecology) for approximately ten years to evaluate contaminant concentrations, plume stability and natural attenuation performance. ■ Develop institutional controls in the form of environmental covenants, signage, and other notification measures to address any remaining contaminated soil remaining in place in areas of the Site following in-situ treatment.	■ Excavate contaminated soil within the property boundary to the extent practicable using commonly available excavation techniques. ■ Transport excavated soil to an approved landfill facility. ■ Protect or relocate existing utility infrastructure (power, phone, sewer, water, etc.) during construction. ■ Placement of an oxygen releasing material within backfill layers to enhances bioremediation/ degradation of organic contaminants remaining in-place in adjacent rights-or-way. ■ Monitor groundwater conditions quarterly for at least one year following treatment and then annually (or as agreed upon with Ecology) for approximately ten years to evaluate contaminant concentrations, plume stability and natural attenuation performance. ■ Develop institutional controls in the form of environmental covenants, signage, and other notification measures to address any remaining contaminated soil remaining in place in areas of the Site following remedial excavation and in-situ treatment.	■ Excavate contaminated soil using commonly available excavation techniques. ■ Transport excavated soil to an approved landfill facility. ■ Protect or relocate existing utility infrastructure (power, phone, sewer, water, etc.) during construction. ■ Reroute vehicular and pedestrian traffic around the Site during construction. ■ Backfill and restore the Site to current conditions.
Estimated Alternative Cost (+50%/-30%, rounded)[1]			$400,000	$2,120,000	$3,000,000	$4,130,000
Estimated Volume of Contaminated Soil Removed			0 Cubic Yards	0 Cubic Yards	4,500 In-Place Cubic Yards	9,000 In-Place Cubic Yards
Estimated Timeframe to Closure			5-10 Years	5-10 Years	5-10 Years	2-3 Years

Notes:
[1] Alternative cost estimates are presented in Appendix B.

Table 4

Evaluation of Cleanup Action Alternatives

Former Shell Oil Tank Farm

Anacortes, Washington

Evaluation Criteria	Alternative 1 - Engineering and Institutional Controls	Alternative 2 - In-Situ Soil Treatment	Alternative 3 - Partial Removal with In-Situ Soil Treatment	Alternative 4 - Complete Removal
Compliance with MTCA Threshold Criteria				
Protection of Human Health and the Environment	Yes - Alternative would protect human health and the environment through a combination of engineering and institutional controls.	Yes - Alternative would protect human health and the environment through a combination of engineering and institutional controls and soil treatment.	Yes - Alternative would protect human health and the environment through a combination of engineering and institutional controls, source removal and limited soil treatment.	Yes - Alternative would protect human health and the environment through complete source removal.
Compliance With Cleanup Standards	Yes - Alternative is expected to comply with cleanup standards. This alternative utilizes institutional controls to prevent exposure to contaminants in the subsurface. Compliance would rely on long-term monitoring and maintenance of institutional controls. Future development of property could potentially require additional environmental cleanup or special provisions.	Yes - Alternative is expected to comply with cleanup standards. This alternative utilizes in-situ soil treatment and institutional controls (if necessary) to prevent exposure to contaminants in the subsurface. Compliance would rely on verification soil sampling, long-term groundwater monitoring and maintenance of institutional controls. Future development of property could potentially require additional environmental cleanup or special provisions.	Yes - Alternative is expected to comply with cleanup standards. This alternative utilizes partial source removal, in-situ soil treatment and institutional controls (if necessary) to prevent exposure to contaminants. Compliance would rely on verification soil sampling, long-term groundwater monitoring and maintenance of institutional controls. Future development of property could potentially require additional environmental cleanup or special provisions.	Yes - Alternative is expected to comply with cleanup standards to the greatest extent practicable. All contaminant exceedance will be removed to the extent practical.
Compliance With Applicable State and Federal Regulations	Yes - Alternative complies with applicable state and federal regulations.	Yes - Alternative complies with applicable state and federal regulations.	Yes - Alternative complies with applicable state and federal regulations.	Yes - Alternative complies with applicable state and federal regulations.
Provision for Compliance Monitoring	Yes - Alternative includes provisions for compliance monitoring.	Yes - Alternative includes provisions for compliance monitoring.	Yes - Alternative includes provisions for compliance monitoring.	Yes - Alternative includes provisions for compliance monitoring.
Restoration Time Frame				
Restoration Time Frame	Restoration time frame is short. Primary cleanup action components have already been implemented. The time frame for long-term groundwater monitoring is unknown. Potential future maintenance of institutional controls will extend the restoration time frame of this alternative.	Restoration time frame is moderate. Primary cleanup action components have already been implemented. In-situ soil treatment is expected to achieve cleanup objectives in 3-5 years. The time frame for long-term monitoring is unknown and depends on the effectiveness of the treatment. Potential future maintenance of institutional controls may extend the restoration time frame of this alternative.	Restoration time frame is moderate. Primary cleanup action components have already been implemented. Partial source removal followed by in-situ soil treatment is expected to achieve cleanup objectives in 3-5 years. Potential future maintenance of institutional controls may extend the restoration time frame of this alternative.	Restoration time frame is short. Full source removal is expected to achieve cleanup objectives in 2-3 years
Relative Benefits Ranking (Scored from 1-lowest to 10-highest)				
Protectiveness	Score = 3 Achieves a moderate-low level of overall protectiveness as a result of institutional and engineering controls. Protectiveness would rely on maintenance of institutional and engineering controls to prevent exposure. Existing environmental risks are not significantly reduced.	Score = 7 Achieves a medium-high level of overall protectiveness as a result of in-situ soil treatment. However, this alternative would leave in place both organic and inorganic contaminants in soil, and protectiveness would rely on maintenance of institutional controls to prevent the overall exposure.	Score = 8 Achieves a medium-high level of overall protectiveness as a result of partial soil removal followed by in-situ soil treatment. However, this alternative would leave contaminants in soil, and overall protectiveness would rely on maintenance of institutional controls to prevent exposure.	Score = 10 Achieves a high level of overall protectiveness as a result of full source removal of the soil that poses risk to human and ecological receptors at the Site.

