DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

March 28, 2013

Regulatory Branch

The U.S. Army Corps of Engineers, Seattle District has scheduled pre-application meeting on Wednesday, April 10, 2013. The meeting will be held in the:

Puget Sound Conference Room
Federal Center South Building (Bldg 1202)
4735 East Marginal Way South, Seattle, Washington.
(206) 764-3495

10:00 to 12:00

Cornet Bay Marina

The purpose of the proposed project is to clean up a marina and replace a bulkhead, located on 200 Cornet Bay Road in Oak Harbor, on Whidbey Island, Island County, Washington. The proposed project would clean up the contaminated soil and replace the bulkhead. The Project Manager for this project is Ms. Catherine Blackwell and may be contacted at (206) 764-3273 or catherine.m.blackwell@usace.army.mil.

Please attend your meeting prepared to discuss the proposed project and to provide input to the project proponents regarding any of your concerns. For additional information on these individual projects you will find Pre-Application Documents in the "News and Updates" section of the Regulatory Branch page of the U.S. Army Corps of Engineers Corps, Seattle District website.

Sincerely,

Michelle Walker
Chief, Regulatory Branch

JARPA Pre-Application Packet

Site Name: Cornet Bay Marina
Site Address: 200 Cornet Bay Road, Oak Harbor, WA 98277
Ecology Contact: Jing Liu (425) 649-4310, jliu461@ecy.wa.gov
Submission Date: March 14, 2013

a. A list of everyone you want to attend from the various agencies we work with. (For example USFWS, NMFS, Ecology, EPA if they will be involved, etc.)

Ecology would like to meet with USFWS, NMFS, Ecology and the Corps. Ecology consulted WDFW and DNR and was informed that no permits/approvals are needed from either agency since this project is under a consent decree and is exempt from the procedural requirements of state and local permits/approvals. Ecology understands that it still needs to comply with all substantive requirements of such permits/approvals.

b. A list with the names of the applicant/agent, or anyone else who needs to attend the pre-app meeting.

Bob Warren, section manager, Toxics Cleanup Program, Ecology Northwest Regional Office
Russ Olsen, unit supervisor, Toxics Cleanup Program, Ecology Northwest Regional Office
Jing Liu, Toxics Cleanup Program, Ecology Northwest Regional Office
Carrie Pederson, Toxics Cleanup Program, Ecology Northwest Regional Office

c. A written description of the project.

Site Description:

The Site is associated with a marina located on 200 Cornet Bay Road in Oak Harbor on Whidbey Island (See Figure 1 - Vicinity Map). It is bounded on the west by Cornet Bay and on the east by Cornet Bay Road and mixed residential homes and light commercial land uses. Deception Pass Sate Park is immediately adjacent to the north of the Site. The Marina was constructed in the 1960s and has been operated as a marina since then. It should be noted that the tidal land is also owned by the current property owner. The Site, which covers approximately 1.1 acres of upland property, includes a store, a gravel parking lot, a 330-foot-long aging wooden bulkhead that separates the upland facility from the marina (See Figure 2). Fuel is provided to boats via a vaulted underground storage tank.

Shallow soils at the Site consist primarily of fill material extending to approximately 7 to 15 feet below ground surface. The fill materials are heterogeneous across the Site. The upper 5 feet of fill materials mainly consists of sand and gravel, which is underlain by sand and silt with varying amounts of gravel and clay. Dredged sediments from the adjacent bay are also encountered. In general, native soil was observed from approximately 10-15 feet to 30 feet below

ground surface, the maximum depth explored, and it consists primarily of clay and silt. The cross sections of the Site are shown in Figures 3, 4, and 5. Groundwater at the Site occurs at approximately 3 to 7 feet below ground surface, and the depth to groundwater varies with the tides up to 2.75 feet in the central portion of the existing bulkhead and closest to Cornet Bay. The tidal influence starts to dissipate approximately 70 feet east of the Bay. Groundwater generally flows to the west toward the Bay.

Soil and groundwater has been contaminated by petroleum from several fuel line releases during 1989. Gasoline and benzene were the most consistently detected compounds in soil and groundwater although diesel was also detected. Contamination has been spread almost across the entire property over the years as shown on Figure 2. The depth of contaminated soil is generally shallower in the eastern portion of the property, ranging from 2-10 feet below ground surface. The contaminated soil extends deeper to approximately 18 feet below ground surface in the northwest and southwest portions of the property. The approximate depth of contaminated soils is shown on Figure 2. Results from a sediment survey didn't show evidence of petroleum impact on sediment.

Regulatory Status and Proposed Cleanup Actions

A consent decree was signed between Ecology and the property owner in 1993 to conduct site characterization and cleanup. Although funding over the years has never been either sufficient or sustained to complete the cleanup, several site investigations have been conducted and the extent of the contamination has been delineated. Ecology is likely to receive sufficient funding to cleanup this Site in the coming biennium. The proposed cleanup actions include:

- Installation of a new sheet pile and demolition of the existing bulkhead

  A 330-foot-long steel sheet "Z pile" bulkhead will be installed in front of the existing bulkhead waterward. A draft bulkhead section view is shown on Figure 6. Profiles of the existing bulkhead and the new sheet pile are shown on Figures 7 and 8. The new sheet pile will ensure that all the contaminated soil in the vicinity of the existing bulkhead can be safely excavated. The base of the new sheet pile will be located around the +1 ft MLLW contour. Installation of the sheet pile will occur using a land-based crane with vibratory hammer attachment. The existing timber bulkhead will be cut off at the mudline or deeper, depending on the depth of excavation.

- Upland Excavation

  This will involve excavation and disposal of petroleum contaminated soil from the upland area as shown on Figure 9. The excavation will extend below the water table to remove contaminated soil as much as possible. The approximate excavation depth will be 5-10 feet below ground surface on the eastern portion of the property. The excavation will reach approximately 10-18 feet below ground surface in the southwest and northwest portions of the property. The existing store building will need to be relocated in order to excavate the contaminated soils beneath it. The excavated contaminated soil will be transported to an approved upland facility for

disposal. The excavation will be backfilled using imported clean material and compacted. Note that all clean portions of the overburden soil will be stockpiled and used for backfill.

