GLACIER NORTHWEST

3450 S 344th Way
Suite 201
Federal Way, WA 98001
Telephone: (206) 764-3000
Fax: (206) 764-3012

March 21, 2024

VIA E-MAIL

Jim Meyer – oda1959@comcast.net

Elizabeth Mooney – Elizabeth.mooney@comcast.net

Janet Hays – happyhaze@msn.com

RE: Glacier NW Dredging SSDX23-0025, SEPA23-0027

Dear Neighbor.

On behalf of Glacier Northwest, Inc. (dba CalPortland), thank you for sharing your comments on our permit application to perform maintenance dredging at the Kenmore barge berth and for taking time to participate in the virtual public meeting regarding the project on February 12th.

In response to your comments, we have made the following changes to the project:

1) We agree that some amount of lake sediments from outside the berth may have become mixed into the material we propose to dredge, and we plan to handle the material accordingly.
2) Rather than reusing the dredged material as originally proposed, it will be transported and disposed at an appropriate upland disposal site, such as Waste Management.
3) To ensure only clean sediment is exposed to the water column after the project is complete, the area outside the toe protection will be dredged one-foot deeper and backfilled with clean sand. Please see project drawings (Attachment A).
4) A sample of sediment will be collected from the newly exposed dredge cut outside the existing toe protection prior to placement of the clean sand. That sample will be analyzed for the attached list of chemicals of concern in the Dredged Material Management Program (DMMP) User Manual (https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll11/id/5397)

5) These changes increase the volume of material to be dredged and disposed from approximately 400 cubic yards to approximately 800 cubic yards.
6) Results of the sediment testing will be shared with the City of Kenmore and entered into the Washington State Department of Ecology's EIM database which is publicly available.

PROMINENT CONCERNS

Three concerns related to the proposed dredge project emerged prominently from the written comments and conversation during the virtual public meeting:

1) Could the material targeted to be removed by dredging be contaminated by dioxin-contaminated lake sediment that was stirred up previously and deposited onto the clean sand and gravel accumulated in the barge berth area?
2) Will the process of dredging stir up those lake sediments that may have been deposited on the dredged material and cause contaminants like dioxin to move from the berth to other areas of the lake, like Log Boom Park?
3) Will handling of the dredged material on the site expose workers or citizens to dust that could contain those lake sediments that contain dioxin and harm human health?

I will address these prominent concerns that were touched on in several comments first and will respond to some of the more specific comments below.

Question 1 – Are Contaminated Lake Sediment in The Material to be Dredged?

The material that has accumulated in the berth and that we propose to remove originated from a native source. It was screened and washed before it was placed on the barge for transport and offloaded at the site. It is the same material that is routinely tested and used for sediment remediation projects and habitat restoration projects across the Puget Sound Region. The material would not be eligible to be used in these projects if it was not recognized as a clean source. However, as commenters have indicated, it is possible that lake sediments outside the berth could have been stirred up at various times in the past and settled on the clean material targeted for removal.

The quality of lake sediments in the vicinity of the proposed dredge area is best represented by test results reported in a study published by the Washington Department of Ecology in 2013 and available online at: https://apps.ecology.wa.gov/publications/documents/1309174.pdf. That study concluded:

> *The Kenmore Navigation Channel sediment results show that the channel would not be classified as a MTCA cleanup site. All Navigation Channel sediment results are below the Freshwater Cleanup Screening Level (CSL). Likewise, the near shore Lakepointe aka Kenmore Industrial Park (KIP) site sediment results show no contamination above the screening values in the sediment adjacent to the KIP site at the north, west, and south waterfront.* ***The two***

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public parks, KIP site, and Navigation Channel report a relatively healthy near shore environment.

Sample SG-14, collected nearest the proposed dredge area (see Figure 1), had an observed dioxin concentration of 10.1 ppt TEQ. To put this in context, The Record of Decision issued by EPA for the Lower Duwamish Waterway (LDW) Superfund Site set the Remedial Action Objective for direct contact to 28 ppt TEQ. The Remedial Action Objective for direct contact is the concentration EPA selected as a goal protective of human health for skin contact and accidental ingestion during activities like beach play, clamming, and netfishing. The observed dioxin concentration in the KIP at SG-14 is also below the Remedial Action Objective set for clamming areas in the LDW of 13 ppt TEQ.

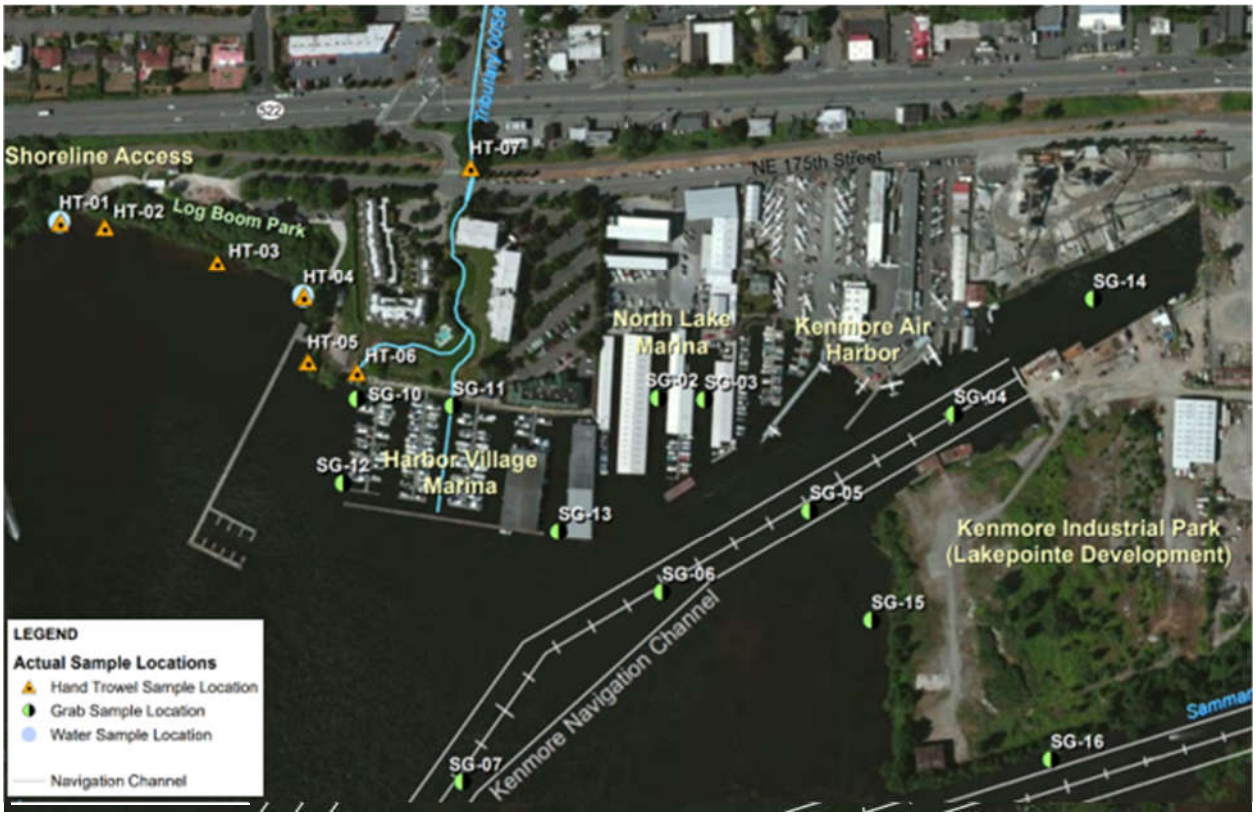

Figure 1: SG-14 with sediment dioxin concentration 10.1 ppt TEQ is the nearest sample point to the Kenmore barge berth. SG-11 near the mouth of Tributary 0056 had the highest sediment dioxin concentration (71 ppt TEQ) observed during the Ecology study.

If sediment from other parts of the lake was stirred up and settled on the clean material we proposed to dredge from the berth, it likely makes up a small percentage of the total amount of the material to be dredged. We know this for two reasons:

1) The depth in the berthing area has remained relatively constant since the offloading hopper system was modified to minimize spillage of sand & gravel in 2010. If large amounts of sediment were getting stirred up and deposited in the berth area, we would have expected the berth to continue to fill in over the past 14 years.

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2) Depth surveys done in the slip over the years do not show sediment accumulating in other areas of the slip either. Similar to the first point, if sediment was regularly getting stirred up and deposited, one would expect to observe sediment filling in other areas of the slip. Bottom depth surveys of the slip over the years do not reflect this observation.

As an example, if we conservatively assume that lake sediment from the surrounding KIP comprise up to ten percent of the proposed dredged material, a simple calculation reveals that this would result in a 90% dilution of contaminants in the lake sediments.

If we also assume that the lake sediments have a dioxin concentration of 10 ppt TEQ (like at Sample Station SG-14 from the Ecology Study), it is reasonable to estimate dioxin concentration in the dredged material are less than 1 ppt TEQ.

Answer 1 – It is possible there is some amount of lake sediment from the surrounding are in the material proposed to be dredged. However, even if lake sediment makes up to ten percent of the dredge volume, the concentration would be less than 1 ppt TEQ. This concentration is well below all applicable regulatory criteria.

Question 2 – Will Dredging Contaminate Other Areas?

Stirring up sediments is a concern for every dredging project because of the potential to cause water to become turbid (cloudy) and have other water quality impacts. Fortunately, there are well established and effective best management practices (BMPs) that are routinely used to address this concern. These BMPs will be employed during the Kenmore Maintenance Dredge Project.

- Dredging will be performed with an environmental dredge bucket. This type of bucket is specially designed to close in a way that minimizes the release of sediment to the water column during dredging.
- Water quality monitoring will be conducted in accordance with a monitoring plan approved by the Washington State Department of Ecology and the State 401 water quality certification.
- The dredge operator will adjust the speed at which they operate the dredge to ensure that water quality parameters stay within the requirements of the water quality certification and the water quality monitoring plan.
- Dredging will not proceed unless and until water quality parameters can be maintained within permitted criteria.

The material we are removing is primarily comprised of sand and gravel, which helps reduce the potential that sediment gets stirred up in the water. This is because the sand and gravel is heavier than silt and clay, and the sand and gravel tends to help hold the lighter silt and clay particles in place.

Answer 2 – Because established and effective BMPs including the use of an environmental bucket will be employed to prevent sediment from being stirred up and released during dredging, and because monitoring will be performed according to an approved monitoring plan to ensure BMPs are effectively implemented, and because the concentration of contaminants in the material

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dredged from the berth is very low; the potential for contaminated sediment to be stirred up by or released during dredging and moved to other areas of the lake is very low.

Question 3 – Will Citizens and Workers Be Harmed by Exposure to Contaminants In Dust Related To Dredging?