Evaluation Criteria	Alternative 1 - Engineering and Institutional Controls	Alternative 2 - In-Situ Soil Treatment	Alternative 3 - Partial Removal with In-Situ Soil Treatment	Alternative 4 - Complete Removal
Permanence	Score = 3 Achieves a medium-low level of permanence, primarily through the use of the paved road surfaces and soil cap. This alternative relies on natural attenuation methods to achieve a reduction of mass. Future development may require modification of the remedy.	Score = 7 Achieves a medium-high level of permanence through permanent reduction of toxicity and mobility of Site contaminants through the use of capping beneath paved surfaces, as with Alternative 1, and in-situ soil treatment within the property boundary. This alternative provides for reduction of mass in accessible portions of the Site. Inorganic contaminants would require maintenance of institutional controls to prevent exposure.	Score = 8 Achieves a medium-high level of permanence through permanent reduction of toxicity and mobility of Site contaminants through the removal and capping. This alternative provides for enhanced reduction of mass across the Site.	Score = 10 Achieves a high level of permanent reduction of mass, toxicity, and mobility of hazardous substances at the Site through soil excavation. This alternative would reduce to the extent feasible the need to perform additional actions.
Relative Benefits Ranking (Scored from 1-lowest to 10-highest) Continued				
Long-Term Effectiveness	Score = 3 This Alternative achieves a medium-low level of long-term effectiveness. The use of existing paved surfaced and soil cap provide for long-term reduction of risk to human health, but leaves soil at the Site exceeding cleanup levels. The use of institutional controls reduces the risk to human health and the environment from the residual contamination left in place. Future development may require modification of the remedy.	Score = 6 This Alternative achieves a medium level of long-term effectiveness. The use of in-situ soil treatment within the property boundary provides for long-term reduction of risk to human health and the environment. However, this alternative would leave in place inorganic contaminants in soil within the property boundary and in soil beneath the adjacent rights-of-way exceeding cleanup levels and potentially leave organic contaminants in place due to incomplete treatment. The use of institutional controls reduces the risk to human health and the environment from the residual contamination left in place. Future development may require modification of the remedy.	Score = 7 This Alternative achieves a medium level of long-term effectiveness. Source removal within the property boundary provides for immediate reduction of risk to human health and the environment and in-situ soil treatment allows for further reduction of contaminant mass over time.. However, this alternative leaves contamination in soil beneath the adjacent rights-of-way exceeding cleanup levels. The use of institutional controls reduces the risk to human health and the environment from the residual contamination left in place. Future development may require modification of the remedy.	Score = 10 Removes hazardous substances from the Site to the greatest degree feasible and utilizes approved off-site disposal facilities for final disposition.
Management of Short-Term Risks	Score = 10 Short-term risks are low with this alternative due to the lack of construction activities involved in completing the components of the alternative. The capping components are already in place.	Score = 5 Short-term risks are moderately-high with this alternative. The in-situ soil treatment included in this Alternative is not expected to pose significant risks to the public. However, may require multiple rounds of treatment to meet the cleanup objectives.	Score = 8 Short-term risks are moderately low with this alternative. The soil removal included in this Alternative involves is not expected to pose significant risks to the public.	Score = 4 Short-term risks associated with this alternative would be moderately high. This alternative involves selective structure modification of the surface roads and buried utilities to access contaminated soil.
Technical and Admin. Implementability	Score = 8 Readily implemented. No active cleanup activities required. Administrative implementability of institutional controls is high.	Score = 7 Moderate challenge to implement. No active cleanup activities required beyond the property boundary. Administrative implementability of institutional controls is high.	Score = 8 Moderate challenge to implement. No active cleanup activities required beyond the property boundary. Excavation of contaminated soil a large volume of soil, but utilizes standard excavation methods. Administrative implementability of institutional controls is high.	Score = 4 Difficult to implement due to the design and coordination associated with shoring and rerouting of utilities in adjacent rights-of-way. Cleanup alternative does not require development of institutional controls.
Consideration of Public Concerns	Score = 3 Residual contamination remaining in place could result in concerns by the public and nearby property owners.	Score = 6 Organic soil contamination within the property boundary is addressed by this Alternative. However, residual organic contaminants beneath the adjacent rights-of-way and inorganic contaminants (metals) within the property boundary following implementation of the cleanup action could result in concerns by the public and nearby property owners. In addition, use of an oxidation product in the vicinity of marine water may cause public concern. The remaining contaminated soil left in place would require maintenance of institutional controls and impose limitations on future use and development of the property.	Score = 8 Soil contamination within the property boundary is addressed by this Alternative. However, residual organic contaminants beneath the adjacent rights-of-way following implementation of the clean action could result in concerns by the public and nearby property owners. The remaining contaminated soil left in place would require maintenance of institutional controls and impose limitations on future use and development of the property.	Score = 8 Soil contamination would be removed to the extent practical under this alterative. Concerns by the public and nearby property owners could result from the temporary closure and rerouting of surface streets and buried utilities. However, closure and rerouting of surface streets and buried utilities would be on a short term basis.

Table 5

Summary of MTCA Evaluation and Ranking of Cleanup Action Alternatives

Former Shell Oil Tank Farm

Anacortes, Washington

Remedial Alternative	Alternative 1 - Engineering and Institutional Controls	Alternative 2 - In-Situ Soil Treatment	Alternative 3 - Partial Removal with In-Situ Soil Treatment	Alternative 4 - Complete Removal
Evaluation				
Compliance with MTCA Threshold Criteria	Yes	Yes	Yes	Yes
Restoration Time Frame	1-2 years	2-3 years	2-3 years	2-3 years
Relative Benefits Ranking				
Protectiveness (weighted as 30%)	0.9	2.1	2.4	3
Permanence (weighted as 20%)	0.6	1.4	1.6	2
Long-Term Effectiveness (weighted as 20%)	0.6	1.2	1.4	2
Management of Short-Term Risks (weighted as 10%)	1	0.5	0.8	0.4
Technical and Administrative Implementability (weighted as 10%)	0.8	0.7	0.8	0.4
Consideration of Public Concerns (weighted as 10%)	0.3	0.6	0.8	0.8
Total of Scores	4.2	6.5	7.8	8.6
Disproportionate Cost Analysis				
Probable Remedy Cost (+50%/-30%, rounded)	$400,000	$2,120,000	$3,000,000	$4,130,000
Costs Disproportionate to Incremental Benefits	No	No	No	Yes
Practicability of Remedy	Practicable	Practicable	Practicable	Practicable
Remedy Permanent to Maximum Extent Practicable	Yes	Yes	Yes	Yes
Overall Alternative Ranking	3rd	2nd	1st	--





N
W E
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2,000 0 2,000

Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps

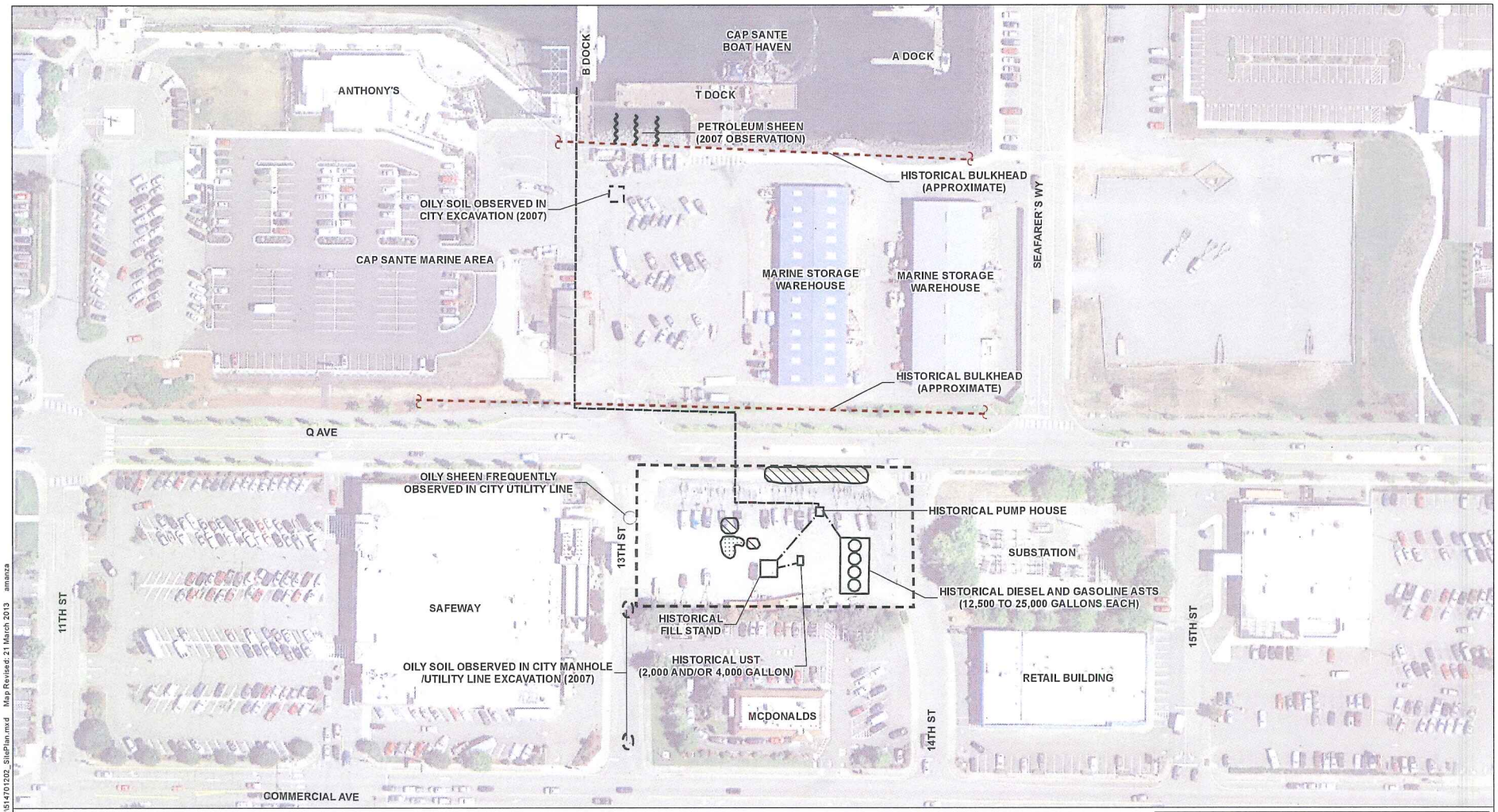
Projection: NAD 1983 UTM Zone 10N

Vicinity Map

Former Shell Oil Tank Farm Site
Anacortes, Washington

Figure 1

Path: \\sea\projects\51514701\2\GIS\DCAP\514701202_VicinityMap.mxd Map Revised: 21 March 2013 amanza



