

# **TACOMA HARBOR NAVIGATION IMPROVEMENT PROJECT TACOMA, WASHINGTON**

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## **APPENDIX D – COMPLIANCE DOCUMENTS**

December 2019



**US Army Corps  
of Engineers®**  
Seattle District



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National Historic Preservation Act  
Section 106  
Area of Potential Effect  
Letters and Responses

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

Planning, Environmental and Cultural Resources Branch

OCT 30 2013

Allyson Brooks, Ph.D.  
Washington State Historic Preservation Officer  
Department of Archaeology and Historic Preservation  
P. O. Box 48343  
Olympia, WA 98504

SUBJECT: Tacoma Harbor General Investigation, Tacoma, Washington, Determination of APE

Dear Dr. Brooks:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. The Corps has determined and documented the area of potential effects (APE) for the undertaking and is consulting with your office under Section 106 as provided for at 36 CFR § 800.4(a). This letter also summarizes efforts that the Corps has taken to date to identify historic properties that may be affected by the undertaking.

a. **Project Location:** The project area consists of the federally authorized navigation channel of Blair Waterway, the full extent of Sitcum Waterway, the training wall located east of the mouth of the Puyallup River and extending outward into Commencement Bay; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The two waterways, training wall, and possible disposal site are located within Sections 22, 27, 28, 33, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Figures 1 and 2). The Corps has determined the Area of Potential Effects (APE) to include the full width and length of the federally authorized navigation channel within Blair Waterway, the full length and width of the Sitcum Waterway, the full length and width of the training wall by the Puyallup River mouth, and the entirety of the Saltchuk beneficial use zone. The total surface area of the APE is approximately 770 acres (Figure 3). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the project.

b. **Project Description:** The Corps will identify and evaluate a full range of alternatives in the Blair and Sitcum Waterways. Currently, six alternatives are under consideration.

- No action
- Deepening the federally authorized navigation channel and turning basin in Blair Waterway to 58 feet below mean lower low water (MLLW) with two feet of over dredge

- Deepening Sitcum Waterway to 58 feet below MLLW with two feet of over dredge, removing the northeast dock
- Deepening Sitcum Waterway up to 58 feet below MLLW with two feet of over dredge without removing the northeast dock
- Deepening Blair Waterway as described above and deepening Sitcum Waterway to 58 feet below MLLW with two feet of over dredge, removing the northeast dock
- Deepening Blair Waterway as described above and deepening Sitcum Waterway up to 58 feet below MLLW with two feet of over dredge without removing the northeast dock

The depths of the waterways as of April 2018 are as follows:

- Blair Waterway: Controlling depths for Blair waterway in feet at MLLW range from 48 to 51, while depths outside of the federally authorized navigation channel but within the Blair Waterway range from 26 to 53 feet at MLLW (National Oceanic and Atmospheric Administration 2013, corrected through 2018).
- Sitcum Waterway: Soundings for Sitcum Waterway range from 39 to 53 feet at MLLW (National Oceanic and Atmospheric Administration 2013, corrected through 2018).

Any dredged materials removed from the waterways during the process of deepening would be disposed of in one of three locations: an existing open water disposal site, an existing upland disposal site, or the Saltchuk beneficial use zone.

**c. Cultural Resources:** We would like to summarize efforts taken to date to identify cultural resources within the APE. The Corps staff archaeologist has completed a records and literature search in the Washington Information System for Architectural & Archaeological Records Data (WISAARD) and within the Corps' Seattle District library of cultural resource reports. In addition, aerial photographs, General Land Office plat maps, nautical charts, 19<sup>th</sup> century maps of the area, and National Oceanic and Atmospheric Administration (NOAA) bathymetric sounding reports were reviewed.

One archaeological site has been located within the APE. Site 45PI47 (Wapato Creek Fish Weir) is located roughly two miles southeast of the Blair Waterway entrance near Berths A and B, and sat roughly 0.5 miles from the location where Wapato Creek previously emptied into Commencement Bay. The site was found during dredging in October 1970, and was excavated hydraulically (Munsell n. d.). Later, the site was dated to CE 1420-1640 through radiometric analysis (Cooper 2008). Dating and placement suggest that the weir would have been located in the Wapato Creek marsh zone when in use (Berger, Medville, and Chambers 2008). A comparison of nautical charts from 1970 and 2013 indicates that in the vicinity of the site, the depth of Blair Waterway has increased from a maximum of 43 feet to a maximum of 51 feet below MLLW (Coast and Geodetic Survey 1970, National Oceanic and Atmospheric Administration 2013).