Construction dewatering water and stormwater will be treated on-site and discharge to Puget Sound under a NPDES permit. Water discharged to the Sound will be monitored to assure that it meets water quality standards.

d. Project drawings.

- Figure 1 - Site vicinity map
- Figure 2 - Site plan and approximate depth of contaminated soil
- Geologic cross section drawings
  - Figure 3 - Generalized geological cross section locations
  - Figure 4 - Geological cross section A-A'
  - Figure 5 - Geological cross section B-B' and C-C'
- Engineering drawings
  - Figure 6 – Draft bulkhead section views
  - Figure 7 – Existing Bulkhead profile
  - Figure 8 – New sheet pile profile
- Figure 9 – Proposed cleanup actions

e. Any additional information you want to be included.

This is a MTCA cleanup project under a Consent Decree, and Ecology is the liable party for cleaning up the Site at this time.

As described above, the existing bulkhead is containing the contaminated soil from the upland area. It is progressively failing and could fall apart at any time. Cleanup of the contamination and replacement of the bulkhead need to be performed as soon as possible to prevent the release of contaminated upland soil and groundwater to Puget Sound. Per consultation with WDFW, the work window for this Site is short, from July 15 to October 15. Also there is a time constraint on funding availability. Therefore, Ecology is requesting that the JARPA application can be processed at your earliest convenience to ensure that a more expeditious cleanup can be performed.

Installation of the new sheet pile will take up approximately 900 square feet of tidal land. Ecology understands this may require a mitigation. However, since the proposed project will greatly benefit the environment by extensive removal of the contaminated soil and groundwater from the upland area, plus the creosote treated bulkhead will be removed, Ecology therefore requests the cleanup actions proposed can be considered as a mitigation measure for taking of the tidal land.

Figure 1 Site Vicinity Map

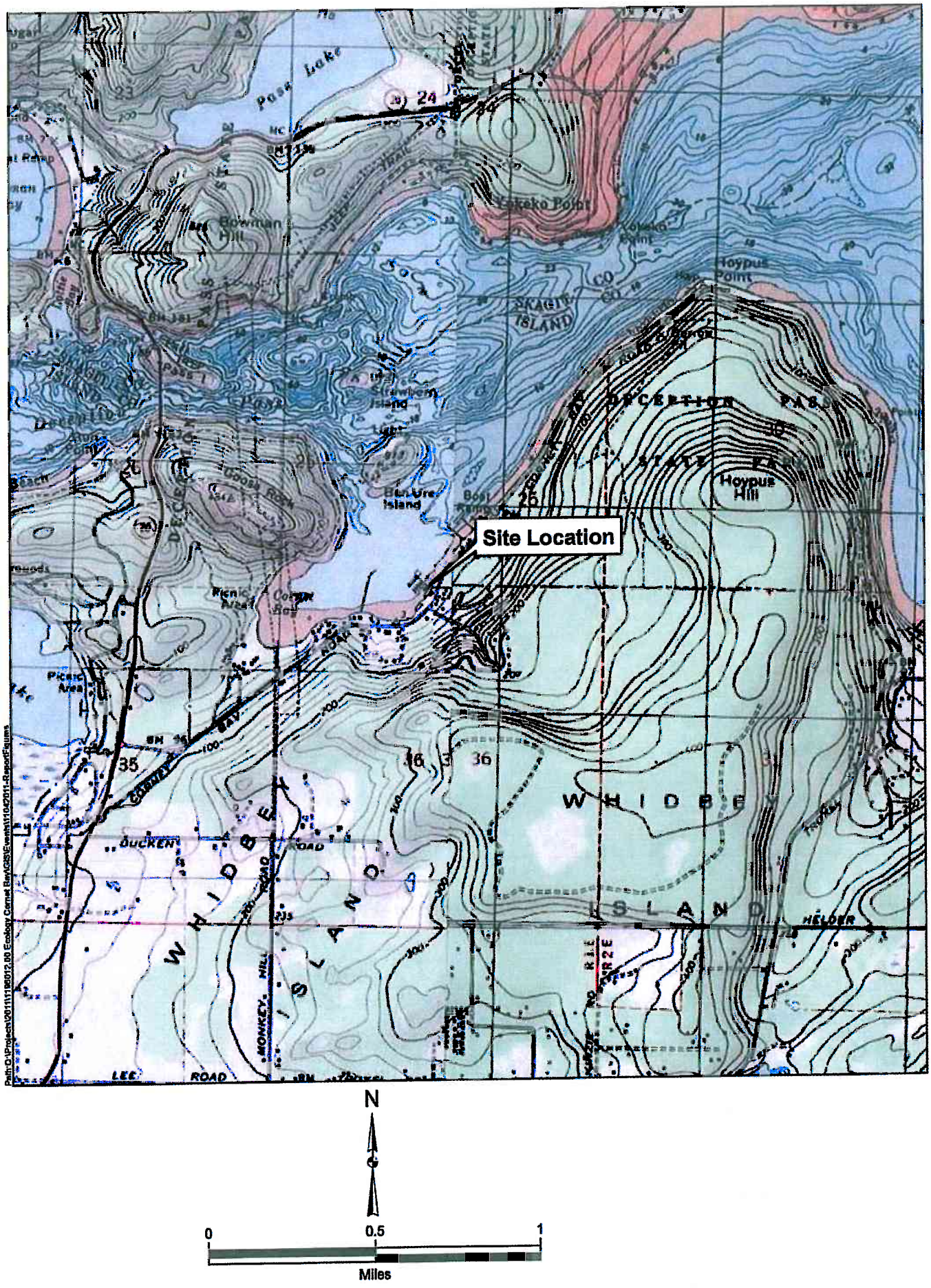
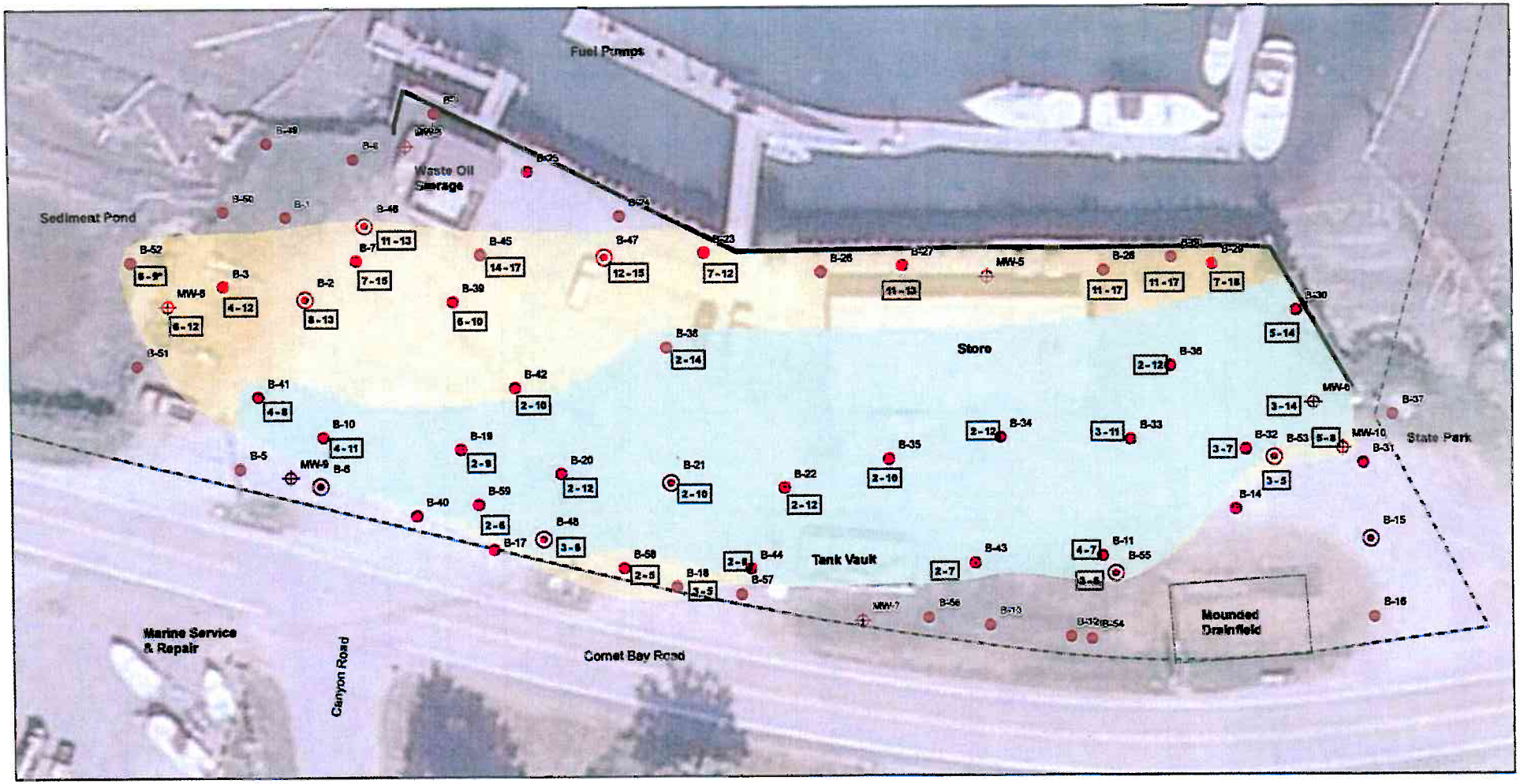