Notes:
1. AST = Above Ground Storage Tank, UST = Underground Storage Tank
2. The locations of all features shown are approximate.
3. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Roads from Skagit County. Point, line and polygon features digitized from figures 5.1 and 6.1 of November 2006 and Figure 2 of September 2005 by Floyd Snider. Imagery date: 2011.

Legend

- Former Shell Oil Tank Farm
- Historical Features
- Surface Oil (1987 Observation)
- White Powder (1987 Observation)
- Historical Fuel Supply Line
- Historical Product Line

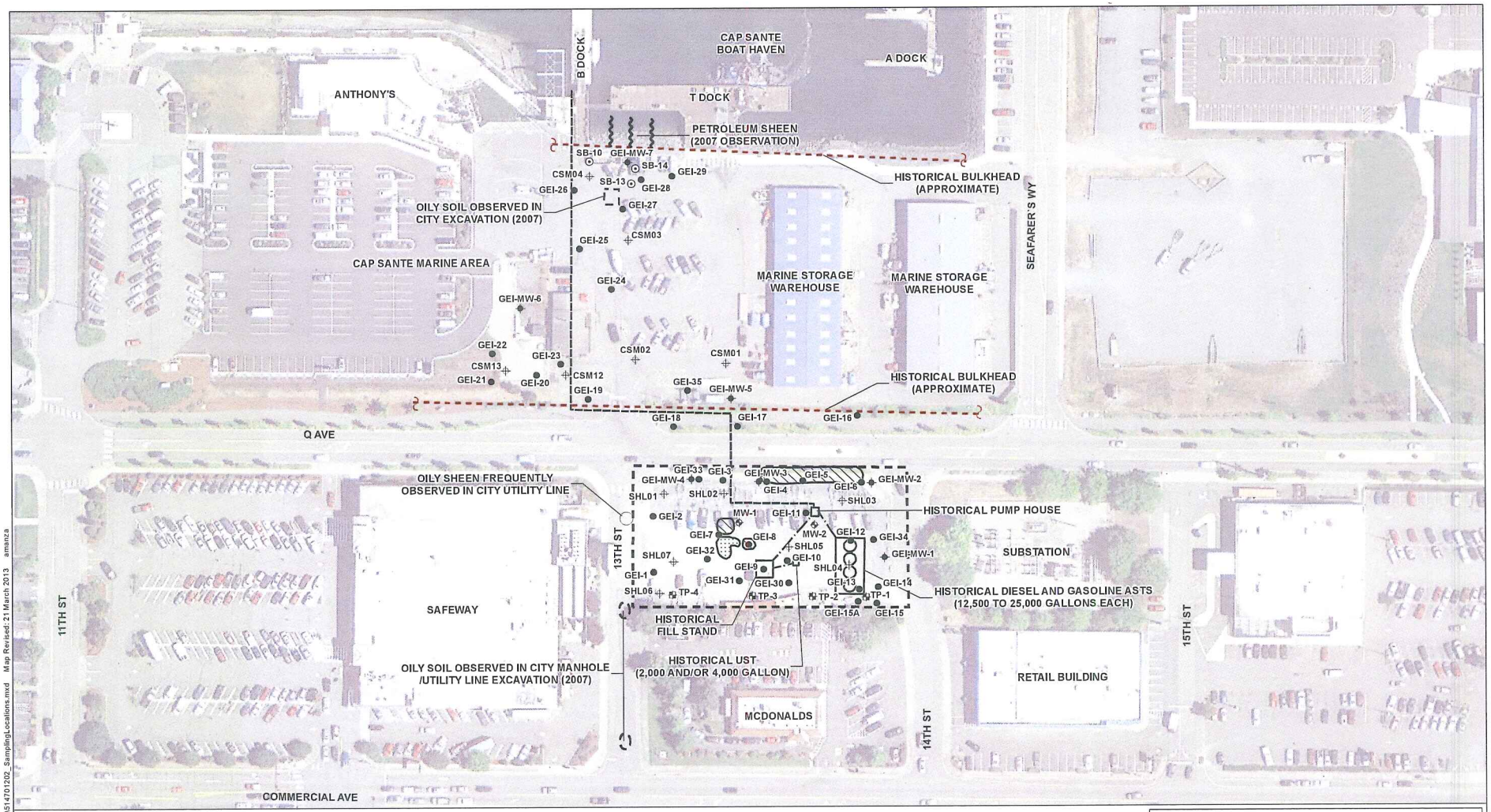
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Feet

Site Plan

Former Shell Oil Tank Farm Site
Anacortes, Washington

Figure 2

Path: \\sea\projects\0514701202\GIS\DCAP\514701202_SitePlan.mxd Map Revised: 21 March 2013 amanza



Path: \\sea\projects\0514701210\GIS\OCAP\514701202_SamplingLocations.mxd Map Revised: 21 March 2013 amanza

Notes:
1. AST = Above Ground Storage Tank, UST = Underground Storage Tank
2. The locations of all features shown are approximate.
3. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Roads from Skagit County. Point, line and polygon features digitized from figures 5.1 and 6.1 of November 2006 and Figure 2 of September 2005 by Floyd Snider. Imagery date: 2011.

Environmental Investigation Locations

- GeoEngineers (2012)
- GeoEngineers (2011)
- GeoEngineers (2007)
- Landau (2007)
- Floyd Snider (2005)
- Hart Crowser (1987)

Legend

- Former Shell Oil Tank Farm
- Historical Features
- Surface Oil (1987 Observation)
- White Powder (1987 Observation)
- Historical Fuel Supply Line
- Historical Product Line

100 0 100
Feet

Environmental Investigation Sampling Locations

Former Shell Oil Tank Farm Site
Anacortes, Washington

Figure 3



40 0 40
Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Roads from Skagit County. Point, line and polygon features digitized from figures 5.1 and 6.1 of November 2006 and Figure 2 of September 2005 by Floyd Snider. Imagery date: 2011.