The dredged material will be wet and made up primarily of sand and gravel. Therefore, it is unlikely dust will be released during dredging or placement into the bunker, or during storage and transport. The bunker where the material will be temporarily placed prior to transport is needed to support the concrete operation, so there is an incentive in place to transport the dredged material from the site relatively quickly, and before has a chance to dry out. If for some reason, the dredged material does dry out, an onsite water truck could be used to water the surface of the dredged material to ensure that dust is not released during storage or transport. Trucks transporting the dredged material from the site will be tarped to minimize the potential for material to be lost during transport from the site.

Answer 3 – Because of the composition of the dredged material and precautions taken to avoid and minimize the potential for dust to be released from the dredged material, citizens and workers will not be harmed by exposure to contaminants in dust related to the maintenance dredge project.

OTHER SPECIFIC COMMENTS

Was Dredging Actually Completed in 2004?

Dredging was completed in 2004. A copy of the Corps permit from 2004 is enclosed as Attachment B. Because the material was not disposed at an open-water dredged material disposal site, a suitability determination (for open-water disposal) was not required by the permit agencies and not issued by the by the DMMP agencies.

Will Other Regulatory Agencies Review the Project?

Yes – The U.S. Army Corps of Engineers, the Washington Department of Ecology and Washington Department of Fish and Wildlife in addition to the City of Kenmore will all need to review this project and issue permits before it is allowed to proceed.

Has Recycled Asphalt Been Imported and Offloaded at the Barge Offload Facility?

Our offload system is used to offload clean sand and gravel only. We do not handle other materials that could potentially compromise the performance of our construction aggregates used for other purposes, or our concrete. Barges have not been used to transport recycled asphalt to Glacier's facilities in the past and we have no plans to do so in the future.

Regarding Testing and Suitability Determinations

There were several comments that reference U.S. Army Corps of Engineers and Dredged Material Management Program (DMMP) Requirements sampling and testing and a suitability determination. Some of these questions reflect confusion regarding the purpose of suitability determinations issued by the DMMP.

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The U.S. Army Corps of Engineers requires a suitability determination issued by the DMMP agencies before they will allow dredged material to be disposed of at one of the in-water dredged material disposal sites located in Puget Sound. The DMMP Agencies include the U.S. Army Corps of Engineers, U.S. EPA, Washington State Department of Ecology and Washington State Department of Natural Resources. Material that is dredged but not disposed of at an in-water disposal site requires a permit from the U.S. Army Corps of Engineers, the Washington State Department of Ecology, and other agencies, but does not require a determination that it is suitable for disposal at one of the open-water disposal sites.

Because we do not plan to dispose of the dredged material from the Kenmore berth at one of the open-water disposal sites, a determination from the DMMP Agencies stating the material is suitable for open-water disposal is not required.

Regarding Testing the "Z-Layer"

The DMMP agencies often require sampling of what they call the "Z-layer" for a dredge project. This sample is intended to characterize the material that will be exposed to the water column following completion of the dredge project. The purpose of this sample is to determine whether the newly exposed sediment surface is contaminated.

The majority of the Kenmore berth will be dredged to the elevation of the toe protection material that was placed in 2000 (+4.47 feet). The depth and location of the existing toe protection is shown in the plan set included as Attachment A. We know that the toe protection material is clean quarry rock so there is no reason to test those materials.

For the portion of the Kenmore berth outside the toe protection, we will dredge an additional foot deep (to +3.5 feet elevation). In response to comments and at the direction of the City under their SEPA Authority, a sample will be collected of the sediment that is exposed at the bottom of the dredge cut before a 1-foot layer of clean sand is placed over the top to ensure that any potential contaminants that may have been exposed in the bottom of the dredge cut are contained in place. We will then submit the sample from the bottom of the dredge cut for analysis of the chemicals of concern listed in the DMMP User Manual. The results of that analysis will be reported to the City of Kenmore and be entered into Ecology's EIM Database which is publicly available.

Sampling and analysis of the material from the bottom of the dredge cut outside the toe protection will serve the same purpose as the Z-layer samples described in the DMMP User Manual.

What is the Source of Dioxin Found in Lake Sediments?

In the process of preparing the other responses in this letter, information was reviewed that can be used to help identify a potential source. A summary of that information is provided below, even though answering this question is beyond the scope of the maintenance dredge project.

One clue that often helps identify a potential source or sources of sediment contamination is to view sample concentrations on a map. Generally, the highest sediment concentrations occur close to the source and concentrations decrease as distance increases from the source.

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The highest concentration of dioxin observed in sediment from the 2013 Ecology study was 71 ppt TEQ at station SG-11 near the mouth of Tributary 0056 shown in Figure 1. The second highest concentration of 50 ppt TEQ was observed at station SG-13 near the east entrance to the Harbor Village Marina.

The 2013 Ecology study put the dioxin concentrations at the north end of the lake in this context:

> *One comparison is the Seattle urban neighborhood dioxin levels, which range from 1.7 to 115 parts per trillion. With or without the two private marinas, the Kenmore sediment dioxin levels are lower than the Seattle neighborhood soil dioxin levels. The MTCA soil dioxin cleanup level is 11 parts per trillion, so without the two private marina results, all Kenmore sediment dioxin results are below the state soil dioxin cleanup requirements.*

The fact that the highest concentration is well within the range of dioxin concentrations observed in Seattle neighborhoods and occurs where this tributary enters the lake suggest that stormwater entering Tributary 0056 may be carrying fine soil and other materials that are contaminated with dioxin to the mouth of the creek where they settle into the lake.

If neighborhood dioxin levels in Seattle range as high as 115 ppt, it is plausible that neighborhood dioxin levels in the upper portion of the watershed for tributary 0056 are similar. It is also possible that increased efforts to improve stormwater, like regular cleaning of catch basins and installation features like rain gardens and bioswales upstream in the watershed, could help reduce the pollutant load entering the north end of the lake and reduce sediment concentrations over time.

This is probably also true for Bis(2-ethylhexyl)Phthalate and Di-n-octyl Phthalate, for which the highest concentrations were at station SG-11 at 740 µg/kg and 87 µg/kg, respectively. Both these values are above the State Sediment Cleanup Screening Levels (CSLs). This is in contrast with samples collected in the vicinity of the KIP which were all below the State Sediment Cleanup Objectives (SCOs). The CSL is the threshold concentration above which the state may require cleanup and the SCO is the target concentration at which no adverse impacts to the small animals like worms that live in the mud are known to occur.

A map of sampling locations and tables showing concentrations observed in samples during the 2013 Ecology study are included in Attachment C.

SUMMARY

Several changes were made to the maintenance dredge project in response to comments received during the public comment period. These changes include dredging one foot deeper in a portion of the dredge area, sampling the sediment that will remain and placing a 1-foot clean sand cap.

A study prepared by the Washington State Department of Ecology reported that the concentration of dioxin in lake sediment near the project area was 10.1 TEQ. This is below the cleanup goal set by EPA for clamming areas in the Lower Duwamish Waterway and less than half the goal set by EPA for beach areas where people my come into contact with sediment through skin contact or accidental ingestion.

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It is possible some lake sediment was stirred up in the past and has settled in the proposed dredge area. These lake sediments will be removed with the clean sand and gravel that is being dredged. Based on a conservative estimate, it is unlikely that the total concentration of the dredged material exceeds a dioxin concentration of 1 ppt TEQ.

Standard established and effective BMPs will be used to maintain water quality and minimize the potential for lake sediments to be stirred up and released during dredging.

Kenmore is the only place that remains on Lake Washington where gravel is delivered by barge. Barge deliveries eliminate the need for hundreds of truck trips into the area each week. Transporting gravel by barge is about eight times more efficient than truck transport and avoids traffic congestion, air pollution, roadway wear and tear, and greenhouse gas emissions.

Maintaining the facility at the Kenmore location helps provide construction materials in this way and helps communities remain more sustainable and resilient. We thank you for your comments and for supporting us in that effort.

Sincerely,

Glacier Northwest, Inc.

Pete Stoltz
Sr. Manager Permitting & Government Affairs

Cc: Reilly Rosbotham – Planner, City of Kenmore
Samantha Loyuk – Development Services Director, City of Kenmore