Research established that an additional three recorded archaeological sites exist within one mile of the project area. These sites include PI00706, a historic refuse scatter dated to a 1945-1950 squatter occupation and a circa 1910 dairy farm (Kent 2004); PI00975 (Cooper 2009), identified as abandoned pilings and historic debris dating to the late 19<sup>th</sup> to mid-20<sup>th</sup> century waterfront; and PI00974, a shell midden 2.14 meters below the modern surface and located below the water table, fill, floodplain, wetland, and a layer of peat (Shantry 2009).

Beginning with the establishment of the Port in 1918, much of the Port area has been heavily modified as fill from construction of the waterways was placed atop the Tacoma tideflats resulting in five to 10 feet of fill deposit upon which the port has been built, indicating that any pre-contact archaeological sites likely exist at a minimum depth of five feet (Berger and Chambers 2006; Port of Tacoma 2018). Geotechnical borings taken immediately west of Blair Waterway indicated peat layers at approximately 35 feet below modern surface, potentially indicative of the past existence of a stable surface within the Tacoma tideflats (Dively and Martin 2010).

The Saltchuk beneficial use zone, a possible location for dredged material disposal, sits immediately southeast of Tyee Marina near the shoreline of southeast Commencement Bay. A 1948 nautical chart produced by the U. S. Coast and Geodetic Survey indicates that the area was used as booming grounds, and ranged in depth from 3 to 47 feet (Coast and Geodetic Survey 1948). A similar chart corrected through 2018 depicts the area in use for the same purpose (National Oceanic and Atmospheric Association 2013). Between 2007 and 2009 multi-beam hydrography and side scan sonar data was collected by NOAA in the majority of the Port of Tacoma, to include Blair and Sitcum Waterways, in order to validate the existing Electronic Nautical Chart. No shipwrecks were noted in Blair or Sitcum. The log booming area in southeast Commencement Bay where Saltchuk is located and the mouth of the Puyallup River were not surveyed. However, the results indicate that the “area near Tyee Marina [...] is littered with debris and sunken wrecks” (Simmons 2009). It is unknown how much dredged material could be placed at the Saltchuk beneficial use area or if it will be selected for the purpose of beneficial use as the project moves forward.

**c. Next Steps:** As this study develops, the Corps will be conducting sediment sampling within Blair and Sitcum waterways. An archaeologist will monitor the sediment sampling to determine if cultural resources are present. The Corps will be conducting further research of the project area as the project progresses.

The Corps is also notifying the Confederated Tribes and Bands of the Yakama Nation Puyallup Tribe of Indians, Muckleshoot Indian Tribe, Nisqually Indian Tribe, the Snoqualmie Tribe, and the Squaxin Island Tribe about the study to identify properties to which they may attach religious or cultural significance and to address other concerns about historic properties that may be affected.

The Corps requests your review and agreement with our determination of the APE. If you have any questions or desire additional information, please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,



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LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of Engineers

**References Cited:**

Berger, Margaret and Jennifer Chambers.

2006. Cultural Resources Assessment for the Tacoma Grinding Plant Project, 1220 Alexander Avenue, Tacoma, Pierce County, Washington. Technical Report no. 284. Western Shore Heritage Services, Inc., Bainbridge Island, WA.