Legend

- Soil Exploration Location
- Monitoring Well Location
- TPH Exceeds Soil Cleanup Level
- Benzene Exceeds Soil Cleanup Level
- cPAH Exceeds Soil Cleanup Level
- Cadmium Exceeds Soil Cleanup Level
- COCs (TPH, Benzene, cPAHs, and/or Cadmium) Less Than Soil Cleanup Level
- Cross Section
- Former Shell Oil Tank Farm
- Gravel Surface

Area With Contaminants of Concern (COCs) Exceeding Soil Cleanup Level

- Approximate Area of TPH Exceedance in Soil
- Approximate Area of Benzene Exceedance in Soil
- Approximate Area of cPAH Exceedance in Soil
- Approximate Area of Metals (Cadmium) Exceedance in Soil

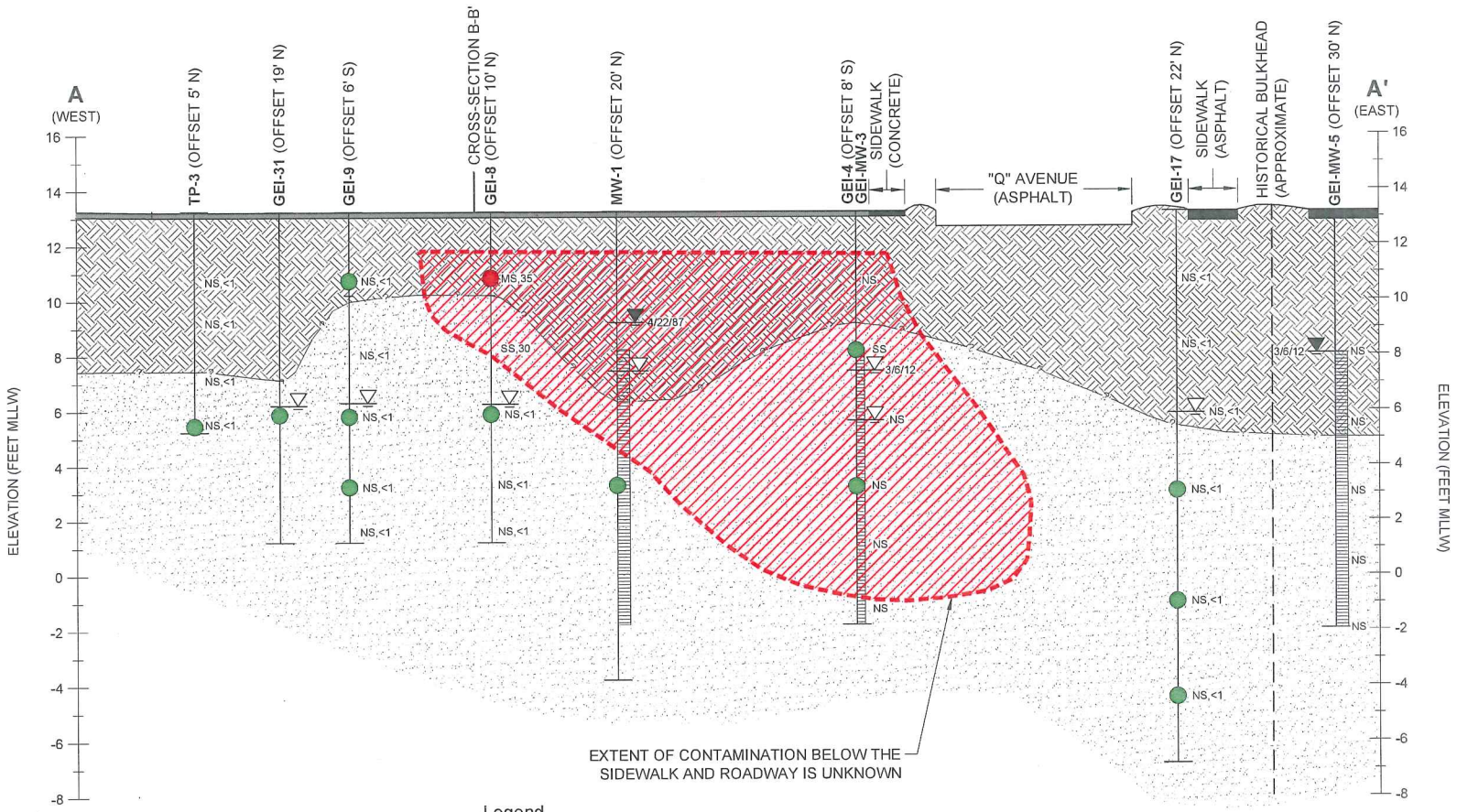
cPAH Carcinogenic Polycyclic Aromatic Hydrocarbons
TPH Petroleum Hydrocarbons (Gasoline, Diesel and/or Heavy Oil)

Current Site Conditions

Former Shell Oil Tank Farm Site
Anacortes, Washington

Figure 4

Path: \\seat\projects\0514701210\GIS\DOCAPS\14701202_SummaryOfFindings.mxd Map Revised: 21 March 2013 amanza



Legend

GEI-8 — Boring

? — Inferred Soil Contact

Groundwater Level Observed During Drilling

Measured Ground Water Level and Date

NS,<1 — Field Screening Results (Sheen, Headspace Vapor)

Well Screen Interval

Gravel Surface

Fill Material (Silty Sand with varying amounts of Silt and Gravel)

Native Marine Sediment (Silt and Silty Sand)

Soil Sample Location

TPH Exceed Soil Cleanup Level

COCs (TPH, Benzene, cPAHs and/or Cadium) Less than Soil Cleanup Level

Approximate Area of TPH Exceedance in Soil

MLLW	Mean Lower Low Water
COCs	Contaminants of Concern
TPH	Petroleum Hydrocarbons (Gasoline, Diesel and/or Heavy Oil)
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons

HORIZONTAL SCALE: 1"= 20'
VERTICAL SCALE: 1"= 4'
VERTICAL EXAGGERATION: 5X

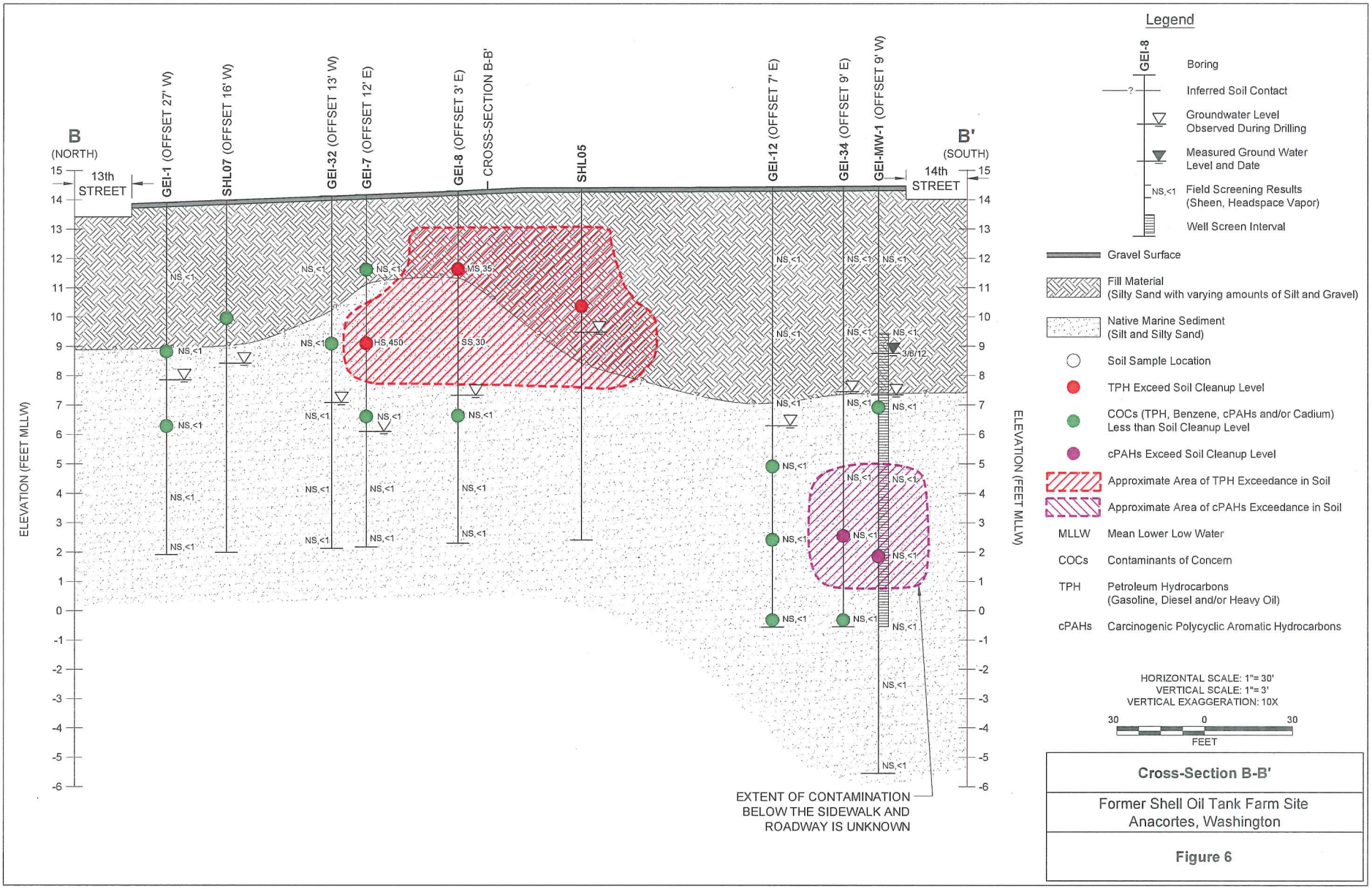
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Cross-Section A-A'