Attachments: 3

GLACIER NORTHWEST

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ATTACHMENT A

Project Drawings

GLACIER NORTHWEST

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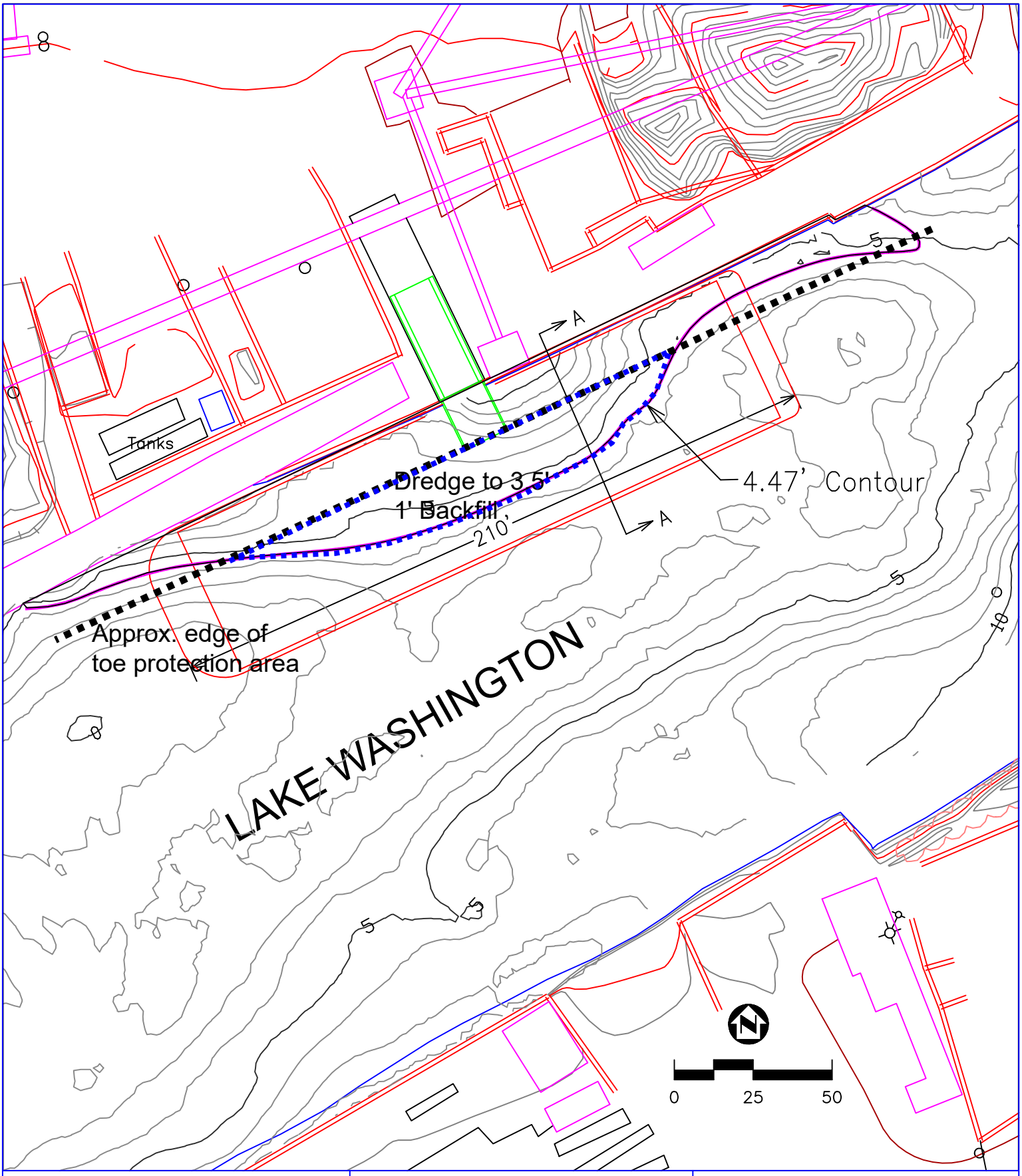
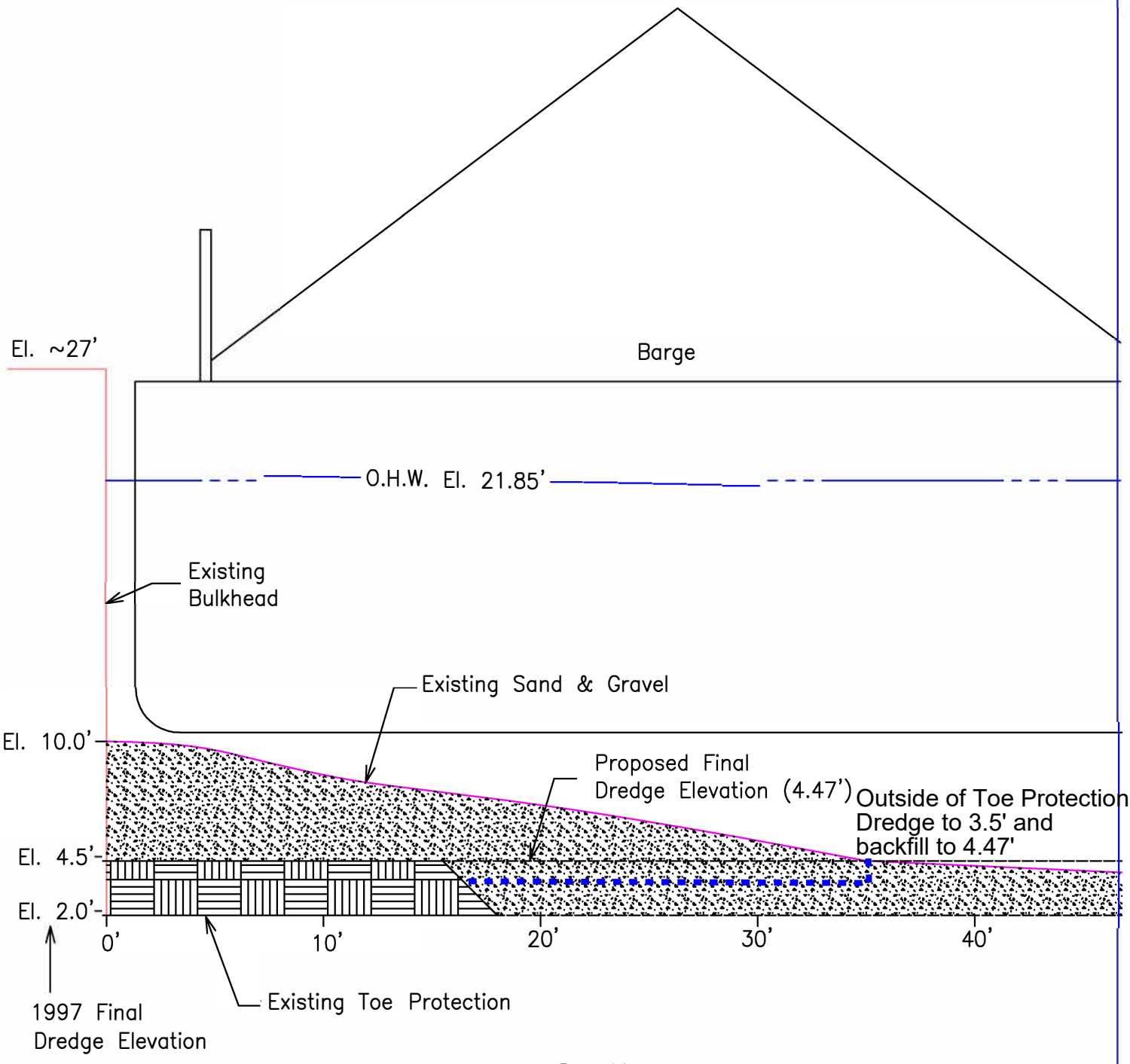


Proposed: Dredge Approx. 800 CY of Material.; 215 CY backfill

Vertical Datum: Corps of Engineers Lake Washington Datum

Proposed Dredging Plan View

Applicant: Glacier Northwest
6423 N.E. 175th St, Kenmore
Waterway: Lake Washington
Sec. 11 26T. 4E R.



Section A–A

Proposed: Dredge Approx. 800 CY of Material.; 215 CY backfill

Vertical Datum: Corps of Engineers Lake Washington Datum

Proposed Dredging Elevation View

0 2 4 8

Applicant: Glacier Northwest
6423 N.E. 175th St, Kenmore
Waterway: Lake Washington
Sec. 11 26T. 4E R.

ATTACHMENT B

2004 U.S. Army Corps Permit

GLACIER NORTHWEST

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

REPLY TO
ATTENTION OF

APR 20 2004

Regulatory Branch

Glacier Northwest, Inc.
Mr. Pete Stoltz
5975 East Marginal Way South
Seattle, Washington 98134

Reference: 200300781
Glacier Northwest, Inc.

Dear Ladies and Gentlemen:

Enclosed is a Department of the Army permit which authorizes performance of the work described in your referenced application.

You are cautioned that any change in the location or plans of the work will require submittal of a revised plan to this office for approval prior to accomplishment. Deviation from approved plans may result in imposition of criminal or civil penalties.

Your attention is drawn to General Condition 1 of the permit which specifies the expiration date for completion of the work. You are requested to notify this office of the date the work is completed.

We are interested in your thoughts and opinions concerning your experience with the U.S. Army Corps of Engineers, Seattle District's Regulatory Program. Please complete a Customer Service Survey form. The form is available on our website at: http://per2.nwp.usace.army.mil/survey.html. At your request, we will mail you a paper copy that you may complete and return to us by mail or fax.

Sincerely,

Thomas F. Mueller
Chief, Regulatory Branch

Enclosure

DEPARTMENT OF THE ARMY PERMIT

Permittee: Glacier Northwest, Inc.

Permit No: 200300781

Glacier Northwest, Inc.
5975 East Marginal Way South
Seattle, Washington 98134

Issuing Office: Seattle District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Dredge up to 350 cubic yards of clean sand and gravel at an unloading dock at a ready mix plant in accordance with the plans and drawings dated July 2003 attached hereto which are incorporated in and made a part of this permit (to maintain berthing depths at a facility used to unload aggregate material brought to the site). Dredged material will be placed directly into a bunker used to retain aggregate material at the upland portion of the plant and will be used as aggregate material.

Project Location: In Lake Washington at Kenmore, Washington.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on APR 20 2007. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in accordance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification to this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

7. After a detailed and careful review of all the conditions contained in this permit, the permittee acknowledges that, although said conditions were required by the Corps, nonetheless the permittee agreed to those conditions voluntarily to facilitate issuance of the permit; the permittee will comply fully with all the terms of all the permit conditions.

Special Conditions:

a. You must provide a copy of the permit transmittal letter, the permit form, and drawings to all contractors performing any of the authorized work.

b. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

c. You must implement and abide by the ESA requirements and/or agreements set forth in the *Glacier Northwest: Kenmore Maintenance Dredging Biological Evaluation*, dated July 8, 2003, and the addendum dated December 1, 2003, in their entirety. The U.S. Fish and Wildlife Service (USFWS) concurred with a finding of "may affect, not likely to adversely affect" based on this document on February 13, 2004 (USFWS Reference Number 1-3-04-I-0365). The National Marine Fisheries Service (NMFS) concurred with a finding of "may affect, not likely to adversely affect" based on this document on February 13, 2004 (NMFS Reference Number 2004/00012). Both agencies will be informed of this permit issuance. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your U.S. Army Corps of Engineers permit. The USFWS/NMFS is the appropriate authority to determine compliance with ESA.

d. In order to protect Puget Sound chinook, bull trout, and wintering bald eagles, the permittee may conduct the authorized activities from July 16 through July 31 in any year this permit is valid. The permittee shall not conduct work authorized by this permit from August 1 through July 15 in any year this permit is valid.

e. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

f. The authorized work shall not interfere with the public's right to free navigation on navigable waters of the United States.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbor Act of 1899 (33 U.S.C. 403).

( ) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of the permit.

b. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a

reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

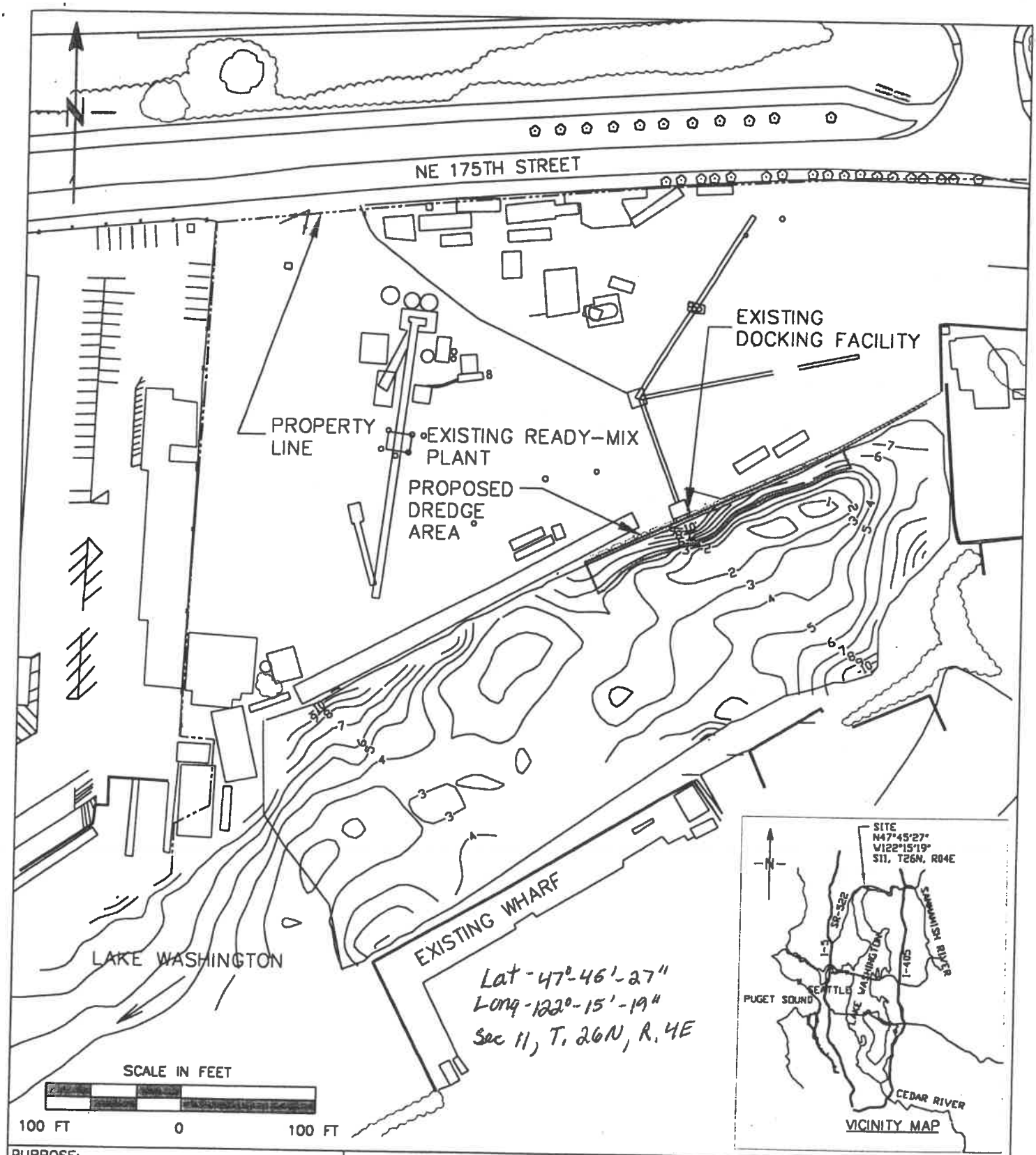
X _____ 23 march 04
Glacier Northwest, Inc. (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