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Port of Tacoma

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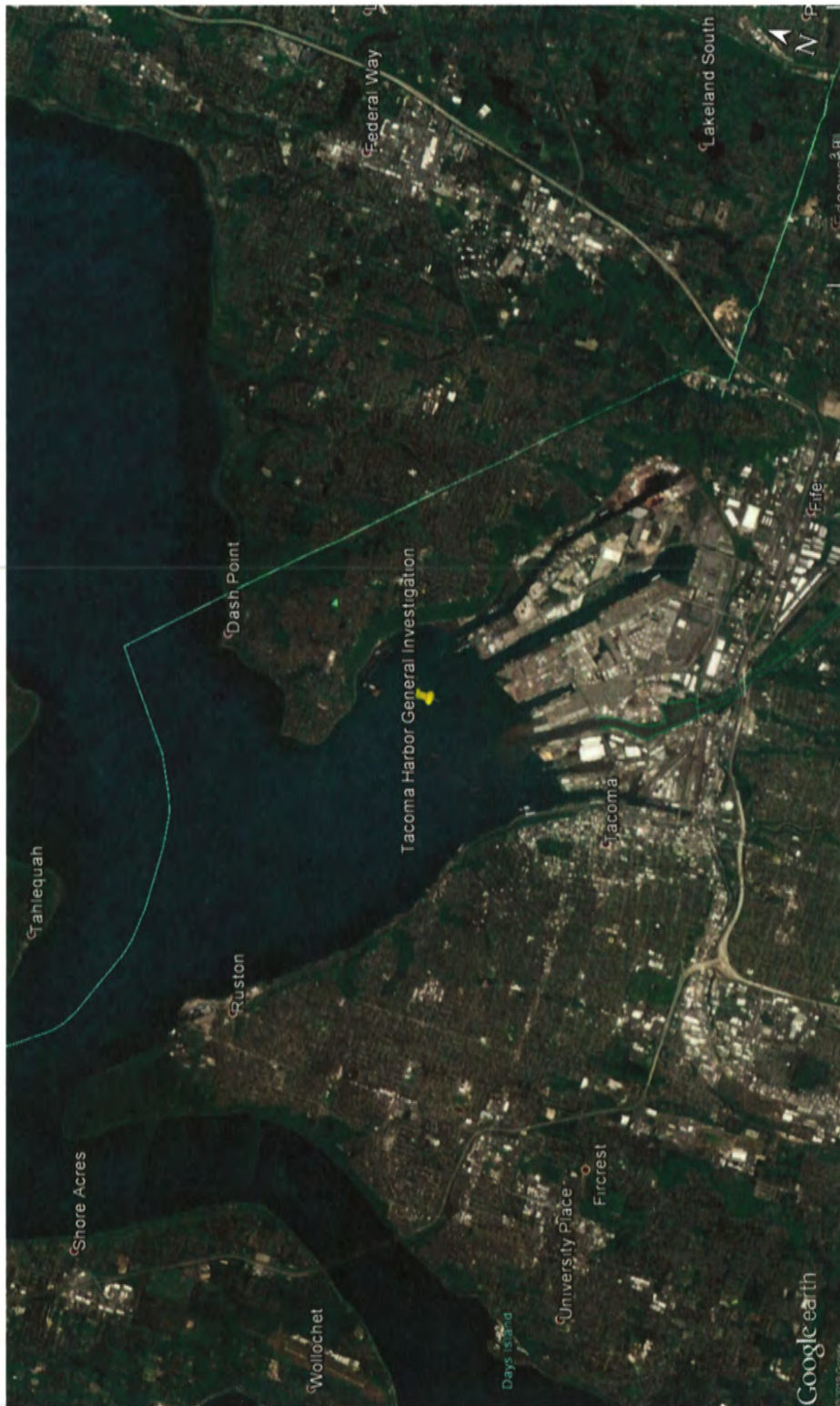


Figure 1: Study location





Figure 2: Overview of study area.





Figure 3: Study APE.



Allyson Brooks Ph.D., Director  
State Historic Preservation Officer

October 30, 2018

Ms. Laura A. Boerner  
Environmental Resources Section  
Corps of Engineers – Seattle District  
PO Box 3755  
Seattle, Washington 98124-3755

Re: Tacoma Harbor General Investigation Project  
Log No.: 2018-10-08487-COE-S

Dear Ms. Boerner:

Thank you for contacting our department. We have reviewed the materials you provided for the Area of Potential Effect (APE) for the proposed Tacoma Harbor General Investigation Project to the Sitcum and Blair Waterways, Tacoma, Pierce County, Washington

We concur with your determination of the Area of Potential Effect (APE) as described and presented in your figures and text.

We look forward to further consultations as you consult with the concerned tribal governments, provide the results of the professional cultural resources review, and render your determination of effect.

We would also appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Whitlam', followed by a long horizontal line.

Robert G. Whitlam, Ph.D.  
State Archaeologist  
(360) 890-2615  
email: [rob.whitlam@dahp.wa.gov](mailto:rob.whitlam@dahp.wa.gov)





DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, SEATTLE DISTRICT  
P.O. BOX 3755  
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Planning, Environmental and Cultural Resources Branch

MAR 26 2019

Allyson Brooks, Ph.D.  
Washington State Historic Preservation Officer  
Department of Archaeology and Historic Preservation  
P. O. Box 48343  
Olympia, WA 98504

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE, DAHP  
Project 2018-10-08487

Dear Dr. Brooks:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

The following changes have occurred to the project: the training wall by the Puyallup River mouth and the Sitcum Waterway have been removed from the project. The Port of Tacoma has determined that deepening of Sitcum Waterway would require a significant investment, and is not projected to be feasible within the next 10 years. The training wall in the project was connected to the inclusion of Sitcum Waterway to address the possibility that there could be faster accumulation of sediment from the Puyallup River into Sitcum Waterway resulting in an increase of maintenance dredging.