Former Shell Oil Tank Farm Site
Anacortes, Washington

Figure 5

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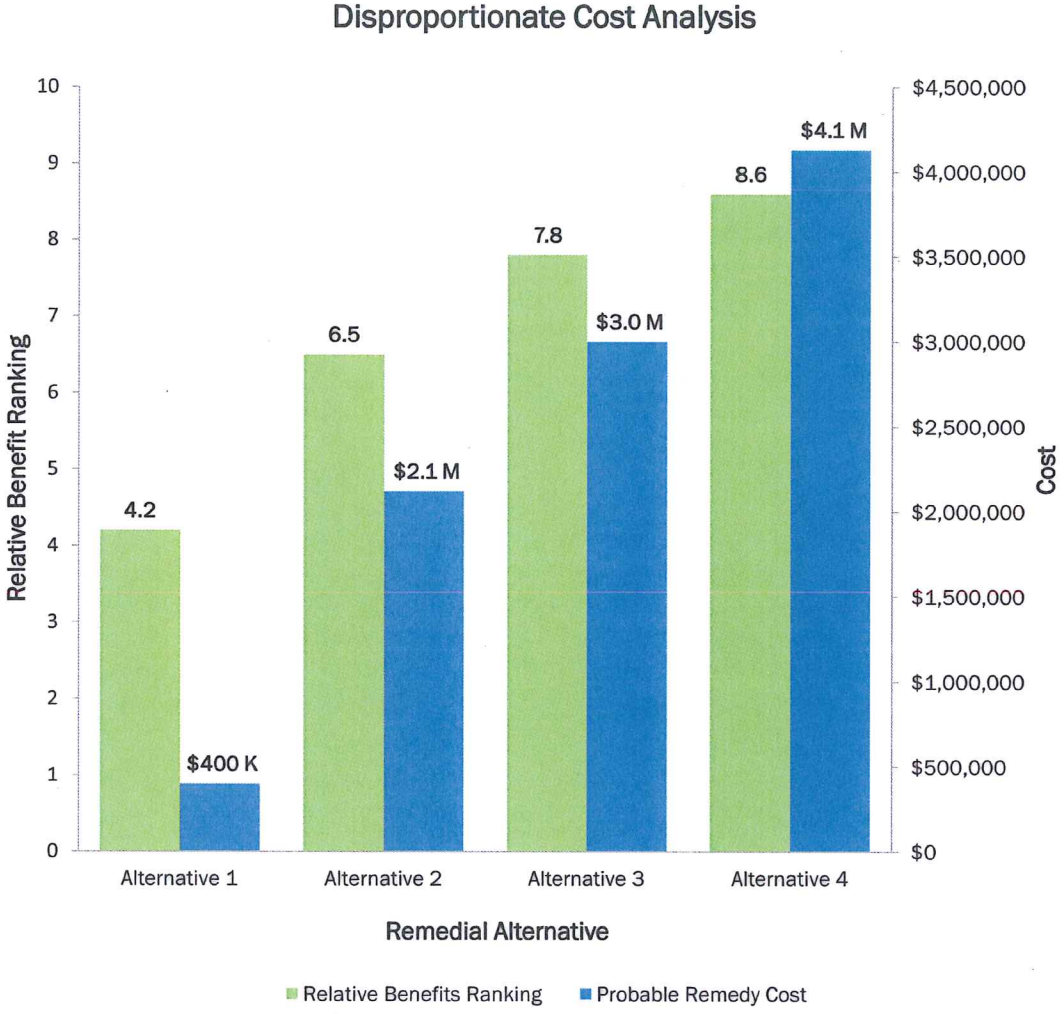


Cross-Section B-B'

Former Shell Oil Tank Farm Site
Anacortes, Washington

Figure 6

P:\151\147012\CAD\SHELL DCAP\151147012-02 CROSS-SECTIONS.DWG\TAB:CROSS-SECTION BB MODIFIED BY TMCHAUD ON MAR 21, 2013 - 9:38



Disproportionate Cost Analysis
Former Shell Oil Tank Farm Site Anacortes, Washington
Figure 7

P:\15\5147012\CAD\SHELL DCAP\5147012-02 FIG 7.DWG\TAB:PORTRAIT MODIFIED BY TMICHAUD ON MAR 21, 2013 - 9:40

EXHIBIT C

EXHIBIT C

Actions required by this Consent Decree will be completed according to the schedule below:

- Draft Engineering Design Report – Submitted to Ecology for review within 60 calendar days of the Consent Decree effective date.
- Final Engineering Design Report – Submitted to Ecology 45 calendar days after receipt of comments from Ecology on the Draft Engineering Design Report.
- Draft Compliance Monitoring Plan – Submitted to Ecology for review within 60 calendar days of the Consent Decree effective date.
- Final Compliance Monitoring Plan – Submitted to Ecology 45 calendar days after receipt of comments from Ecology on the Draft Compliance Monitoring Plan.
- Cleanup Action Construction – Commence within 180 calendar days of Ecology approval of the Final Engineering Design Report and Final Compliance Monitoring Plan.
- Draft Construction Completion (As-Built) Report – Submitted to Ecology within 120 calendar days of completion of cleanup action construction.
- Final Construction Completion (As-Built) Report – Submitted to Ecology 45 calendar days after receipt of comments from Ecology on the Draft Construction Completion (As-Built) Report.

A project schedule will be established as part of the Engineering Design Report submittal based on the relations and durations described above. The project schedule will be updated and approved by Ecology when events are identified that may result in significant project schedule changes

EXHIBIT D

Site Cleanup:

FORMER SHELL OIL TANK FARM SITE

Between 13th and 14th Streets east of Commercial Avenue
Anacortes, Washington

PUBLIC PARTICIPATION PLAN

Prepared by:
Washington State Department of Ecology

DEPARTMENT OF
ECOLOGY
State of Washington

December 2013

This plan is for you!

This Public Participation Plan (Plan) is prepared for the Former Shell Oil Tank Farm Site cleanup as part of the requirements of the Model Toxics Control Act (MTCA). The Plan provides information about MTCA cleanup actions and requirements for public involvement, and identifies how the Washington State Department of Ecology (Ecology) will support public involvement throughout the cleanup. The Plan is intended to encourage coordinated and effective public involvement tailored to the community's needs at the Former Shell Oil Tank Farm Site.

For additional copies of this document, please contact:

Washington State Department of Ecology
Nick Acklam, Site Manager
Toxics Cleanup Program
PO Box 47600
Olympia, WA 98504-7600
(360) 407-6913
Email: nicholas.acklam@ecy.wa.gov

If you need this publication in an alternate format, please call the Toxics Cleanup Program at (360) 407-7170. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call (877) 833-6341 (TTY).