_____ 30 April 2004
DEBRA M. LEWIS (DATE)
Colonel, Corps of Engineers
District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____
(TRANSFEREE) (DATE)



PURPOSE:
MAINTAIN BERTHING DEPTH AT THE GLACIER NORTHWEST KENMORE READY-MIX PLANT.

HORIZONTAL DATUM: WSP NORTH, NAD83
VERTICAL DATUM: CORPS OF ENGINEERS, KENMORE DATUM.

ADJACENT PROPERTY OWNERS:

KENMORE AIR HARBOR - SEA PLANE TERMINAL
6431 NE 175th ST
KENMORE, WA, 98028

RINKER MATERIALS NORTHWEST - ASPHALT FACILITY
6321 NE 175 ST
KENMORE, WA, 98028

VICINITY MAP AND PLAN VIEW

200300781

GLACIER NORTHWEST
KENMORE READY-MIX PLANT

6423 NE 175th STREET
KENMORE, WA 98028

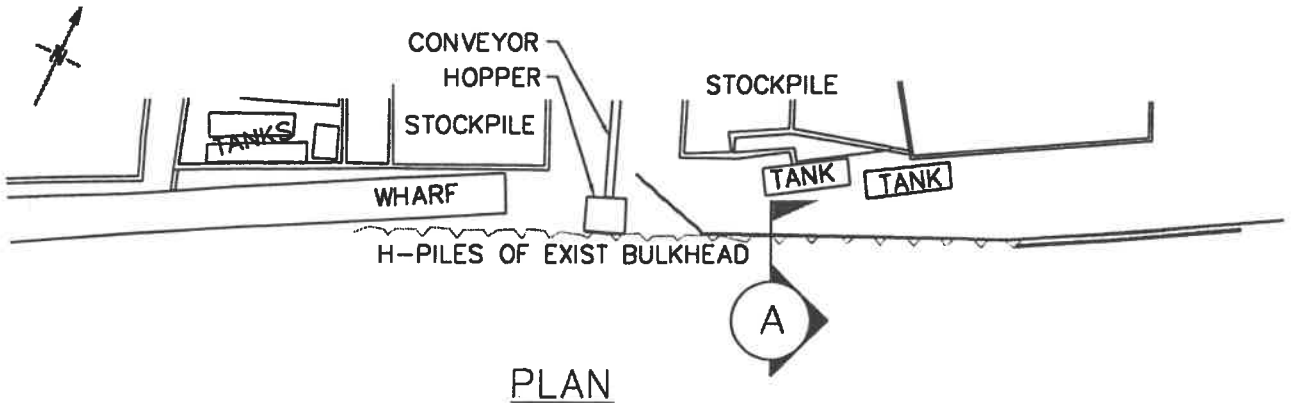
PROPOSED:
DREDGE APPROX. 350 CY OF MATERIAL.

IN: LAKE WASHINGTON
AT: KENMORE

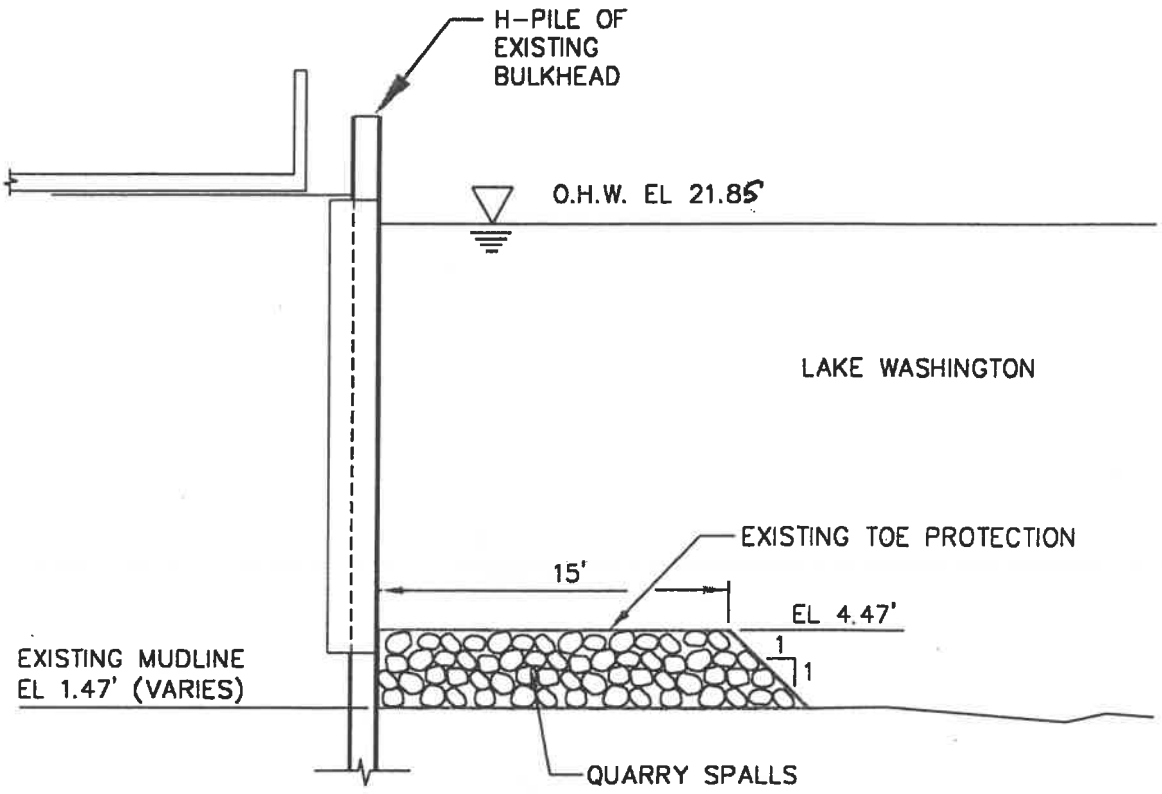
COUNTY OF: KING STATE: WA

APPLICATION BY: GLACIER NORTHWEST

SHEET 1 OF 5 DATE: JULY 2003



PLAN
(NOT TO SCALE)

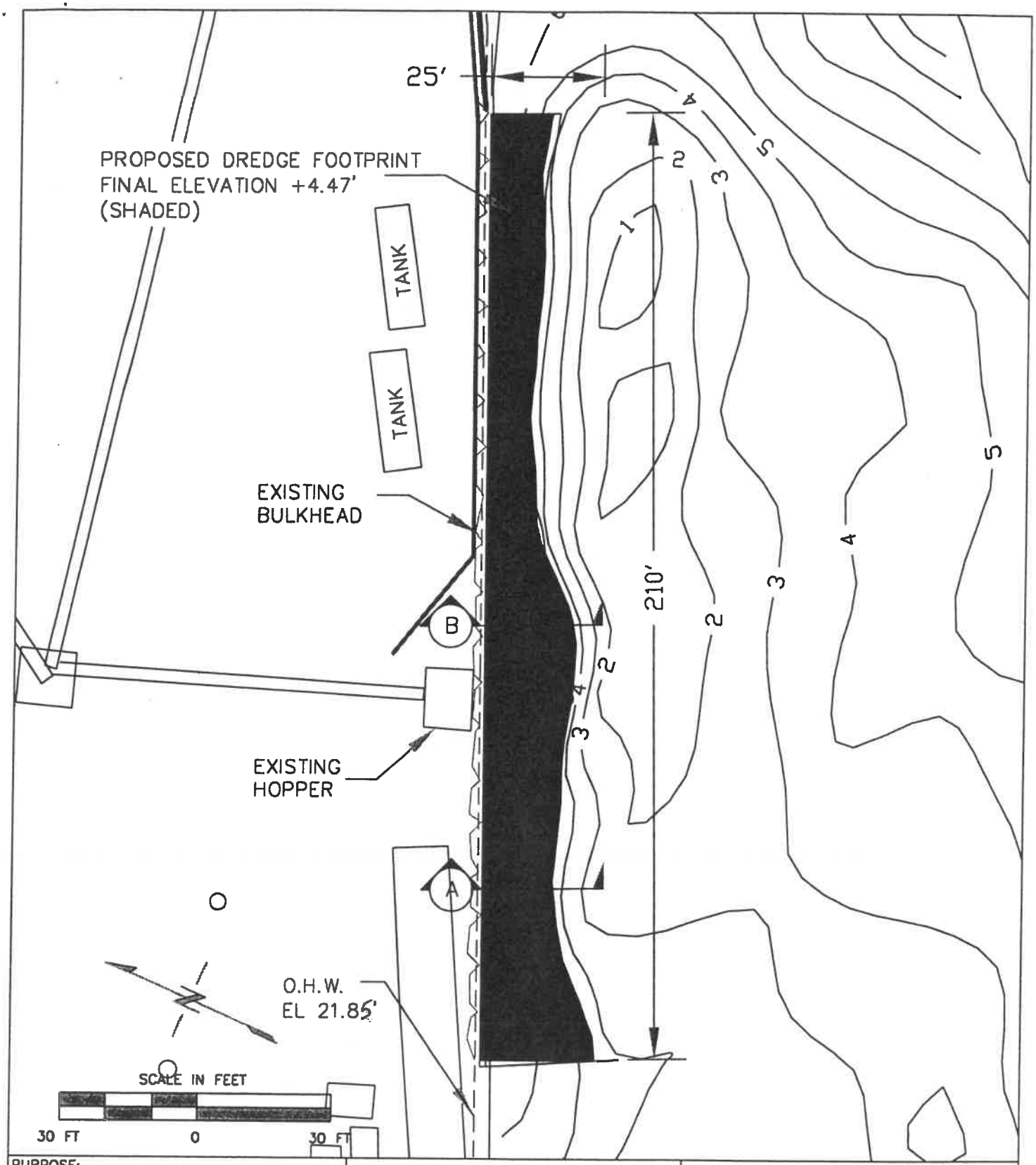


SCALE IN FEET

8 FT 0 8 FT

1/8" = 1'