In addition, the footprint for the Blair Waterway has been expanded to account for the widening and lengthening of the navigation channel and widening of the turning basin. Currently, the Blair Waterway is approximately 2.75 miles long including the turning basin. The authorized dimensions are 520 feet wide from the mouth to 11th Street, 345 feet wide through the 11th Street reach, 520 feet wide from 11th street to Lincoln Avenue, and 330 feet wide from Lincoln Avenue to the turning basin. The turning basin is 1300 feet wide and the dredge depth is -51 feet mean lower low water (MLLW) for the Waterway and turning basin. For this project the following is proposed:

- the authorized width of 520 feet from the mouth to 11<sup>th</sup> Street would be maintained;

- the authorized width of the 11<sup>th</sup> Street reach would increase from 345 feet wide to 520 feet wide;
- the authorized width of the 11<sup>th</sup> Street to Lincoln Avenue would be maintained at 520 feet wide;
- the authorized width of the Lincoln Avenue to the turning basin would increase from 330 feet wide to 520 feet;
- the turning basin would increase from 1300 feet to 1600 feet;
- the depth of dredging would be -58 feet MLLW plus two feet of over dredge for the Waterway and turning basin

The project area consists of the federally authorized navigation channel of Blair Waterway; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The Blair Waterway and possible disposal site are located within Sections 22, 27, 28, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Enclosures 1 and 2). The Corps has determined the revised APE to include the full width from pier head to pier head, length and depth of the Blair Waterway necessary for deepening the Waterway, and the entirety of the Saltchuk beneficial use zone.

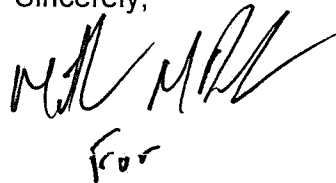
The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

The Corps previously notified the Confederated Tribes and Bands of the Yakama Nation Puyallup Tribe of Indians, Muckleshoot Indian Tribe, Nisqually Indian Tribe, the Snoqualmie Tribe, and the Squaxin Island Tribe by letter on 30 October 2018 about the study in order to identify properties to which they may attach religious or cultural significance and to address other concerns about historic properties that may be affected. The Corps will notify the aforementioned Tribes of the revised APE and changes to the projects description in a separate letter.

The Corps requests your review and agreement with our determination of the revised APE. If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

2 Encl

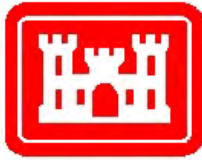
Sincerely,

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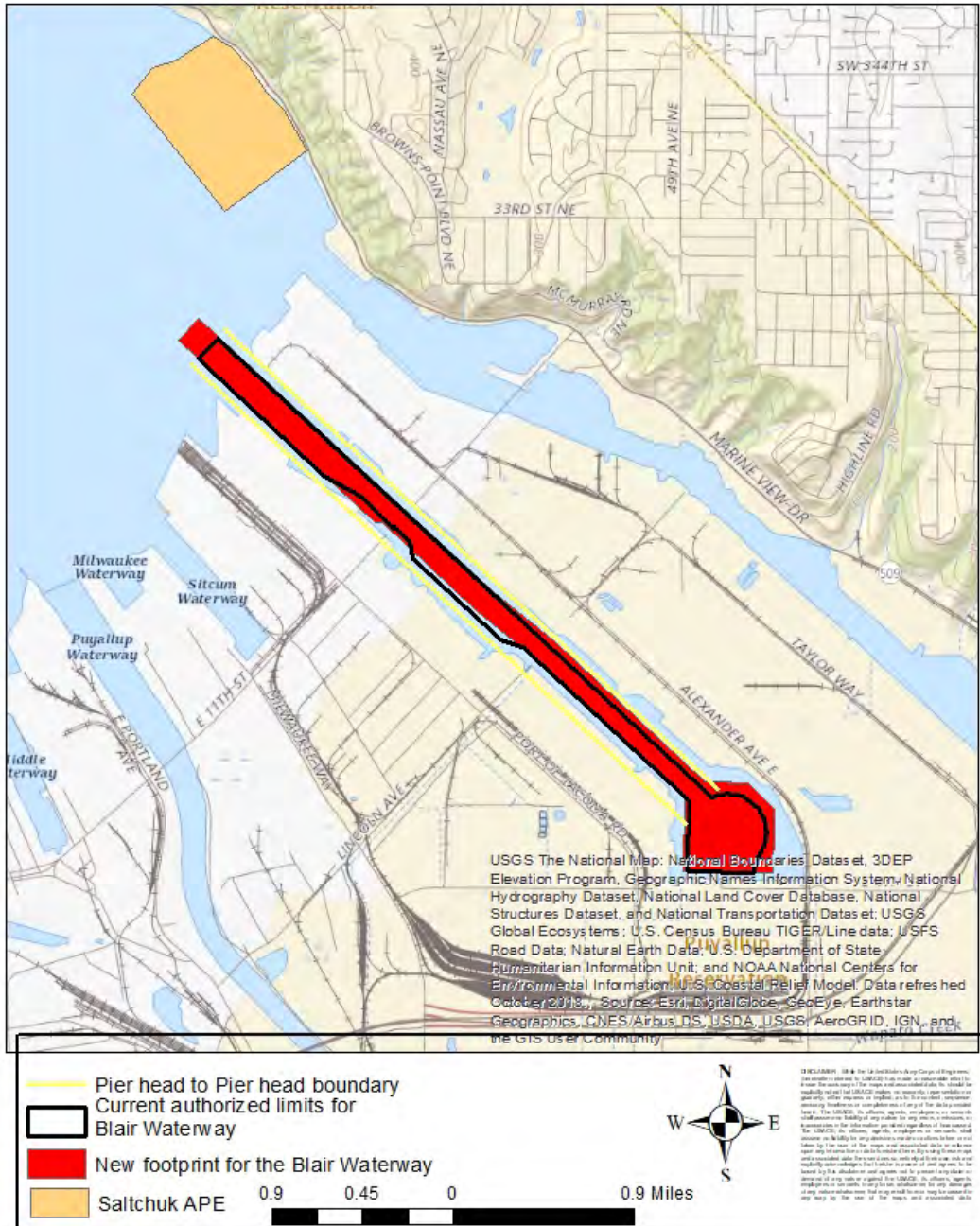
LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers