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1.0: Introduction and Overview of the Public Participation Plan

This Public Participation Plan (Plan) explains how you can become involved in improving the health of your community. It describes public participation opportunities that will be available during this review period for a site on the Anacortes waterfront – the Former Shell Oil Tank Farm Site. The Site is generally located between 13th and 14th Streets east of Commercial Avenue in the city of Anacortes, Washington. These opportunities are part of a collaborative effort by the Washington State Department of Ecology (Ecology) and Port of Anacortes (Port) to decide on cleanup actions for the Former Shell Oil Tank Farm Site. Current documents for review include:

- The draft Consent Decree, a formal legal document between Ecology and the Port agreeing upon cleanup actions for the Site.
- The draft Remedial Investigation and Feasibility Study (RI/FS) presents the results of the remedial investigation at the Site and provides an evaluation of cleanup alternatives for addressing residual contamination.
- The draft Cleanup Action Plan, a document which describes proposed cleanup actions for the Site.

The Port is currently inviting comments on the State Environmental Policy Act (SEPA) Checklist and Determination of Non-Significance (DNS) for the proposed action. For more information or to review and comment on the SEPA documents, please visit the Port's website at www.portofanacortes.com.

Cleanup actions, and the public participation process that helps guide them, are established in Washington's Model Toxics Control Act (MTCA)[1]. Under MTCA, Ecology is responsible for providing timely information and meaningful chances for the public to learn about and comment on important cleanup decisions before they are made. The goals of the public participation process are:

- To promote understanding of the cleanup process so that the public has the necessary information to participate.
- To encourage involvement through a variety of public participation opportunities.

This Plan provides a framework for open dialogue about the cleanup among community members, Ecology, and other interested parties. It outlines basic MTCA requirements for

[1] The Model Toxics Control Act (MTCA) is the hazardous waste cleanup law for the state of Washington. The full text of the law can be found in Revised Code of Washington (RCW), Chapter 70.105D. The legal requirements and criteria for public notice and participation during MTCA cleanup investigations can be found in Washington Administrative Code (WAC), Section 173-340-600.

community involvement activities that will help ensure that this exchange of information takes place during the investigation and cleanup. These requirements include:

- Notifying the public about available reports and studies about the Site.
- Notifying the public about review and comment opportunities during specific phases of the cleanup investigation.
- Providing appropriate public participation opportunities to learn about cleanup documents, and if community interest exists, holding meetings to solicit input and identify community concerns.
- Considering public comments received during public comment periods.

In addition to these basic requirements, the Plan may include additional site-specific activities to meet the needs of your community. Based upon the type of proposed cleanup action, the level of public concern, and the risks posed by the Site, Ecology may decide that more public involvement opportunities are appropriate.

These opportunities form the basis for the public participation process. The intent of this Plan is to:

- Provide complete and current information to all interested parties.
- Let you know when there are opportunities to provide input.
- Provide opportunities to listen to and address community concerns.

Part of the Puget Sound Initiative

The Site is one of several Anacortes waterfront sites and is part of a larger cleanup effort called the Puget Sound Initiative (PSI). Washington State established the Puget Sound Initiative to protect and restore Puget Sound. The PSI includes cleaning up 50-60 contaminated sites within one-half mile of the Sound. These sites are grouped in several bays around the Sound for "baywide" cleanup efforts. As other sites in the Anacortes baywide area move forward into investigation and cleanup, information about them will be provided to the community as well as people and groups who are interested.

Roles and Responsibilities

Ecology will lead public involvement activities. Ecology maintains overall responsibility and approval authority for the activities outlined in this plan. Ecology and the Port are responsible for cleanup at the Site. Ecology will oversee all future cleanup activities and ensure that contamination on the Site is cleaned up to concentrations that are established in state regulations and that protect human health and the environment.

Organization of this Public Participation Plan

The sections that follow in this Plan provide:

- Section 2: Background information about the Former Shell Oil Tank Farm Site.
- Section 3: An overview of the local community that this plan is intended to engage.
- Section 4: Public involvement opportunities in this cleanup.

This Plan addresses current conditions at the Site, but it is intended to be a dynamic working document that will be reviewed at each phase of the cleanup and updated as needed. Ecology and the Port urge the public to become involved in the cleanup process.

2.0: Site Background

Site Description and Location

The Site is generally located between 13th and 14th Streets east of Commercial Avenue in the city of Anacortes, Washington on Fidalgo Bay (see Figure 1). The property was acquired by the Port of Anacortes (Port) in 1929 and leased to the Shell Oil Company (Shell) in 1930 for bulk fuel storage and distribution. The Site operated as a bulk fuel storage facility under Shell and various bulk product distributors until 1987 at which time operations ceased and the facility was reportedly decommissioned, including removal of all tanks, associated piping, and site structures.



Figure 1: The Former Shell Oil Tank Farm Site is shown in the above map, located adjacent to Fidalgo Bay in Anacortes, WA.

General Site History and Contaminants

The Former Shell Oil Tank Farm Site was purchased by the Port in 1929, and was leased to Shell and other companies who used the Site to distribute gasoline, diesel, oil, and other chemical products. During operation, it is estimated that one 2,000/4,000-gallon underground storage tank and up to four 12,500-gallon to 25,000-gallon above ground storage tanks were used. The tanks were removed from the Site in the 1980's. In 1987, petroleum hydrocarbon contamination was found at the Site and partially removed. The site is currently used by the Port for vehicle and boat trailer parking.

In 2005, petroleum hydrocarbon (gasoline, diesel, and heavy oil) contamination was found in the soil and groundwater, and in 2007 cadmium was found at the Site during storm drainage maintenance. Subsequent investigations at the Site found concentrations of petroleum hydrocarbons, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), volatile organic compounds (benzene), and metals (cadmium) in the soils above the preliminary cleanup levels. Groundwater sampling at the Site did not find contaminants above preliminary cleanup levels.

The Port is currently working with Ecology to address the remaining cleanup with the actions outlined in the DCAP.

The Cleanup Process

Washington State's cleanup process and key opportunities for you to provide input are outlined in Figure 2 on page 13. The general cleanup process includes the following steps:

- Remedial Investigation (RI) – investigates the site for types, locations, and amounts of contaminants.
- Feasibility Study (FS) – identifies cleanup options for those contaminants.
- Cleanup Action Plan (CAP) – selects the preferred cleanup option and explains how cleanup will be conducted.

Each of these steps is generally documented in reports and plans that will be available for public review. Public comment periods of at least 30 calendar days are usually conducted for the following documents:

- Draft RI report
- Draft FS report
- Draft CAP

These comment periods may be conducted separately or combined.

Steps in the cleanup process and related documents are described in greater detail in the following subsections.

Interim Actions

Interim actions may be completed during the cleanup if required by Ecology. An interim action partially addresses the cleanup of a site, and may be conducted if:

- It is technically necessary to reduce a significant threat to human health or the environment.
- It corrects a problem that may become substantially worse or cost substantially more to fix if delayed.
- It is needed to complete another cleanup activity, such as design of a cleanup plan.

Overview of the draft Consent Decree

In the draft Decree, a formal legal document, Ecology and the Port agree upon the cleanup actions needed to protect human health and the environment at the Site. The Decree requires the Port to carry out the specifically identified cleanup actions described in the DCAP.

Overview of the draft Remedial Investigation/Feasibility Study

The draft RI/FS presents the results of the remedial investigation at the Site and provides an evaluation of cleanup alternatives for addressing residual contamination.

Overview of the draft Cleanup Action Plan

The DCAP was completed in 2013 based on the findings of the draft RI/FS. The DCAP describes the proposed cleanup action for the Site and outlines requirements for the cleanup.

The DCAP does the following:

- Identifies cleanup levels for soil and groundwater.
- Recommends and describes cleanup actions from the draft RI/FS.
- Presents a schedule to carry out the cleanup.
- Identifies monitoring activities to demonstrate the effectiveness of cleanup action.