PURPOSE: MAINTAIN BERTHING DEPTH AT THE GLACIER NORTHWEST KENMORE READY-MIX PLANT. HORIZONTAL DATUM: WSP NORTH, NAD83 VERTICAL DATUM: CORPS OF ENGINEERS, KENMORE DATUM. ADJACENT PROPERTY OWNERS: KENMORE AIR HARBOR - SEA PLANE TERMINAL 6431 NE 175th ST KENMORE, WA, 98028 RINKER MATERIALS NORTHWEST - ASPHALT FACILITY 6321 NE 175 ST KENMORE, WA, 98028	PLAN VIEW AND CROSS SECTION OF EXISTING BULKHEAD AND TOE PROTECTION 200300781 GLACIER NORTHWEST KENMORE READY-MIX PLANT 6423 NE 175th STREET KENMORE, WA 98028	PROPOSED: DREDGE APPROX. 350 CY OF MATERIAL. IN: LAKE WASHINGTON AT: KENMORE COUNTY OF: KING STATE: WA APPLICATION BY: GLACIER NORTHWEST SHEET 2 OF 5 DATE: JULY 2003



PURPOSE:
MAINTAIN BERTHING DEPTH AT THE GLACIER NORTHWEST KENMORE READY-MIX PLANT.

HORIZONTAL DATUM: WSP NORTH, NAD83
VERTICAL DATUM: CORPS OF ENGINEERS, KENMORE DATUM

ADJACENT PROPERTY OWNERS:
KENMORE AIR HARBOR - SEA PLANE TERMINAL
6431 NE 175th ST
KENMORE, WA, 98028
RINKER MATERIALS NORTHWEST - ASPHALT FACILITY
6321 NE 175 ST
KENMORE, WA, 98028

PROPOSED DREDGE FOOTPRINT WITH EXISTING BATHYMETRY

200300781

GLACIER NORTHWEST
KENMORE READY-MIX PLANT

6423 NE 175 ST
KENMORE, WA, 98028

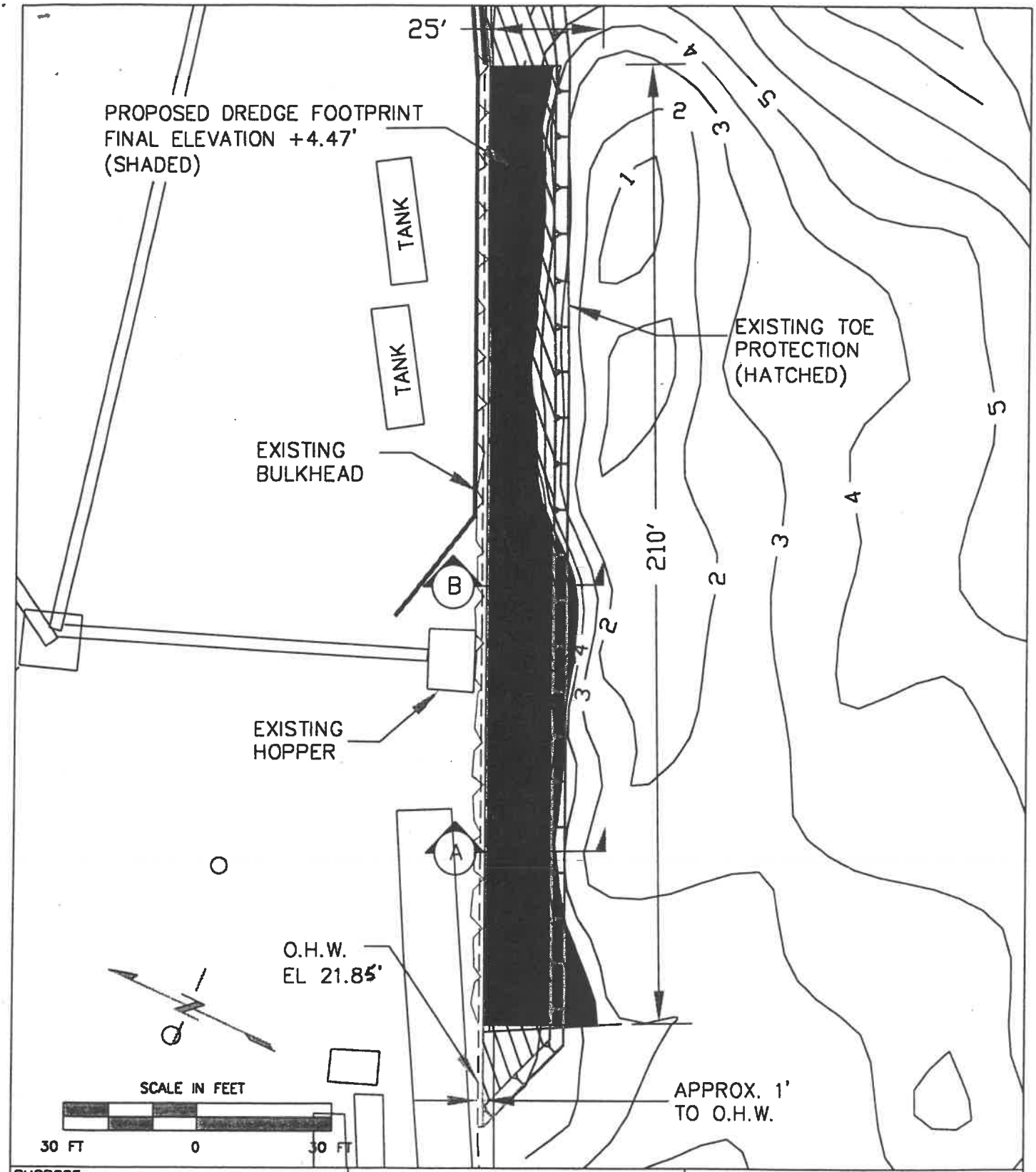
PROPOSED:
DREDGE APPROX. 350 CY OF MATERIAL.

IN: LAKE WASHINGTON
AT: KENMORE

COUNTY OF: KING STATE: WA

APPLICATION BY: GLACIER NORTHWEST

SHEET 3 OF 5 DATE: JULY 2003



PURPOSE:
MAINTAIN BERTHING DEPTH AT THE GLACIER NORTHWEST KENMORE READY-MIX PLANT.

HORIZONTAL DATUM: WSP NORTH, NAD83
VERTICAL DATUM: CORPS OF ENGINEERS, KENMORE DATUM

ADJACENT PROPERTY OWNERS:
KENMORE AIR HARBOR - SEA PLANE TERMINAL
6431 NE 175th ST
KENMORE, WA, 98028
RINKER MATERIALS NORTHWEST - ASPHALT FACILITY
6321 NE 175 ST
KENMORE, WA, 98028

PROPOSED DREDGE FOOTPRINT WITH EXISTING TOE PROTECTION

200300781

GLACIER NORTHWEST
KENMORE READY-MIX PLANT

6423 NE 175th STREET
KENMORE, WA 98028

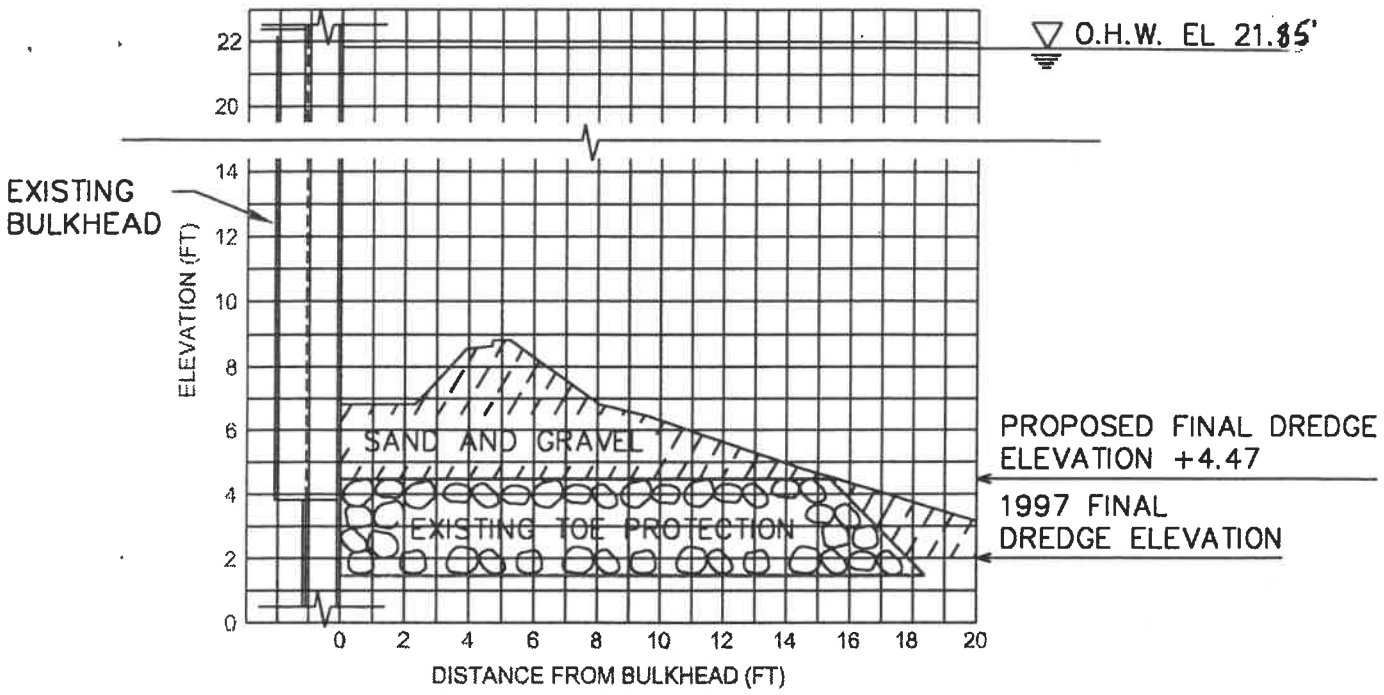
PROPOSED:
DREDGE APPROX. 350 CY OF MATERIAL.