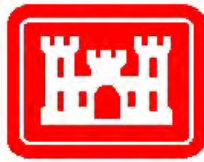




## Tacoma Harbor General Investigation



Enclosure 1: Revised APE



## Tacoma Harbor General Investigation



Enclosure 2: Aerial map of revised APE.





Allyson Brooks Ph.D., Director  
State Historic Preservation Officer

April 8, 2019

Ms. Laura A. Boerner  
Environmental Resources Section  
Corps of Engineers – Seattle District  
PO Box 3755  
Seattle, Washington 98124-3755

Re: Tacoma Harbor Investigations Project  
Log No.: 2018-10-08487-COE-S

Dear Ms. Boerner:

Thank you for contacting our department. We have reviewed the revised materials you provided for the Area of Potential Effect (APE) for the proposed Tacoma Harbor Investigations Project, Pierce County, Washington

We concur with your determination of the Area of Potential Effect (APE) as described and presented in your figures and text.

We look forward to further consultations as you consult with the concerned tribal governments, provide the results of the professional cultural resources review, and render your determination of effect.

We would also appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Whitlam', followed by a long horizontal line.

Robert G. Whitlam, Ph.D.  
State Archaeologist  
(360) 890-2615  
email: [rob.whitlam@dahp.wa.gov](mailto:rob.whitlam@dahp.wa.gov)



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National Historic Preservation Act  
Section 106  
Determination and Findings  
Letter and Response

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

Planning, Environmental and Cultural Resources Branch

NOV -6 2019

Allyson Brooks, Ph.D.  
Washington State Historic Preservation Officer  
Department of Archaeology and Historic Preservation  
PO Box 48343  
Olympia, WA 98504

Subject: Tacoma Harbor Investigation, Tacoma, Washington, Section 106, DAHP Project  
2018-10-08487

Dear Dr. Brooks:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation, DAHP Project Number 2018-10-08487. In our letter of March 26, 2019, the Corps provided a project update and revised the area of potential effect (APE), with which your office agreed on April 8, 2019. This letter provides a brief project description, summarizes the efforts to identify historic properties, and identifies agency determinations and findings as provided for at 36 C.F.R. § 800.4 and 5. We request your agreement with our finding that there will be no historic properties affected by the proposed undertaking with the condition of monitoring during sediment characterization in the Preconstruction, Engineering and Design (PED) phase of the project.

Based on ship simulation modeling that occurred in April 2019, we incorporated some minor modifications into the APE and include increasing the footprint of the turning basin from 1682 to 1935 feet, and the location of four possible slope stabilization locations (Enclosures 1-2). The areas where potential slope stabilization may occur are located outside of the federal navigation channel but within the waterway (Enclosure 2). Design work in PED will examine in further detail how slope stabilization will be accomplished. In addition, we used descriptive language for the authorized widths and proposed new widths for the Blair Waterway in our March 2019 letter. For accuracy, we have applied station numbering to the waterway and the information is presented below in Tables 1 and 2.