The DCAP recommends the following actions to address soil contamination at the Site:

- Excavate approximately 4,000 cubic yards of contaminated soil within the readily accessible portion of the Site and dispose of contaminated soil at approved facilities.
- Obtain soil samples during remedial excavation to confirm that contaminants have been successfully removed from the accessible portion of the Site.

- Backfill excavated areas with clean soil along with oxygen-releasing material to stimulate naturally occurring microbes and enhance the breakdown of any organic contaminants that remain.
- Monitor groundwater to confirm that the concentrations of petroleum hydrocarbons, benzene, cPAHs and cadmium are not present above the groundwater cleanup levels.
- Establish environmental covenants as necessary to restrict future development and control any future soil disturbance where contamination may remain at the Site.

SEPA Checklist and Determination of Non-Significance

The Port is currently inviting comments on the SEPA Checklist and DNS for the proposed action. For more information or to review and comment on the SEPA documents, please visit the Port's website at www.portofanacortes.com.

3.0: Community Profile

Community Profile

Anacortes is Skagit County's second largest city and its largest seaport. It is the principal city on Fidalgo Island. The current population is approximately 15,941 people (about 7,600 households)[2] situated within about 12 square miles. Located on Fidalgo Bay, Anacortes has 12.5 miles of saltwater shoreline, giving rise to three Port of Anacortes marine terminals, a shipyard, several yacht and mid-size boat building and sales operations, and four private marinas. Four freshwater lakes and 3,300 acres of city-owned forestland and parks create a rural feeling, but the city also has modern educational and health care facilities. The city's 2006 labor workforce was more than 7,000, predominantly employed in manufacturing, accommodations/food service, retail, and health care[3].

Key Community Concerns

An important part of this Plan is to identify key community concerns for the cleanup Site. Many factors are likely to raise community questions, such as the amount of contamination, how much contamination has been cleaned up and what remains, and future use of the Site. Community concerns often change over time as new information is learned and questions are answered. Identifying site-specific community concerns at each stage of the cleanup process helps ensure that they are adequately addressed. On-going key community concerns will be identified for the Former Shell Oil Tank Farm Site through public comments and other opportunities, as detailed in Section 4.

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[2] US Census Bureau, State & County QuickFacts, http://quickfacts.census.gov/qfd/states/53/5301990.html (Accessed April 22, 2013).

[3] Anacortes Chamber of Commerce web site, *available at* http://www.anacortes.org/pdf/AnacortesCommunityProfileMarch2007.pdf; Accessed 11/12/07.

4.0: Public Participation Opportunities

Ecology and the Port invite you to share your comments and participate in the cleanup in your community. As we work to meet our goals, we will evaluate whether this public participation process is successful. This section describes the public participation opportunities for the Site.

Measuring Success

We want this public participation process to succeed. Success can be measured, at least in part, in the following ways:

- Number of written comments submitted that reflect understanding of the cleanup process and the Site.
- Direct, in-person feedback about the Site cleanup or public participation processes, if public meetings are held.
- Periodic updates to this Plan to reflect community concerns and responses.

If we are successful, this process will increase:

- Community awareness about plans for cleanup and opportunities for public involvement.
- Public participation throughout the cleanup.
- Community understanding regarding how their input will be considered in the decision-making process.

Activities and Information Sources

Ecology Contacts

Ecology is the lead contact for questions about the cleanup in your community. The Ecology staff person identified in this section is familiar with the cleanup process and activities at the Site. For more information about public involvement or the technical aspects of the cleanup, please visit our website at https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4846, or contact:

Nick Acklam, Site Manager
Department of Ecology
Toxics Cleanup Program
PO Box 47600
Olympia, WA 98504-7600

Phone: (360) 407-6913
Email: nicholas.acklam@ecy.wa.gov

Ecology's Webpage

Ecology has created a webpage to provide convenient access to information. Documents such as the draft Consent Decree, draft Remedial Investigation and Feasibility Study and draft Cleanup Action Plan are posted as they are issued during the investigation and cleanup process. Visitors to the webpage can find out about public comment periods and possible meetings; download, print, and read information; and submit comments via email. The webpage also provides links to detailed information about the MTCA cleanup process. The Former Shell Oil Tank Farm Site webpage is available at the following address:

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4846

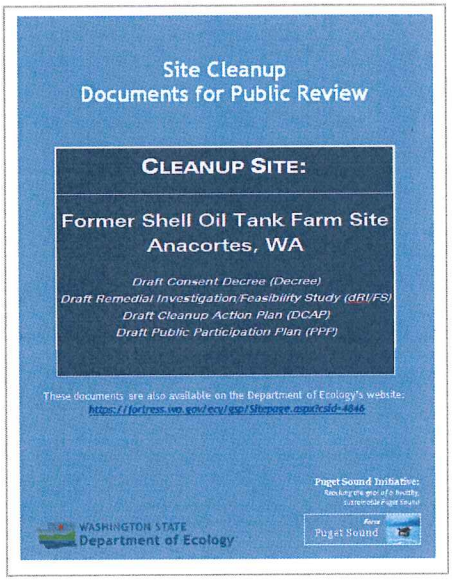
Information Centers/Document Repositories

The most comprehensive source of information about the Site is the information center, or document repository. Two repositories provide access to the complete list of site-related documents. All Site investigation and cleanup activity reports will be kept in print at those two locations and will be available for your review. They can also be requested on compact disk (CD). Document repositories are updated before public comment periods to include the relevant documents for review. Documents remain at the repositories throughout the investigation and cleanup. For the Site, the document repositories are:

- **Anacortes Public Library**
  1220 10th Street
  Anacortes, WA 98221
  Phone: (360) 293-1910
  Web:
  http://library.cityofanacortes.org/client/default

- **Department of Ecology Headquarters**
  300 Desmond Drive
  Lacey, WA 98503
  By appointment. Please contact Carol Dorn at (360) 407-7224 or
  Carol.Dorn@ecy.wa.gov

Look for document covers much like the illustration on the right.



Public Comment Periods

Public comment periods provide opportunities for you to review and comment on major documents, such as the draft Consent Decree, draft RI/FS, draft CAP and draft Public Participation Plan. The typical public comment period is 30 calendar days.

Notice of Public Comment Periods

Notices for each public comment period will be provided by local newspaper and by mail. These notices indicate the timeframe and subject of the comment period, and explain how you can submit your comments.

For the Former Shell Oil Tank Farm Site, a newspaper notice will be posted in Anacortes America, Clamdigger and Skagit Valley Herald.

Notices are also sent by regular mail to the local community and interested parties. The local community typically includes all residential and business addresses within one-quarter mile of the Site, as well as potentially interested parties such as public health entities, environmental groups, and business associations.

Fact Sheets

One common format for public comment notification is a fact sheet. Like the newspaper notice, fact sheets explain the timeframe and purpose of the comment period, but also provide background and a summary of the document(s) under review. Future fact sheets will be prepared at key milestones in the cleanup process.

MTCA Site Register

Ecology produces an electronic newsletter called the MTCA Site Register. This semi-monthly publication provides updates of the cleanup activities occurring throughout the state, including public meeting dates, public comment periods, and cleanup-related reports. Individuals who would like to receive the MTCA Site Register can sign up three ways:

- Call (360) 407-6848
- Send an email request to spre461@ecy.wa.gov
- Register online at http://www.ecy.wa.gov/programs/tcp/pub_inv/pub_inv2.html

Mailing Lists

Ecology maintains both email and regular mail distribution lists throughout the cleanup process. The lists are created from carrier route delineations for addresses within one-quarter mile of the Site; potentially interested parties; public meeting sign-in sheets; and

requests made in person or by regular mail or email. You may request to be on a mailing list by contacting the Ecology staff person listed earlier in this section.

Optional Public Meetings

A public meeting will be held during a comment period if requested by ten or more people, or if Ecology decides it would be useful. Public meetings provide additional opportunity to learn about the investigation or cleanup, and to enhance informed comment. If you are interested in a public meeting about the Site, please contact the Ecology staff listed earlier in this section.