IN: LAKE WASHINGTON
AT: KENMORE

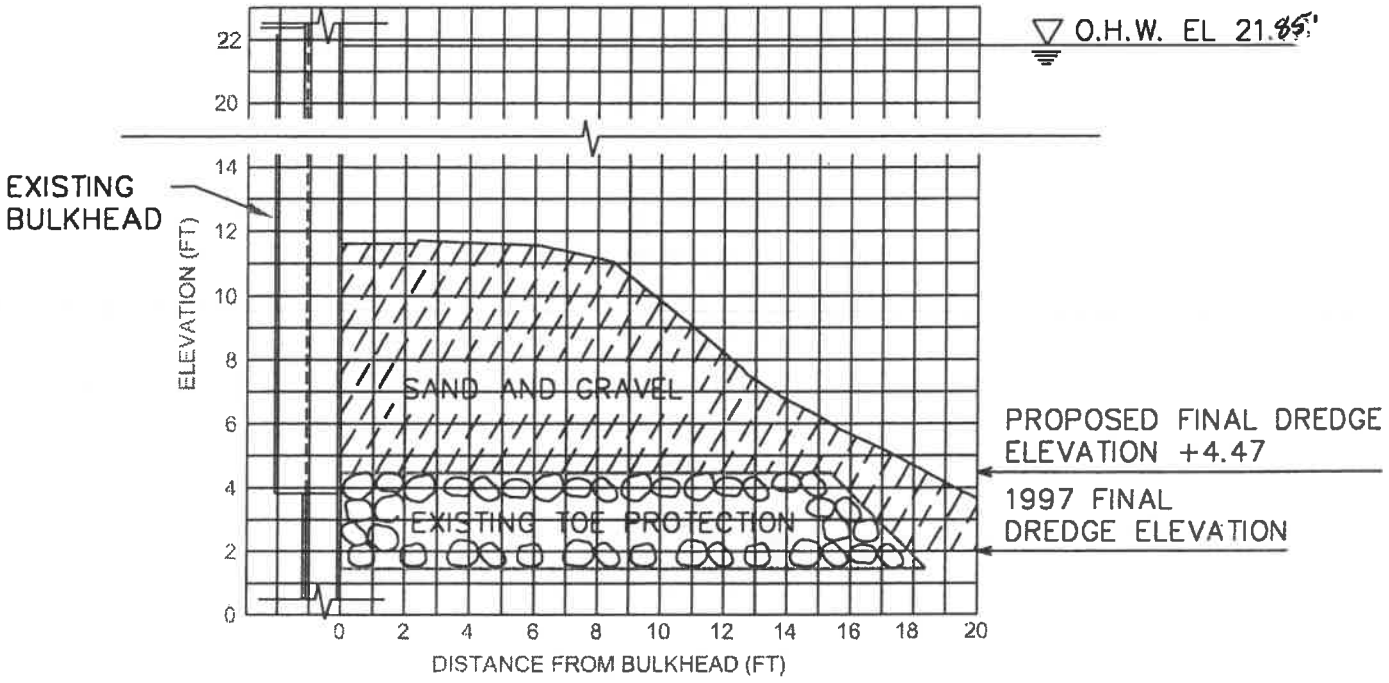
COUNTY OF: KING STATE: WA

APPLICATION BY: GLACIER NORTHWEST

SHEET 4 OF 5 DATE: JULY 2003



SECTION A



SECTION B

PURPOSE:
MAINTAIN BERTHING DEPTH AT THE GLACIER NORTHWEST KENMORE READY-MIX PLANT.

HORIZONTAL DATUM: WSP NORTH, NAD83
VERTICAL DATUM: CORPS OF ENGINEERS, KENMORE DATUM

ADJACENT PROPERTY OWNERS:
KENMORE AIR HARBOR – SEA PLANE TERMINAL
6431 NE 175th ST
KENMORE, WA, 98028
RINKER MATERIALS NORTHWEST – ASPHALT FACILITY
6321 NE 175 ST
KENMORE, WA, 98028

MAINTENANCE DREDGE AREA
CROSS SECTIONS
200300781
GLACIER NORTHWEST
KENMORE READY-MIX PLANT

6423 NE 175th STREET
KENMORE, WA 98028

PROPOSED:
DREDGE APPROX. 350 CY OF MATERIAL.

IN: LAKE WASHINGTON
AT: KENMORE

COUNTY OF: KING STATE: WA

APPLICATION BY: GLACIER NORTHWEST

SHEET 5 OF 5 DATE: JULY 2003

US Army Corps
of Engineers ®
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

Permit Number: 200300781

Name of Permittee: Glacier Northwest, Inc.

Date of Issuance: APR 20 2004

Upon completion of the activity authorized by this permit, please check the applicable boxes below, sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98125-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your project is subject to suspension, modification, or revocation.

☐ The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.

☐ The mitigation required (not including monitoring) by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.

_____
Signature of Permittee

This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

APR 20 2004

A permit to DREDGE UP TO 350 CUBIC YARDS OF CLEAN SAND AND GRAVEL AT AN UNLOADING DOCK AT A READY MIX PLANT (TO MAINTAIN BERTHING DEPTHS AT A FACILITY USED TO UNLOAD AGGREGATE MATERIAL BROUGHT TO THE SITE). DREDGED MATERIAL WILL BE PLACED DIRECTLY INTO A BUNKER USED TO RETAIN AGGREGATE MATERIAL AT THE UPLAND PORTION OF THE PLANT AND WILL BE USED AS AGGREGATE MATERIAL. IN LAKE WASHINGTON

at KENMORE, WASHINGTON

has been issued to NORTHWEST GLACIER, INC. **on** APR 20 2004

Address of Permittee 5975 EAST MARGINAL WAY SOUTH, SEATTLE, WASHINGTON 98134

Permit Number

200300781

DEBRA M. LEWIS
COLONEL, CORPS OF ENGINEERS
DISTRICT COMMANDER

ENG FORM 4336, Jul 81 (ER 1145-2-303) EDITION OF JUL 70 MAY BE USED

(Proponent: DAEN-CWO)

GLACIER
NORTHWEST

5975 East Marginal Way S.
Seattle, WA 98134
P.O. Box 1730
Seattle, WA 98111
Telephone: (206) 764-3000

Fax Numbers:
Corporate (206) 764-3012
Sales (206) 764-3014
Credit (206) 764-3013
Warehouse (206) 762-3077
Cement Terminal (206) 764-7176

Letter of Transmittal

To: U.S. Army Corps of Engineers
Regulatory Branch

From: Pete Stoltz

Date: June 3, 2005

Re: Permit # 200300781
Kenmore maintenance Dredge

Project:

We are sending the following items:

Copies	Description
1	Certificate of Compliance with Dep. of Army Permit

These are transmitted:

☐ For your information ☐ For action specified below ☐ For review and comment ☒ For your use ☐ As requested

Comments: In going through our files recently, I could not find a copy of the Certificate of Compliance for the Above referenced Project despite the fact that I thought WE had completed one and forwarded it to you. The dredge work authorized by the permit was completed during Summer 2004. You may already have a completed certificate on file for this project. IF so, I Appologized for the Confusion. If not, I Appologize for the delay.

cc:

If you have questions, please feel free to contact me at 206-768-7636.

Pete Stoltz

US Army Corps of Engineers ®
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

Permit Number: 200300781

Name of Permittee: Glacier Northwest, Inc.

Date of Issuance: APR 20 2004

Upon completion of the activity authorized by this permit, please check the applicable boxes below, sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98125-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your project is subject to suspension, modification, or revocation.

☒ The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.

☐ The mitigation required (not including monitoring) by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.

for Glacier Northwest

Signature of Permittee

ATTACHMENT C

Information from 2013 Ecology Report

GLACIER NORTHWEST

3450 S 344th Way
Suite 201
Federal Way, WA 98001
Telephone: (206) 764-3000
Fax: (206) 764-3012

Kenmore Area Sediment & Water Characterization Environmental Evaluation Report

Kenmore and Lake Forest Park,
Northeast Lake Washington and Sammamish River,
Kenmore Area, King County, Washington

Prepared by

Toxics Cleanup Program
Washington Department of Ecology
Northwest Regional Office
Bellevue, Washington

May 2013

Publication No. 13-09-174

Abstract/Executive Summary

The Washington State Department of Ecology (Ecology) Environmental Evaluation Report for the Kenmore Area Sediment and Water Characterization summarizes the sediment and surface water results with a focus on human health and environmental evaluation. This report represents the work conducted by Anchor QEA and Ecology for the City of Kenmore in November 2012.

The sediment and water results have two general purposes. First, is to assist the City of Kenmore for dredge planning for the Kenmore Navigation Channel with the US Army Corps of Engineers. The second purpose is for human health and environmental evaluation to assess current conditions at the near shore waterfront at the Cities of Kenmore and Lake Forest Park. The report compares the results with the state's cleanup requirements including the new Sediment Management Standards Amendments (SMS).

In general, this work represents an important and successful step in evaluating the current conditions of the near shore northeast waterfront at Lake Washington and the lower reaches of the Sammamish River. The surface water results are significantly below protection levels for human health and aquatic life representing Log Boom Park and northeast Lake Washington reference sample. The sediment and water characterization results indicate there are no significant environmental issues at the two public parks – Log Boom Park and Lyon Creek Park. Most of the sediment results are below SMS freshwater criteria except for samples at the two private marinas.

The Kenmore Navigation Channel sediment results show that the channel would not be classified as a MTCA cleanup site. All Navigation Channel sediment results are below the Freshwater Cleanup Screening Level (CSL). Likewise, the near shore Lakepointe aka Kenmore Industrial Park (KIP) site sediment results show no contamination above the screening values in the sediment adjacent to the KIP site at the north, west, and south waterfront. The two public parks, KIP site, and Navigation Channel report a relatively healthy near shore environment.

Overall, the sediment results compared to state cleanup criteria show no exceedance for metals, poly-aromatic hydrocarbons (PAHs), pesticides, and miscellaneous extractables (benzoic acid and benzyl alcohol), and only one occurrence of PCBs. There are multiple occurrences of phthalates and dioxin at low levels. The sediment dioxin levels range from 0.3 to 71 parts per trillion at the Kenmore area with the two private marina results, and from 0.3 to 10 parts per trillion without the marina results. One comparison is the Seattle urban neighborhood dioxin levels, which range from 1.7 to 115 parts per trillion. With or without the two private marinas, the Kenmore sediment dioxin levels are lower than the Seattle neighborhood soil dioxin levels. The MTCA soil dioxin cleanup level is 11 parts per trillion, so without the two private marina results, all Kenmore sediment dioxin results are below the state soil dioxin cleanup requirements.

Ecology has met with the marina owners and we have agreed to work together for the next steps in dredge planning and environmental evaluation. Also, more work will be required to identify the dioxin source or sources. Ecology will follow up on possible dioxin sources when funds become available.

Acronyms and Abbreviations

ARAR Applicable or Relevant and Appropriate Requirements also called ARARs for federal, State and tribal requirements for environmental requirements.

ATSDR Agency for Toxic Substances Disease Registry is a federal agency.

Benthic community is the bottom dwelling organisms that live on a lake bottom or river bed.

CLARC Cleanup Levels and Risk Calculations under the Model Toxics Control Act Cleanup Regulations and see weblink at: https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx

DMMP Dredged Material Management Program including the US Army Corps of Engineers, EPA, WDNR and Ecology.

EPA Environmental Protection Agency is a federal agency.