Table 1: Authorized Width by Stationing

| Authorized Width by Station Numbering        | Authorized Width by landmarks (approximate)                                  |
|--|--|
| 520 ft. from Station 0+00 to Station 37+91   | Authorized width of 520 feet from the mouth to 11th Street                   |
| 343 ft. from Station 37+931 to Station 49+74 | Authorized width of the 11th Street is 343 feet                              |
| 520 ft. from Station 49+74 to Station 77+40  | Authorized width of the 11th Street to Lincoln Avenue is 520 feet wide;      |
| 330 ft. from Station 77+40 to Station 117+83 | Authorized width of the Lincoln Avenue to the turning basin is 330 feet wide |
| 1682 ft. from Station 117+83 to 135+3        | The turning basin  |

Table 2: Authorized and proposed width by stationing.

| Stations along the channel | Authorized widths | Proposed width |
|----------------------------|-------------------|----------------|
| Station 0 to station 17    | 520               | 864            |
| Station 17 to station 49   | 520, 343          | 520            |
| Station 49 to station 57   | 520               | 520            |
| Station 57 to station 84   | 520,330           | 520            |
| Station 84 to station 105  | 330               | 450            |
| Station 105 to station 121 | 330,1682          | 525            |
| Station 121 to 145         | 1682              | 1,935          |

We would like to summarize efforts we have taken to date to identify cultural resources within the APE. The Corps staff archaeologist has completed a records and literature search in the Washington Information System for Architectural & Archaeological Records Data (WISAARD) and within the Corps' Seattle District library of cultural resource reports. Our archaeologist also reviewed aerial photographs, General Land Office plat maps, nautical charts, 19th century maps of the area, and NOAA bathymetric sounding reports.

We located a record of one archaeological site, 45PI00047 (Wapato Creek Fish Weir), adjacent to the southern boundary of the project APE. It was hydraulically excavated during the early 1970s (Munsell 1975) with no extant features remaining.

The project sponsor, Port of Tacoma, contracted with Aqua Terra Cultural Resources Consultants (Aqua Terra CRC) to conduct archaeological monitoring of feasibility level sediment sampling and sediment suitability for a dredged material characterization study in the Blair Waterway. Fieldwork occurred in February 2019. Aqua Terra CRC collected a total of 25 sediment cores by vibracore, and the monitoring archaeologist, Andrew

Vilondaki examined all sediment cores, including the water-screened segments. Of the 25 sediment cores, eight sections were identified for water screening. No cultural material was identified by the archaeologist during the visual examination of the sediment cores, nor in the eight sections that were water screened. The Cultural Resources Monitoring of the Port of Tacoma Harbor Dredging will be attached to this letter, and uploaded to the Washington Information System for Architectural and Archaeological Records Data (Department of Archaeology & Historic Preservation [DAHP] Project No. 2018-10-08487).

The Port of Tacoma identified the Saltchuk site as a possible location to place dredged material to provide environmental benefits to the sub tidal habitat. Historically, the Saltchuk site was used for log raft storage. Large areas of wood waste are located within the Saltchuk site. As previously mentioned, no archaeological sites are located within the Saltchuk site. There would be no ground disturbance, as dredged material would be placed on top of the wood waste.

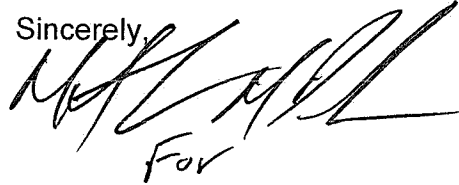
The Corps has also identified two potential disposal sites: the Commencement Bay Puget Sound Dredge Disposal Analysis (PSDDA) open water site and a commercial disposal location for unsuitable material. Both disposal locations are fully permitted to accept dredge material.

On October 30, 2018 tribal consultation was initiated with the following tribes: Muckleshoot Indian Tribe, Nisqually Tribe, Puyallup Tribe, Snoqualmie Indian Tribe, Squaxin Island Tribe, and the Confederated Tribes and Bands of the Yakama Nation. As of the date of this letter, no comments have been received from the tribes.

The Corps has made a reasonable and good faith effort to identify historic properties that might be affected by the undertaking. Based on the results of the literature review, our efforts to identify historic properties, consultation with your office, and our consultation with aforementioned Tribes, the Corps has made the determination of no adverse effect with the condition of cultural resources monitoring during geotechnical testing of soils that will occur during the PED phase.