Submitting Comments

You may submit comments by regular mail or email during public comment periods to the Ecology Project Manager listed earlier in this section.

Response to Comments

Ecology will review all comments submitted during public comment periods, and will modify documents as necessary. You will receive notice by regular mail or email that Ecology has received your comments, along with a general explanation about how the comments were addressed and where the revised document can be found.

Other

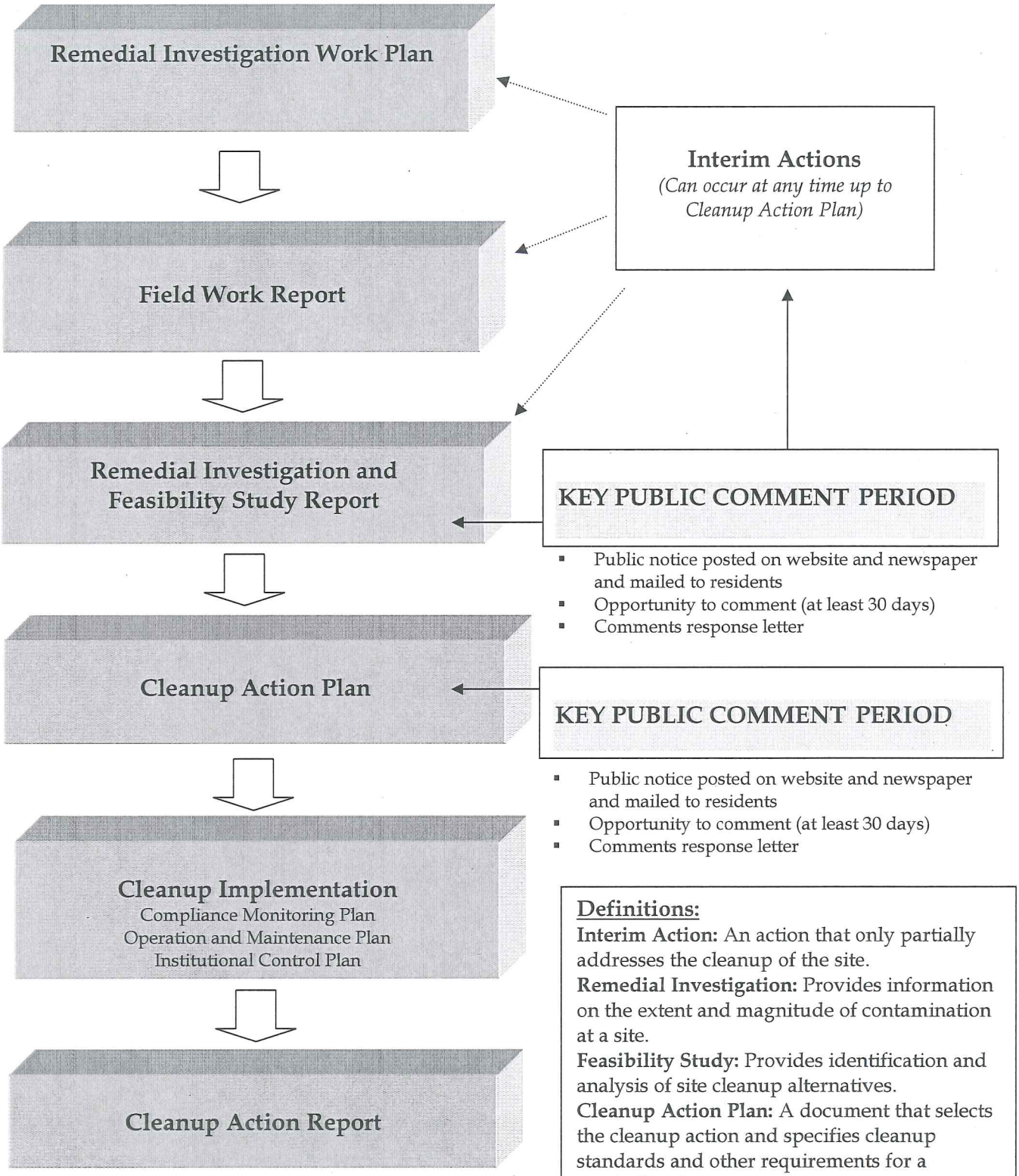
Ecology is committed to the public participation process and will consider additional means for delivering information and receiving comments, including combining public comment periods for other actions (such as those associated with the State Environmental Policy Act).

Public Participation Grants

You are eligible to apply for a Public Participation Grant from Ecology approximately every two years to provide funding for additional public participation activities. Those additional activities will not reduce the scope of the activities defined by this Plan. Activities conducted under this Plan would coordinate with the additional activities defined under the grant.

Visit www.ecy.wa.gov/programs/swfa/grants/ppg.html for more information about Ecology's Public Participation Grants.

Figure 2: Washington State Cleanup Process



Glossary

Cleanup: The implementation of a cleanup action or interim action.

Cleanup Action: Any remedial action except interim actions, taken at a site to eliminate, render less toxic, stabilize, contain, immobilize, isolate, treat, destroy, or remove a hazardous substance that complies with MTCA cleanup requirements, including but not limited to: complying with cleanup standards, utilizing permanent solutions to the maximum extent practicable, and including adequate monitoring to ensure the effectiveness of the cleanup action.

Cleanup Action Plan: A document that selects the cleanup action and specifies cleanup standards and other requirements for a particular site. The cleanup action plan, which follows the remedial investigation/feasibility study report, is subject to a public comment period. After completion of a comment period on the cleanup action plan, Ecology finalizes the cleanup action plan.

Cleanup Level: The concentration (or amount) of a hazardous substance in soil, water, air, or sediment that protects human health and the environment under specified exposure conditions. Cleanup levels are part of a uniform standard established in state regulations, such as MTCA.

Cleanup Process: The process for identifying, investigating, and cleaning up hazardous waste sites.

Contaminant: Any hazardous substance that does not occur naturally or occurs at greater than natural background levels.

Feasibility Study: Provides identification and analysis of site cleanup alternatives and is usually completed within a year. The entire Remedial Investigation/Feasibility Study (RI/FS) process takes about two years and is followed by the cleanup action plan. Remedial action evaluating sufficient site information to enable the selection of a cleanup action plan.

Hazardous Site List: A list of ranked sites that require further remedial action. These sites are published in the Site Register.

Interim Action: Any remedial action that partially addresses the cleanup of a site. It is an action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance at a facility; an action that corrects a problem that may become substantially worse or cost substantially more to address if the action is delayed; an action needed to provide for completion of a site hazard assessment, state remedial investigation/feasibility study, or design of a cleanup action.

Model Toxics Control Act: Refers to RCW 70.105D. Voters approved it in November 1988. The implementing regulation is WAC 173-340 and was amended in 2001.

Public Notice: At a minimum, adequate notice mailed to all persons who have made a timely request of Ecology and to persons residing in the potentially affected vicinity of the proposed action; mailed to appropriate news media; published in the local (city or county) newspaper of largest circulation; and the opportunity for interested persons to comment.

Public Participation Plan: A plan prepared under the authority of WAC 173-340-600 to encourage coordinated and effective public involvement tailored to the public's needs at a particular site.

Release: Any intentional or unintentional entry of any hazardous substance into the environment, including, but not limited to, the abandonment or disposal of containers of hazardous substances.

Remedial Action: Any action to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment, including any investigative and monitoring activities of any release or threatened release of a hazardous substance, and any health assessments or health effects studies conducted in order to determine the risk or potential risk to human health.

Remedial Investigation: Any remedial action that provides information on the extent and magnitude of contamination at a site. This usually takes 12 to 18 months and is followed by the feasibility study. The purpose of the Remedial Investigation/Feasibility Study is to collect and develop sufficient site information to enable the selection of a cleanup action.