MTCA Model Toxics Control Act are the Washington State environmental cleanup regulations under Chapter 70D RCW, Chapter 64.70 RCW, and Chapter 173-340 WAC.

QA/QC Quality assurance and quality control is an evaluation process to confirm the quality of the sampling and laboratory results.

PAHs Polycyclic Aromatic Hydrocarbons.
PCBs Polychlorinated biphenyls and also called Aroclors.

SMS CSL and SCO Sediment Management Standards promulgated under WAC 173-340-760 with two screening levels –SCO called sediment cleanup objectives and CSL called cleanup screening levels.

SQV Sediment quality values developed for screening pollutants in a water system.

SSAP Sediment Sampling and Analysis Plan

TBT Tributyltin
TEQ Toxicity Equivalency values used with dioxin/furans and defined by World Health Organization 2005.

USACE US Army Corps of Engineers

VOCs Volatile Organic Compounds

WDFW Washington State Department of Fish and Wildlife
WDNR Washington State Department of Natural Resources
WDOH Washington State Department of Health

Q:\Jobs\120891-01.01_Harbor Village_Marina\Maps\2012_11\Sampling Actuals.mxd ckiblinger 11/21/2012 12:44:04 PM

ANCHOR QEA

Feet
0 200 400 600 800

Figure 2
Sample Locations
Sampling and Analysis Plan
Kenmore Sediment Characterization

Kenmore Area Lake Washington & Sammamish River Sediment Sampling Results - November 2012

Table 3. Public Parks and Boat Launch Sediment Results and note units vary by chemical group.

SCO = Freshwater Sediment Cleanup Objective
CSL = Freshwater Cleanup Screening Level

Analyses	Screening Criteria SMS Freshwater[a]		Lyon Creek Park		L o g B o o m P a r k						Samm Boat Launch	
Analyte/Sample #	SCO	CSL	#HT-10	#HT-11	#HT-01	#HT-02	#HT-03	#HT-04	#HT-05	#HT-06	#HT-08	#HT-09
Sampe Depth, cm			0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm
Metals, mg/kg, ppm												
Cadmium	2.1	5.4	**0.3**	**0.3**	0.2U	0.3U	**0.3**	**0.5**	**0.4**	**0.3**	**0.3**	**0.4**
Chromium	72	88	**24.3J**	**22.6J**	**17.8J**	**23.3J**	**23J**	**27J**	**20.3J**	**25.5J**	**29.6J**	**28.8J**
Copper	400	1200	**8.9**	**8.9**	**4.3**	**5.6**	**7.6**	**15.2**	**220**	**9.9**	**38.2**	**21.9**
Zinc	3200	>4200	**59**	**55**	**34**	**41**	**58**	**117**	**69**	**53**	**54**	**64**
Polycyclic Aromatic Hydrocarbons, ppb												
Total Light PAHs, U=1/2			**43**	4.8U	**17J**	**47J**	**590J**	**2000**	**24J**	**83J**	**28J**	**71J**
Total High PAHs,U=1/2	7,000	30,000	**240J**	**30J**	**23J**	**77J**	**860**	**3600**	**98J**	**450**	**130**	**330J**
Phthalate, ppb												
Bis(2ehtylhexyl) Phth	500	22,000	**31**	**21J**	**16J**	**18J**	**66**	**460**	**23**	**110**	**72**	**130**
Dimethyl Phthalate*	not specified*		19U	20U	19U	20U	19U	20U	18U	19U	**97**	**970**
DNO Phth	39	>1100	19U	20U	19U	20U	19U	20U	18U	19U	18U	**15J**
Misc Extractables, ppb												
Benzoic acid	2900	3800	390U	390U	380U	390U	390U	**390J**	370U	380U	370U	**140J**
Benzyl alcohol	not specified		19U	20U	19U	20U	**20**	**210**	18U	**37**	18U	**23**
PCBs Total, ppb	110	2500	19U	19U	18U	19U	19U	**28J**	17U	17U	17U	19U
Dioxin TEQ,pptr, U=1/2	not specified		**0.54J**	**0.37J**	**0.30J**	**0.630J**	**2.2J**	**7.9J**	**1.2J**	**1.3J**	**0.56J**	**1.4J**

Ecology April 30, 2013

MTCA Sediment Management Standards for Freshwater Benthic:
Sediment Cleanup Objectives (SCO) & Cleanup Screening Levels (CSL):
Freshwater SCO = No adverse effects to benthic community.
Freshwater CSL = Establishes a minor adverse effects level including acute or chronic effects and may be defined as potential cleanup for benthic community see Rule WAC 173-204 Sediment Management Standards.

J = Laboratory analysis shows chemical is present and the concentration is an estimated value.
U = Laboratory analysis shows chemical is not detected (is not present) at detection reporting limit.
PAH-TH = Total High Poly-aromatic hydrocarbons (PAHs). PAH-TL = Total Low PAHs.
U=1/2 = Totals are calculated as sum of all detected results and 1/2 the undetected reporting limit.
Phthalate DNOP = Di-n-octyl phthalate. PCBs Total = Total 7 Polychlorinated biphenyls (Aroclors).
Dioxin TEQ = Total Dioxin/Furan Toxicity Equivalency (TEQ) values 2005 World Health Organization.
ppm = parts per million. ppb = parts per billion. pptr = parts per trillion.

* Dimethyl phthalate toxicity is unknown and recommend substance be considered a chemical of concern for future evaluation.
SMS Freshwater[a] = Feshwater screening critieria reported in parts per billion dry weight from WAC 173-204-563(2)(g) or as specified.

Kenmore Area Lake Washington & Sammamish River Sediment Sampling Results - November 2012

Table 4. Navigation Channel results are compared with MTCA Sediment Freshwater criteria[a] and Dredge DMMP screening guidance.
Note sample depth varies and results are reported in different units -parts per million (ppm), parts per billion (ppb) and parts per trillion (pptr).

Screening Criteria	SMS Freshwater[a]		DMMP Planning		East KNC[b]	Kenmore Navigation Channel Results - NE to SW							Range	
Analyte/Sample #	SCO	CSL	SL	ML	#SG-14	#SG-04	#SG-05	#SG-06	#SG-07	#SG-07 Dupl	#SG-08	#SG-09	Min	Max
Sample depth, cm					0-10 cm	0-15 cm	0-23 cm	0-25 cm	0-25 cm	0-25 cm	0-25 cm	0-25 cm		
Metals, mg/kg, ppm														
Cadmium	2.1	5.4	5.1	14	**0.7**	**0.3**	**0.7**	**0.8**	**0.6**	**0.6**	**0.6**	**0.6**	**0.3**	**0.8**
Chromium	72	88	260	--	**36**	**35**	**43**	**57**	**41**	**44**	**44**	**48**	**35**	**57**
Copper	400	1200	390	1300	**111J**	**14.6**	**35.6**	**43.6**	**30**	**28.7**	**28**	**31.1**	**14.6**	**111J**
Zinc	3200	>4200	410	3800	**182J**	**49**	**143**	**164**	**126**	**123**	**113**	**130**	**49**	**182J**
Tributyltin** ug/L or ug/kg	47 ug/kg[a]	320 ug/kg[a]	0.15ug/L	0.15ug/L	**0.010**	**0.049**	**0.008**	**0.023**	0.005U	0.005U	0.005U	0.005U	0.005U	**0.049**
Polycyclic Aromatic Hydrocarbons, ppb														
Total Light PAHs, U=1/2	not specified		5200	29,000	**1500**	**190J**	**330**	**250J**	**120J**	**103J**	**78J**	**83**	**78J**	**1500**
Total Heavy PAHs, U=1/2	17,000	30,000	12,000	69,000	**4200**	**900J**	**1340**	**1510**	**860J**	**690J**	**620J**	**600J**	**600J**	**4200**
Phthalates, ppb														
Bis(2-ethylhexyl)Phthalate	500	22,000	1300	8300	**280**	62U	**260**	**540**	**330**	**300**	**240**	**240**	62U	**540**
Dimethyl Phthalate*	not specified*				19U	20U	20U	20U	20U	19U	19U	20U	19U	20U
DNOP	39	>1100	6200	6200	**24**	20U	**22J**	**41J**	**22J**	19U	19U	20U	19U	**41J**
Miscellaneous Extractables, ppb														
Benzoic acid	2900	3800	650	760	**610**	390U	**1300**	**1100**	**430**	**480**	**300J**	**510**	**300J**	**1300**
Benzyl alcohol	not specified		57	870	**100**	20U	**160**	**190**	**120**	**100**	**61**	**110**	20U	**190**
PCBs Total, ppb	110	2500	130	3100	**20**	20U	29U	28U	19U	**22**	18U	20U	18U	**22**
Dioxin TEQ, pptr, U=1/2	not specified		4	10	**10.1J**	**1.6J**	**6.8J**	**8.4J**	**4.2J**	**4.0J**	**3.9J**	**4.9J**	**1.6J**	**10.1J**

Ecology Draft April 30, 2013

MTCA Sediment Management Standards for Freshwater Benthic:
Sediment Cleanup Objectives (SCO) & Cleanup Screening Levels (CSL):

Freshwater SCO = No adverse effects to benthic community.

Freshwater CSL = Establishes a minor advers effects level including acute or chronic effects and maybe defined as potential cleanup for benthic community see Rule.

Dredge DMMP Screen Level 1 (SL).

Dredge DMMP Marine Maximum Level (ML).

J = Laboratory analysis shows chemical is present and the concentration is an estimated value.
U = Laboratory analysis shows chemical is not detected (is not present) at the laboratory detection reporting limit.
East KNC[b] = sample location at northeast of USACE defined Kenmore Navigation Channel.
Tributyltin** testing for DMMP reported in porewater as ug/L, and SMS reported as dry weight normalized in ug/kg or parts per billion.
PAH-TH = Total High Poly-aromatic hydrocarbons (PAHs). PAH-TL = Total Low PAHs.
Phthalate DNOP = Di-n-octyl phthalate. PCBs Total = Total 7 Polychlorinated biphenyls (Aroclors).
Dioxin TEQ = Total Dioxin/Furan Toxicity Equivalency (TEQ) values as of 2005 World Health Organization.

[a]SMS Freshwater screening criteria reported in parts per billion dry weight from WAC 173-204-563(2)(g) or as specified.

* Dimethyl phthalate reported levels are higher than interim freshwater criteria, toxicity is unknown and recommend substance be considered a chemical of concern for future evaluation.

Sample #SG-14 Collected Near Kenmore Barge Berth

Kenmore Area Lake Washington & Sammamish River Sediment Sampling Results - November 2012

Table 5. Lakepointe aka Kenmore Industrial Park Site results compared with SMS Freshwater screening criteria.

Note sample depth varies and results are reported in different units -parts per million (ppm), parts per billion (ppb) and parts per trillion (pptr).