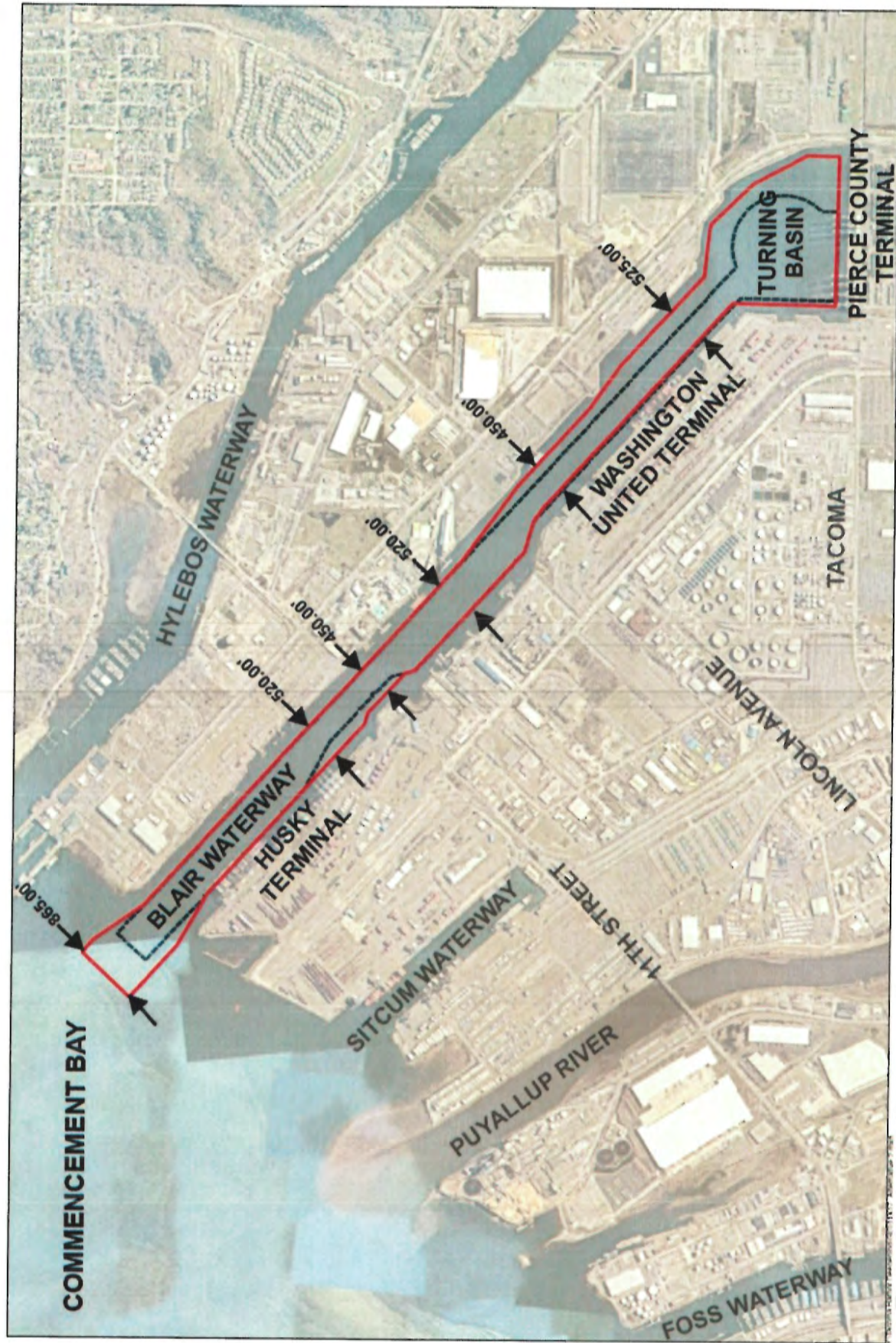
At this time, the Corps is requesting your review and agreement with our above findings. We appreciate your consideration of our request. If you have specific questions or if we can provide any clarification, please contact Agnes F. Castronuevo (Lead Archaeologist) at [agnes.f.castronuevo@usace.army.mil](mailto:agnes.f.castronuevo@usace.army.mil) or (206) 316-3096. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,

A handwritten signature in black ink, appearing to be 'L. Boerner', written over the word 'For'.

LAURA A. BOERNER, LG, LHG  
Chief, Planning, Environmental, and  
Cultural Resources Branch

Enclosures



Enclosure 1: Blair Waterway. Black dashed line is the Federal Navigation channel. Red solid line is the proposed project design. Numbers are the proposed widths.





Enclosure 2: Potential side slope stabilization areas. Numbers in the middle of waterway are station numbering.





Allyson Brooks Ph.D., Director  
State Historic Preservation Officer

November 7, 2019

Ms. Laura A. Boerner  
Planning, Environmental & Cultural Resources  
Seattle District  
Corps of Engineers  
PO Box 3755  
Seattle, Washington 98124

Re: Tacoma Harbor Investigation Project  
Log No.: 2018-10-08487-COE-S

Dear Ms. Boerner:

Thank you for contacting our department. We have reviewed the information you provided regarding the proposed Tacoma Harbor Investigation Project in Blair Waterway, Tacoma, Pierce County, Washington.