Figure 2 Site Plan and Approximate Depth of Contaminated Soil



Legend

- 2011 Soil Boring
- 2011 Soil boring and Groundwater
- 2011 Monitoring Well
- Benzene Area Exceeding MTCA Method A Soil Cleanup Levels
- Gas and Benzene Area Exceeding MTCA Method A Soil Cleanup Levels
- Timber Bulkhead
- Approximate Property Boundary

2 - 12 Impacted Soil Depth (below site grade surface)

* Boring location on bank area approximately 3 feet below average site grade. Impacted soil at 6 - 9 feet below grade corresponds to approximately 3 - 6 feet below ground surface at boring location.

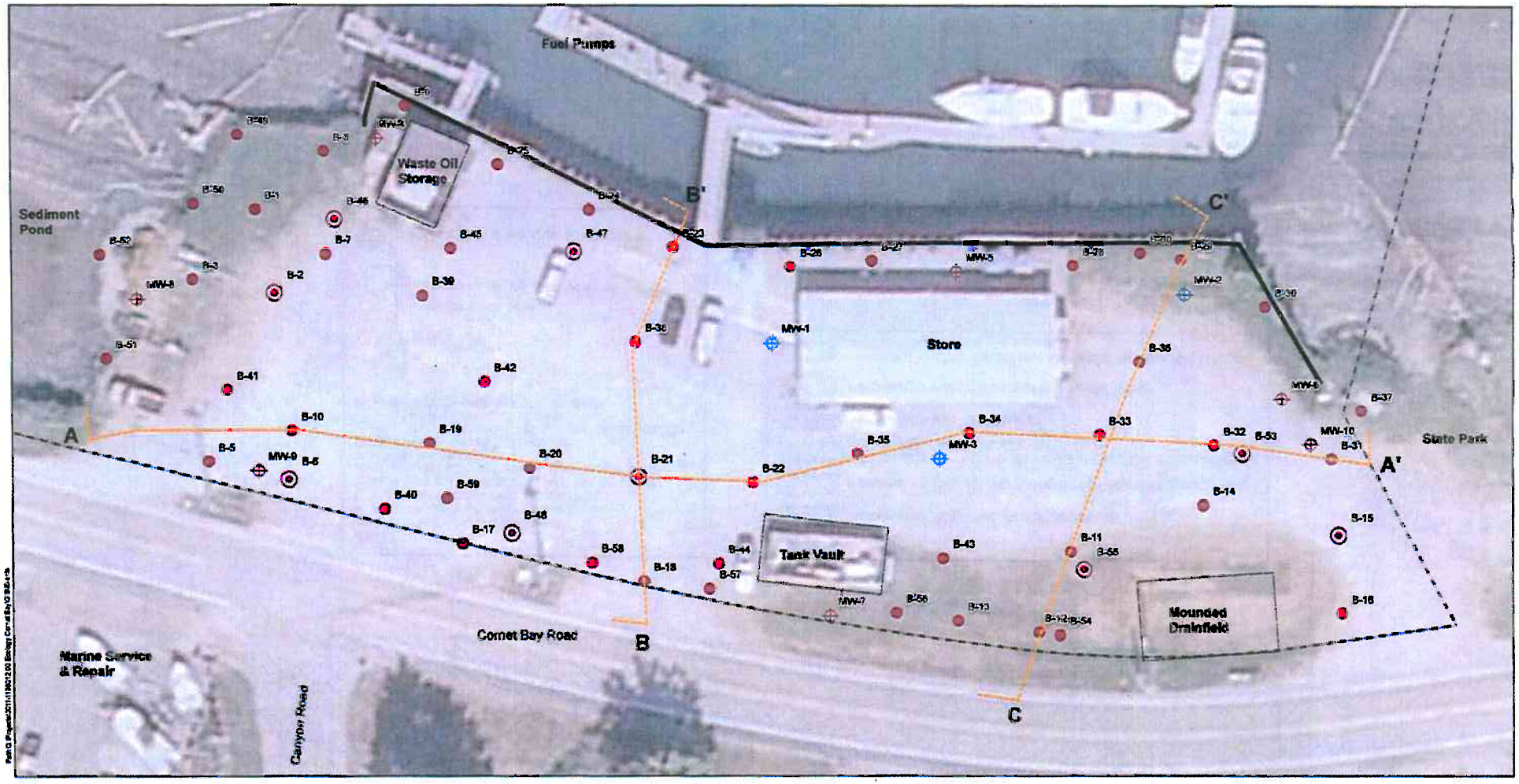
NOTE:
All locations are approximate.
Approximate property boundary obtained from Survey performed on 17 November 2011. Boundary located on west portion of site is identified as right-of-way.
Aerials Express 0.3 to 0.6m resolution imagery for metropolitan areas and the rest available United States Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP) imagery and enhanced versions of United States Geological Survey (USGS) Digital Ortho Quarter Quad (DOQQ) imagery for other areas. For more information on this map, visit our advice at http://gis.ecology.wa.gov/maps/html/_imagery

N

0 30 60

Scale: Feet
1 inch = 30 feet

Figure 3 Generalized Geological Cross Section Locations



Legend

- 2011 Soil Boring
- 2011 Soil boring and GW
- 2011 Monitoring Well
- Prior Monitoring Well
- Geologic Cross Section
- Timber Bulkhead

NOTE:
All locations are approximate.
Approximate property boundary obtained from Survey performed on 17 November 2011. Boundary located on east portion of site is identified as right-of-way. Aerials Express 0.3 to 0.6m resolution imagery for metropolitan areas and the best available United States Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP) imagery and enhanced versions of United States Geological Survey (USGS) Digital Ortho Quarter Quad (DOQQ) imagery for other areas. For more information on this map, visit us online at http://gato.oregonfire.com/ops/World_Imagery

N

0 30 60

Scale: Feet
1 inch = 30 feet

Figure 4 Geological Cross Section A-A'