Screening Criteria	SMS Freshwater[a]		Kenmore Industrial Park Site - NE to West to SE					Range	
Analyte/Sample #	SCO	CSL	#SG-14	#SG-04	#SG-15	#SG-16	#SG-17	Min	Max
Sample depth, cm			0-10 cm	0-15 cm	0-10 cm	0-10 cm	0-10 cm		
Metals, ppm									
Cadmium	2.1	5.4	**0.7**	**0.3**	0.3U	0.2U	0.4U	0.2U	**0.7**
Chromium	72	88	**36**	**35**	**20.9**	**29.9**	**54**	**20.9**	**54**
Copper	400	1200	**111J**	**14.6**	**5.5J**	**5.4J**	**13.5J**	**5.4J**	**111J**
Zinc	3200	>4200	**182J**	**49**	**57J**	**43J**	**64J**	**43J**	**182J**
Tributyltin[b]	47ug/kg	320 ug/kg	ns	ns	ns	ns	ns	ns	ns
Polycyclic Aromatic Hydrocarbons, ppb									
Total Light PAHs, U=1/2	not specified		**1500**	**190J**	**35J**	**17J**	**120J**	**17J**	**1500**
Total Heavy PAHs, U=1/2	17,000	30,000	**4200**	**900J**	**56J**	**44J**	**540**	**44J**	**4200**
Phthalates, ppb									
Bis(2-ethylhexyl)Phthalate	500	22,000	**280**	62U	**21J**	**19J**	**150**	**19J**	**280**
Dimethyl Phthalate*	not specified*		19U	20U	19U	19U	**38**	19U	**38**
DNOP	39	>1100	**24**	20U	19U	19U	**11J**	**11J**	**24**
Miscellaneous Extractables, ppb									
Benzoic acid	2900	3800	**610**	390U	370U	390U	**430**	370U	**610**
Benzyl alcohol	not specified		**100**	20U	19U	19U	**62**	19U	**100**
PCBs Total, ppb	110	2500	**20**	20U	18U	18U	19U	18U	**20**
Dioxin TEQ, pptr, U=1/2	not specified		**10.1J**	**1.6J**	**0.65J**	**0.36J**	**2.3J**	**0.36J**	**10.1J**

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MTCA Sediment Management Standards for Freshwater Benthic:
Sediment Cleanup Objectives (SCO) & Cleanup Screening Levels (CSL):
Freshwater SCO = No adverse effects to benthic community.
Freshwater CSL = Establishes a minor advers effects level including acute or chronic effects and maybe defined as potential cleanup for benthic community see Rule.

PCBs Total = Total 7 Polychlorinated biphenyls (Aroclors).
Dioxin TEQ = Total dioxin/Furan Toxicity Equvalency values as of 2005 World Health Organization.
U=1/2 = Totals are calculated as sum of all detected results and 1/2 the undetected reporting limit.

[a]SMS Freshwater screening criteria reported in parts per billion dry weight from WAC 173-204-563(2)(g) or as specified. ns = no sample in SMS freshwater units.

Tributyltin[b] = SMS testing reported in dry weight in ug/kg or parts per billion. DMMP tributyltin testing is porewater in ug/L.

* Dimethyl phthalate reported levels are higher than interim freshwater criteria, toxicity is unknown and recommend substance be considered a chemical of concern for future evaluation.

Kenmore Area Lake Washington & Sammamish River Sediment Sampling Results - Nov 2012

Table 6. Sammamish River lower reaches sediment results are compared with SMS Freshwater criteria.

Note sample results are reported in different units -parts per million (ppm), parts per billion (ppb) and parts per trillion (pptr).

Screening Criteria	SMS Freshwater[a]		Sammamish River Results					Range	
Analyte/Sample #	SCO	CSL	#SG-01	#SG-16	#SG-17	#HT-08	#HT-09	Min	Max
Sample depth, cm			0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm		
Metals, ppm									
Cadmium	2.1	5.4	0.2U	0.2U	0.4U	0.3	**0.4**	0.2U	**0.4**
Chromium	72	88	**29.3**	**29.9**	**54**	**29.6J**	**28.8J**	**28.8J**	**54**
Copper	400	1200	**5.9J**	**5.4J**	**13.5J**	**38.2**	**21.9**	**5.4J**	**38.2**
Zinc	3200	>4200	**43J**	**43J**	**64J**	**54**	**64**	**43J**	**64**
Polycyclic Aromatic Hydrocarbons, ppb									
Total Light PAHs, U=1/2	not specified		**40**	**17J**	**120J**	**28J**	**71J**	**17J**	**120J**
Total High PAHs, U=1/2	17,000	30,000	**180J**	**44J**	**540**	**130**	**330J**	**44J**	**540**
Phthalates, ppb									
Bis(2-ethylhexyl)Phthalate	500	22,000	**28**	**19J**	**150**	**72**	**130**	**19J**	**150**
Dimethyl Phthalate*	not specified*		19U	19U	**38**	**97**	**970**	19U	**970**
DNOP	39	>1100	19U	19U	**11J**	18U	**15J**	**11J**	19U
Miscellaneous Extractables, ppb									
Benzoic acid	2900	3800	380U	390U	**430**	370U	**140J**	**140J**	**430**
Benzyl alcohol	not specified		19U	19U	**62**	18U	**23**	18U	**62**
PCBs Total, ppb	110	2500	17U	18U	19U	17U	19U	17U	19U
Dioxin TEQ, pptr, U=1/2	not specified		**0.47J**	**0.36J**	**2.3J**	**0.56J**	**1.4J**	**0.36J**	**2.3J**

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MTCA Sediment Management Standards for Freshwater Benthic:
Sediment Cleanup Objectives (SCO) & Cleanup Screening Levels (CSL):
Freshwater SCO = No adverse effects to benthic community.
Freshwater CSL = Establishes a minor advers effects level including acute or chronic effects and maybe defined as potential cleanup for benthic community.

PAH-TH = Total high Poly-aromatic hydrocarbons (PAHs). PAH-TL = Total light PAHs.
U=1/2 = Totals are calculated as sum of all detected results and 1/2 undetected reporting limit.
PCBs Total = Total 7 Polychlorinated biphenyls (Aroclors).
Dioxin TEQ = Total Dioxin/Furan Toxicity Equvalency values- 2005 World Health Organization.

[a]SMS Freshwater screening criteria reported in parts per billion dry weight from WAC 173-204-563(2)(g) or as specified.

* Dimethyl phthalate reported levels are higher than interim freshwater criteria, toxicity is unknown and recommend substance be considered a chemical of concern for future evaluation.

Sample #SG-11 Collected Near Mouth of Tributary 0056

Kenmore Area Lake Washington & Sammamish River Sediment Sampling Results - November 2012

Table 7. Private Marina Results Compared to SMS Freshwater & Dredge DMMP Screening Criteria and concentration varies by chemical group.

Screening Criteria	SMS Freshwater[a]		DMMP Planning		Harbour Village Marina					North Lake Marina		Range	
Analyte	SCO	CSL	SL	ML	#SG-10	#SG-11	#SG-12	#SG-13	#SG-13 D	#SG-02	#SG-03	Min	Max
Sample Depth, cm					0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-22 cm	0-25 cm		
Metals, mg/kg, ppm													
Cadmium	2.1	5.4	5.1	14	**0.4**	1U	0.7U	0.9U	0.9U	**1.3**	**1.2**	**0.4**	**1.3**
Chromium	72	88	260	--	**29.8**	**52**	**44**	**54**	**55**	**56**	**55**	**29.8**	**56**
Copper	400	1200	390	1300	**18.8J**	**97J**	**47.5J**	**62.1J**	**62.8J**	**92.4**	**88.1**	**18.8J**	**97J**
Zinc	3200	>4200	410	3800	**97J**	**377J**	**185J**	**205J**	**205J**	**231**	**267**	**97J**	**377J**
Tributyltin* ug/L or ug/kg	47ug/kg	320ug/kg	0.15ug/L	0.15ug/L	**3.6Uug/kg**	**9.8ug/kg**	**6.8ug/kg**	**12ug/kg**	**12ug/kg**	**0.67ug/L**	**0.058ug/L**	different units	
Polycyclic Aromatic Hydrocarbons, ug/kg, ppb													
Total Low PAHs, U=1/2	6600	9200	5200	29,000	**410J**	**450J**	**350J**	**390J**	**320J**	**760**	**410J**	**320J**	**760**
Total High PAHs, U=1/2	31,000	55,000	12,000	69,000	**2600**	**2500**	**1500**	**1800**	**1500**	**2,820**	**2,260**	**1500**	**2,820**
Phthalates, ug/kg, ppb													
Bis(2-ethylhexyl)Phthalate	220	320	1300	8300	**480**	**740**	**360**	**560**	**430**	**680**	**510**	**360**	**740**
Dimethyl Phthalate[b]	not specified[b]				20U	20U	20U	20U	20U	**28**	20U	20U	**28**
Di-n-octyl Phthalate	26	45	6200	6200	20U	**87**	20U	**73J**	**42**	19U	**58J**	19U	**87**
Misc Extractables, ug/kg, ppb													
Benzoic acid	2900	3800	650	760	**520**	**1400**	**1500**	**1600**	**1700**	**960**	**1300**	520	**1700**
Benzyl alcohol	not specified		57	870	**200**	**530**	**300**	**360**	**380**	**82**	**130**	82	530
PCBs Total, ug/kg, ppb	110	2500	130	3100	32U	**29J**	49U	50U	35U	**121**	**22**	**22**	**121**
Dioxin TEQ pptr, U=1/2	not specified		4	10	**6.6J**	**71.0J**	**26.6J**	**50.0J**	**19.0J**	**37.0J**	**20.3J**	**6.6J**	**71.0J**

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MTCA Sediment Management Standards for Feshwater Benthic:
Sediment Cleanup Objectives & Cleanup Screening Levels:
Freshwater SCO = No adverse effects to benthic community.
Freshwater CSL = Establishs a minor adverse effects level including acute or chronic effects and may be defined as potential cleanup for benthic community see Rule.
Dredge MMP Screen Level 1 (SL)
Dredge MMP Marine Maximum Level (ML)

J = Laboratory analysis shows chemical is present and the concentration is an estimated value.
U = Laboratory analysis shows chemical is not detected (is not present) at the detection reporting limit.
PAH-TH = Total High Poly-aromatic hydrocarbons (PAHs). PAH-TL = Total Low PAHs.
U=1/2 = Totals are calculated as sum of all detected results and 1/2 the undetected reporting limit.
Dioxin TEQ = Total Dioxin/Furan Toxicity Equivalency (TEQ) values as of 2005 World Health Organization.
* Tributyltin = Reported for DMMP as porewater in ug/L or ppb; or SMS reported as dry weight in ug/kg or ppb.
Phthalate DNOP = Di-n-octyl phthalate. PCBs Total = Total 7 Polychlorinated biphenyls (Aroclors).
Dioxin TEQ = Total Dioxin/Furan Toxicity Equivalency values as of 2005 World Heath Organization.

[a]SMS Freshwater screening criteria reported in parts per billion dry weight from WAC 173-204-563(2)(g) or as specified.

[b] = Dimethyl phthalate reported levels are higher than interim freshwater criteria, toxicity is unknown and recommend substance be considered a chemical of concern for future evaluation.