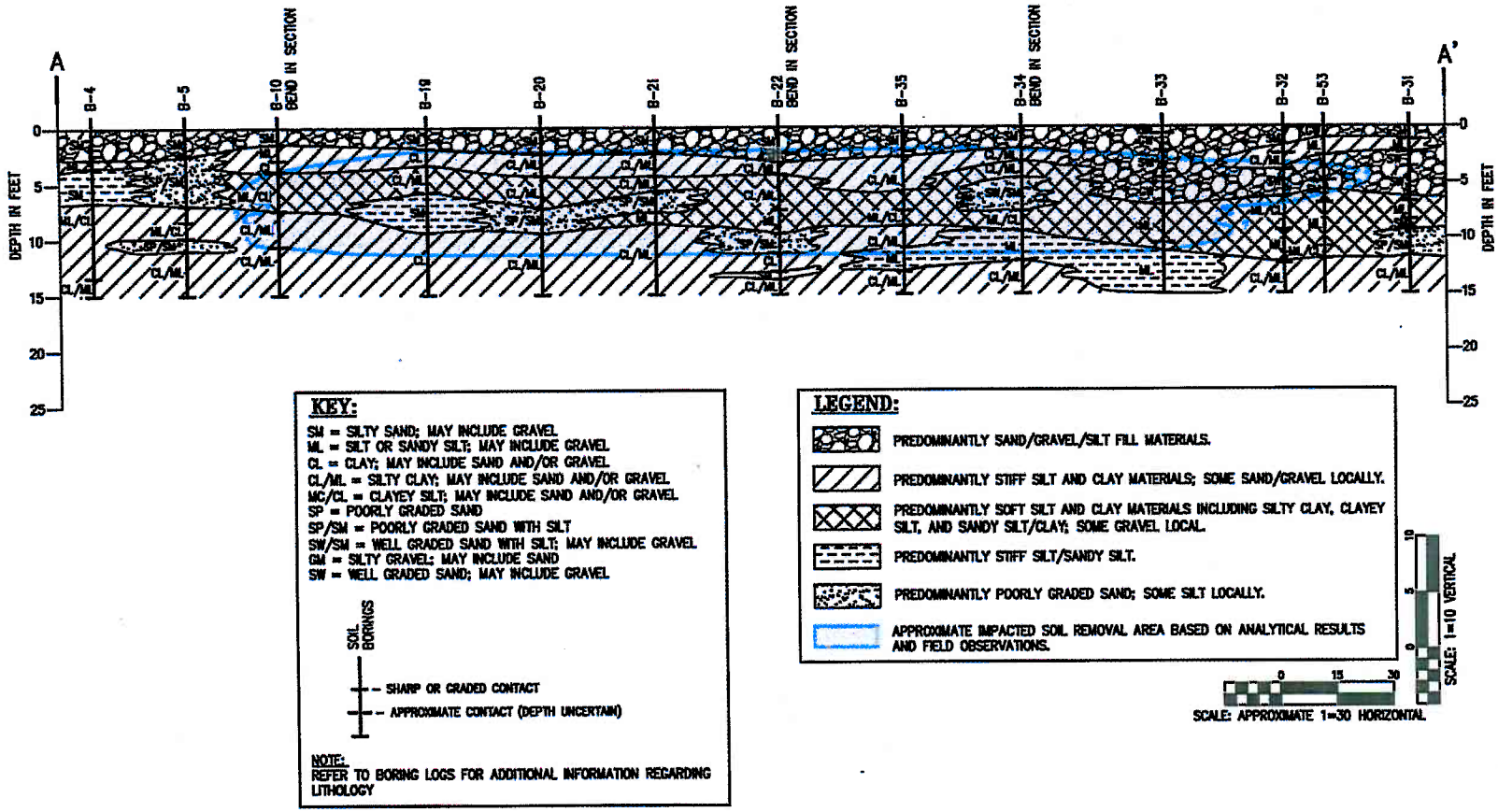
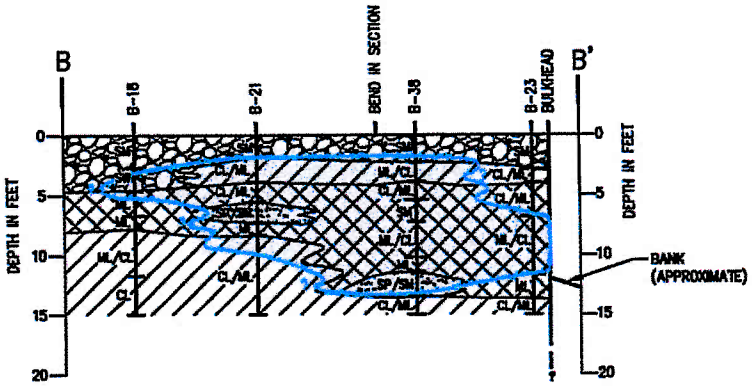
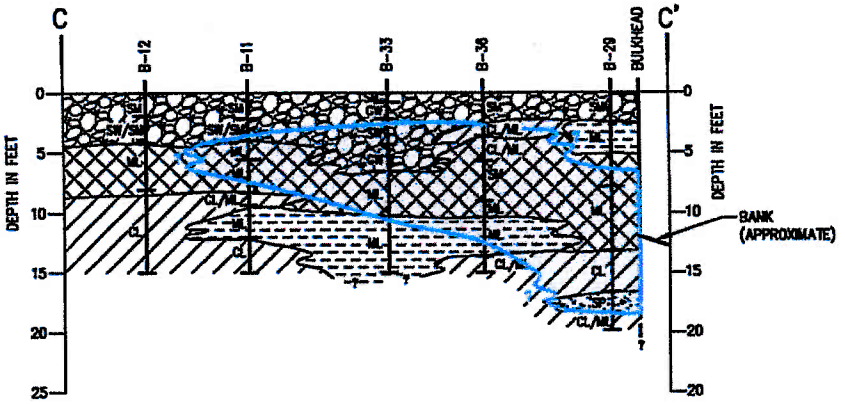


Figure 5 Geological Cross Section B-B' and C-C'





KEY:

SM = SILTY SAND; MAY INCLUDE GRAVEL
ML = SILT OR SANDY SILT; MAY INCLUDE GRAVEL
CL = CLAY; MAY INCLUDE SAND AND/OR GRAVEL
CL/ML = SILTY CLAY; MAY INCLUDE SAND AND/OR GRAVEL
MC/CL = CLAYEY SILT; MAY INCLUDE SAND AND/OR GRAVEL
SP = POORLY GRADED SAND
SP/SM = POORLY GRADED SAND WITH SILT
SW/SM = WELL GRADED SAND WITH SILT; MAY INCLUDE GRAVEL
GM = SILTY GRAVEL; MAY INCLUDE SAND
SW = WELL GRADED SAND; MAY INCLUDE GRAVEL

SOIL BORINGS

SHARP OR GRADED CONTACT

APPROXIMATE CONTACT (DEPTH UNCERTAIN)

NOTE:
REFER TO BORING LOGS FOR ADDITIONAL INFORMATION REGARDING LITHOLOGY

LEGEND:

PREDOMINANTLY SAND/GRAVEL/SILT FILL MATERIALS.

PREDOMINANTLY STIFF SILT AND CLAY MATERIALS; SOME SAND/GRAVEL LOCALLY.

PREDOMINANTLY SOFT SILT AND CLAY MATERIALS INCLUDING SILTY CLAY, CLAYEY SILT, AND SANDY SILT/CLAY; SOME GRAVEL LOCAL.

PREDOMINANTLY STIFF SILT/SANDY SILT.

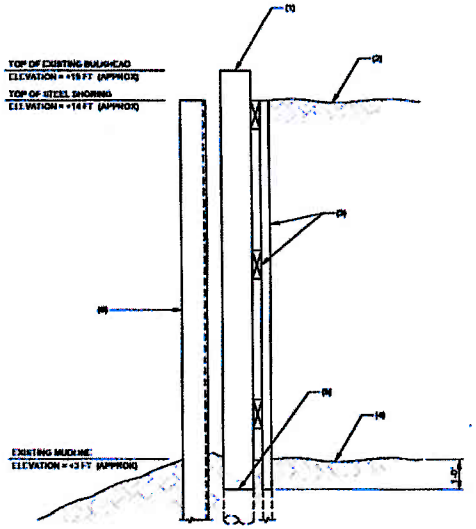
PREDOMINANTLY POORLY GRADED SAND; SOME SILT LOCALLY.

APPROXIMATE IMPACTED SOIL REMOVAL AREA BASED ON ANALYTICAL RESULTS AND FIELD OBSERVATIONS.

SCALE: APPROXIMATE 1=30 HORIZONTAL

SCALE: 1=10 VERTICAL

Figure 6 – Draft Bulkhead Section Views

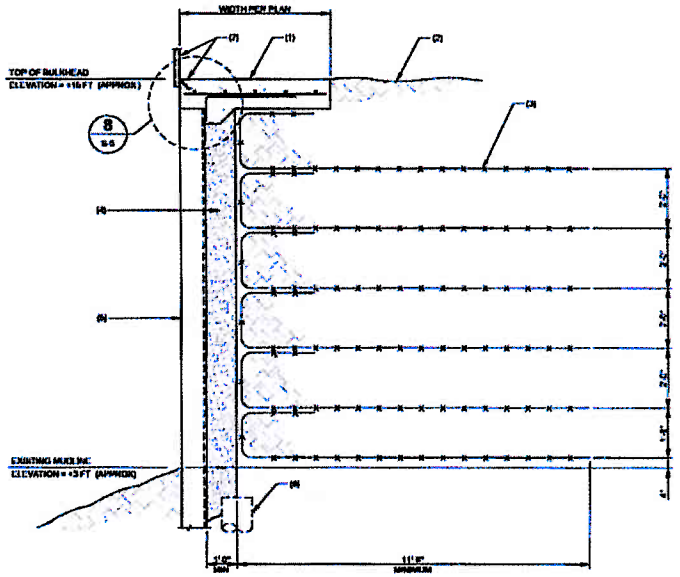


NOTES:

1. EXISTING CHLOROTE TREATED TIMBER PILE BULKHEAD WALL AS OCCURS (TO BE REMOVED)
2. EXISTING FINISH GRADE AS OCCURS
3. EXISTING CREOSOTE TREATED TIMBER LAGGING SYSTEM BEHIND TIMBER PILES (TO BE REMOVED)
4. APPROXIMATE EXTENT OF CONTAMINATED SOIL REMOVAL. COORDINATE WITH CIVIL DRAWINGS
5. CUT OFF EXISTING CREOSOTE TREATED TIMBER PILE AND LAGGING BULKHEAD WALL APPROXIMATELY 12" BELOW BOTTOM OF EXCAVATION
6. STEEL SHEET PILE BULKHEAD WALL PER PLAN

BULKHEAD SECTION (TEMPORARY/SHORED CONDITION) (A, S-4)

SCALE: N.T.S.



NOTES:

1. CONCRETE APRON SLAB PER PLAN
2. FINISH GRADE AS OCCURS - VERIFY ELEVATION OF FINISH GRADE WITH CIVIL DRAWINGS
3. GEOTEXTURE SOIL REINFORCING FABRIC - WRAP END OF FABRIC AROUND SOIL LIFTS AT FACE OF STEEL SHEET PILE TO PREVENT MIGRATION OF FINES INTO FREE DRAINING MATERIAL
4. 12" MINIMUM FREE DRAINING MATERIAL BEHIND SHEET PILE - INSTALL AFTER GEOTEXTURE REINFORCEMENT INSTALLATION IS COMPLETE
5. STEEL SHEET PILE BULKHEAD WALL PER PLAN
6. EXISTING PORTION OF CREOSOTE TREATED TIMBER PILE BULKHEAD WALL TO REMAIN
7. STAINLESS STEEL DIAGONAL AND STAINLESS STEEL EMBED ANGLE. SEE PLANS AND DETAILS 6/S-5 AND 9/S-5 FOR ADDITIONAL INFORMATION

BULKHEAD SECTION (FINAL CONFIGURATION) (B, S-4)

SCALE: N.T.S.

SITTS & HILL ENGINEERS, INC.

CIVIL ▪ STRUCTURAL ▪ SURVEYING

Project No.:	15358	Project Mgr.:	BHL
Proj. Engineer:	BHL	Proj. Drafter:	CLM

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING INC INCORPORATED DRAWINGS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS

NO	REVISION	DATE	BY

SCALES

IF THIS BAR IS NOT 3/4" WHEN SHOWN, ADJUST SCALES ACCORDINGLY

DESIGNED: B. Labrecque
DRAWN: B. McCarthy
CHECKED: B. Leslie

WASHINGTON STATE DEPARTMENT OF ECOLOGY

CORNET BAY MARINA REMEDIATION

Kennedy/Jenks Consultants
FEDERAL WAY, WA

BULKHEAD SECTION VIEWS

50% SUBMITTAL

FILE NAME	1196012s4
JOB NO	1196012*00
DATE	12/2011
SHEET NO	S-4

P:\CAD\1191196\1200 Bailey Cornet Bay\1196*12_S04.dwg
12/21/2011 7:33 AM

Figure 7 – Existing Bulkhead Profile

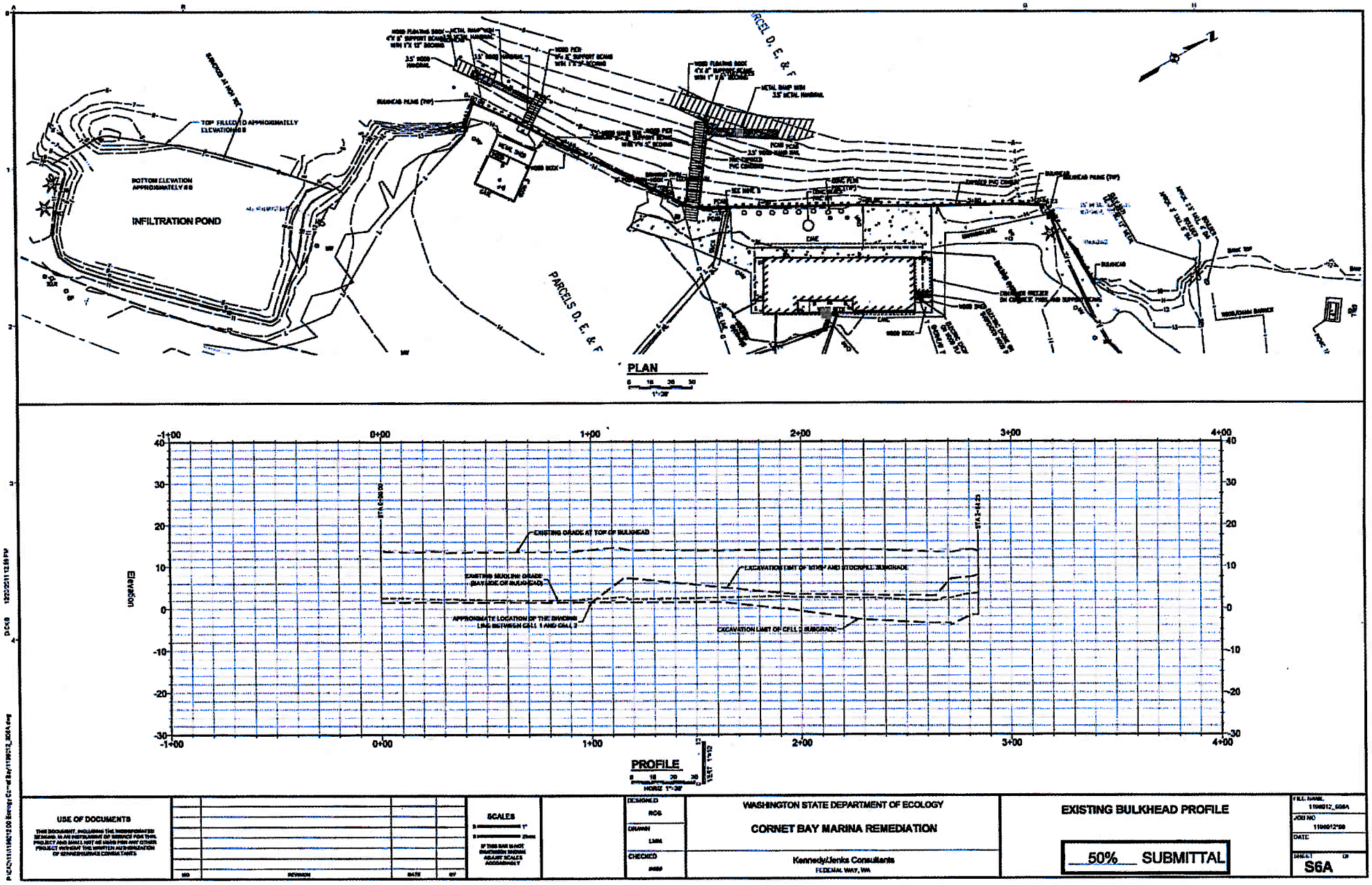


Figure 8 – New Sheet Pile Profile

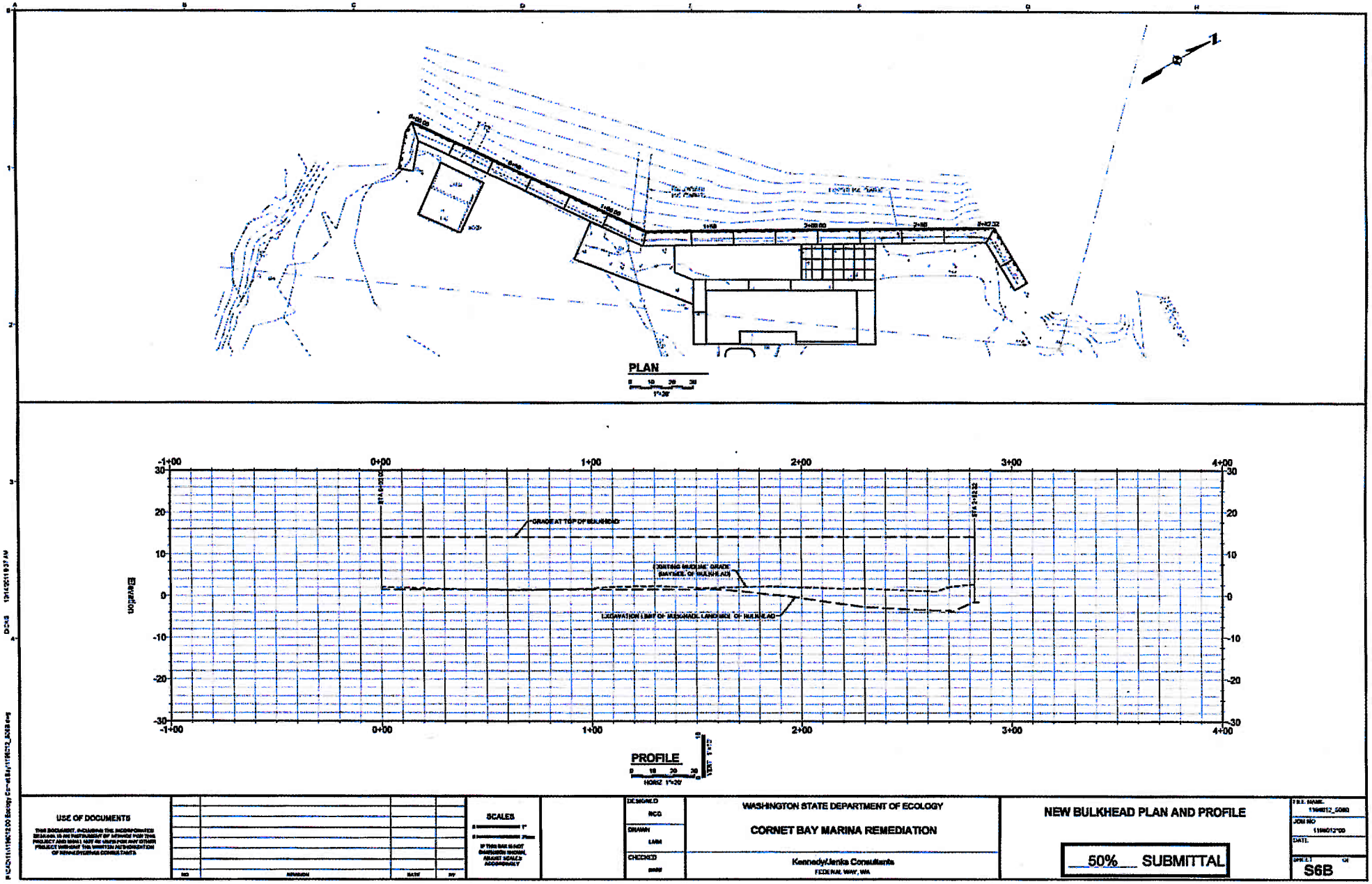
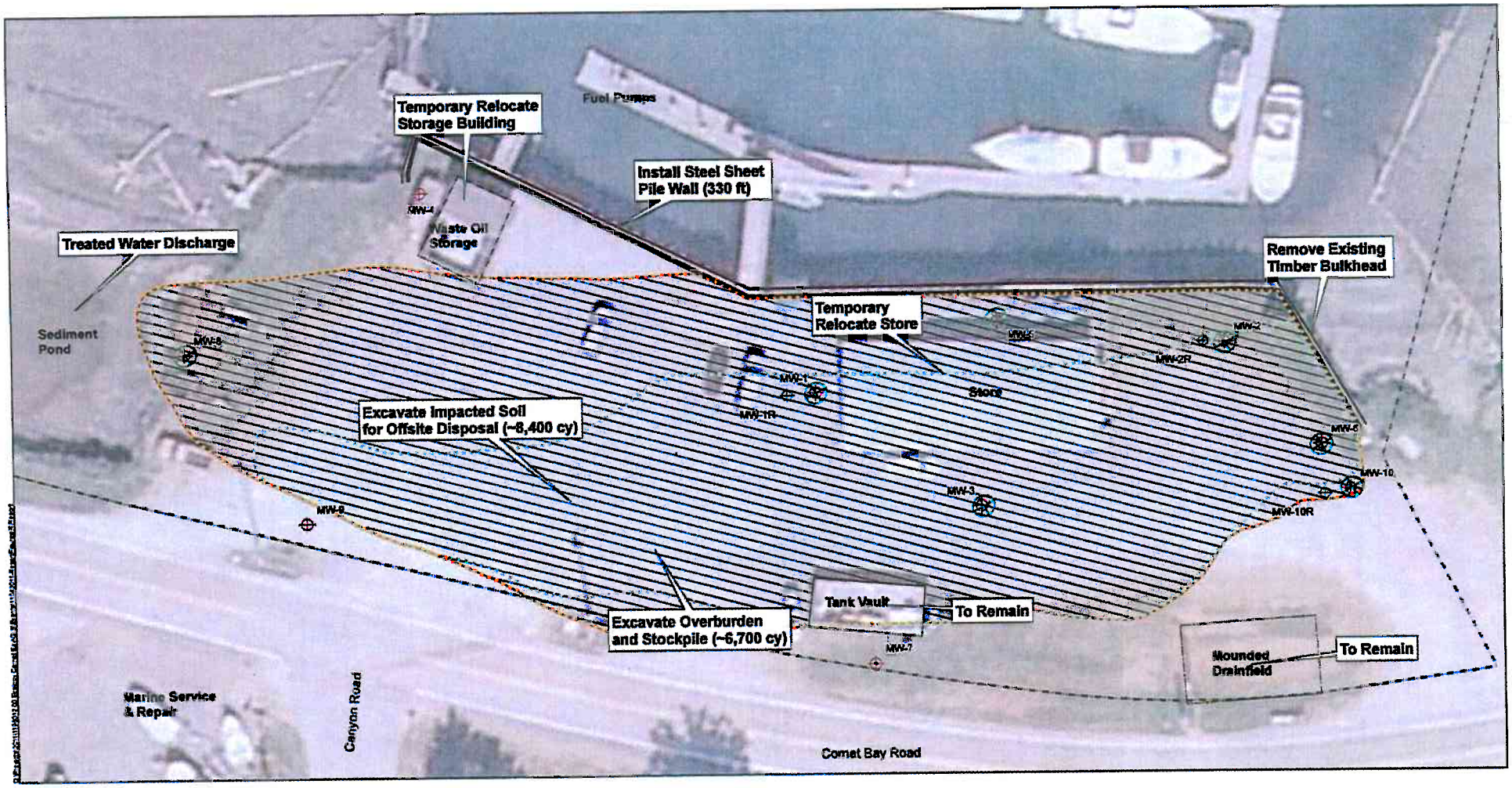


Figure 9 – Proposed Cleanup Actions



Legend

- Existing Monitoring Wells (Total of 10)
- Abandon Monitoring Wells (Total of 6)
- Proposed New Monitoring Well (Total of 3)
- Gas and Benzene Area Exceeding MTCA Method A Soil Cleanup Levels
- Benzene Area Exceeding MTCA Method A Soil Cleanup Levels
- Excavation Area
- New Steel Sheet Pile Wall
- Approximate Property Boundary
- Existing Timber Bulkhead

NOTE:
All locations are approximate.
Approximate property boundary obtained from Survey performed on 17 November 2011 Boundary based on west portion of site as identified on right-of-way. Aerials Express, 0.15 to 0.6m resolution imagery for photographic areas, and low level, available United States Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP) imagery and enhanced versions of United States Geological Survey (USGS) Digital Ortho Quarter Quad (DOQQ) imagery for other areas. For more information on this map, visit us online at http://gisdata.snopud.com/arcgis/rest/services/World_Imagery

N

0 30 60

Scale: Feet
1 inch = 30 feet