We concur with your Determination of No Historic Properties Affected.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and the concerned tribe's cultural staff and cultural committee and this department notified.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised, including information regarding historic properties that have not yet been identified. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.  
State Archaeologist  
(360) 586-3080  
email: [rob.whitlam@dahp.wa.gov](mailto:rob.whitlam@dahp.wa.gov)



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National Historic Preservation Act  
Section 106  
Tribal Project Notification Letters  
October 30, 2018

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

Planning, Environmental and Cultural Resources Branch

OCT 30 2018

The Honorable Virginia Cross  
Chair, Muckleshoot Indian Tribe  
39105 172th Avenue Southeast  
Auburn, WA 98092

SUBJECT: Section 106 Review for the Tacoma Harbor General Investigation, Tacoma, Washington

Dear Madam Chair:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. To assist in our review of the proposed project under Section 106 of the National Historic Preservation Act (NHPA), we are notifying the Muckleshoot Indian Tribe (Tribe) about the project, requesting your assistance in identifying any issues or concerns the Tribe may have, and seeking information to identify properties that may be affected by the project which may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)).

**a. Project Location:** The project area consists of the federally authorized navigation channel of Blair Waterway, the full extent of Sitcum Waterway, the training wall located east of the mouth of the Puyallup River and extending outward into Commencement Bay; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The two waterways, training wall, and possible disposal site are located within Sections 22, 27, 28, 33, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Figures 1 and 2). The Corps has determined the Area of Potential Effects (APE) to include the full width and length of the federally authorized navigation channel within Blair Waterway, the full length and width of the Sitcum Waterway, the full length and width of the training wall by the Puyallup River mouth, and the entirety of the Saltchuk beneficial use zone. The total surface area of the APE is approximately 770 acres (Figure 3). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the project.

**b. Project Description:** The Corps will identify and evaluate a full range of alternatives in the Blair and Sitcum Waterways. Currently, six alternatives are under consideration:

- No action

- Deepening the federally authorized navigation channel and turning basin in Blair Waterway to 58 feet below mean lower low water (MLLW) with two feet of over dredge
- Deepening Sitcum Waterway to 58 feet below MLLW with two feet of over dredge, removing the northeast dock
- Deepening Sitcum Waterway up to 58 feet below MLLW with two feet of over dredge without removing the northeast dock
- Deepening Blair Waterway as described above and deepening Sitcum Waterway to 58 feet below MLLW with two feet of over dredge, removing the northeast dock
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The depths of the waterways as of April 2018 are as follows:

- Blair Waterway: Controlling depths for Blair waterway in feet at MLLW range from 48 to 51, while depths outside of the federally authorized navigation channel but within the Blair Waterway range from 26 to 53 feet at MLLW (National Oceanic and Atmospheric Administration 2013, corrected through 2018).
- Sitcum Waterway: Soundings for Sitcum Waterway range from 39 to 53 feet at MLLW (National Oceanic and Atmospheric Administration 2013, corrected through 2018).

Any dredged materials removed from the waterways during the process of deepening would be disposed of in one of three locations: an existing open water disposal site, an existing upland disposal site, or the Saltchuk beneficial use zone.

**c. Cultural Resources:** We would like to summarize efforts taken to date to identify cultural resources within the APE. The Corps staff archaeologist has completed a records and literature search in the Washington Information System for Architectural & Archaeological Records Data (WISAARD) and within the Corps' Seattle District library of cultural resource reports. In addition, aerial photographs, General Land Office plat maps, nautical charts, 19<sup>th</sup> century maps of the area, and National Oceanic and Atmospheric Administration (NOAA) bathymetric sounding reports were reviewed.

One archaeological site has been located within the APE. Site 45PI47 (Wapato Creek Fish Weir) is located roughly two miles southeast of the Blair Waterway entrance near Berths A and B, and sat roughly 0.5 miles from the location where Wapato Creek previously emptied into Commencement Bay. The site was found during dredging in October 1970, and was excavated hydraulically (Munsell n. d.). Later, the site was dated to CE 1420-1640 through radiometric analysis (Cooper 2008). Dating and placement suggest that the weir would have been located in the Wapato Creek marsh zone when in use (Berger, Medville, and Chambers 2008). A comparison of nautical charts from 1970 and 2013 indicates that in the vicinity of the site, the depth of Blair Waterway has increased from a maximum of 43 feet to a maximum of 51 feet below MLLW (Coast and Geodetic Survey 1970, National Oceanic and Atmospheric Administration 2013).

Research established that an additional three recorded archaeological sites exist within one mile of the project area. These sites include PI00706, a historic refuse scatter dated to a 1945-1950 squatter occupation and a circa 1910 dairy farm (Kent 2004); PI00975 (Cooper 2009), identified as abandoned pilings and historic debris dating to the late 19<sup>th</sup> to mid-20<sup>th</sup>

century waterfront; and PI00974, a shell midden 2.14 meters below the modern surface and located below the water table, fill, floodplain, wetland, and a layer of peat (Shantry 2009). Beginning with the establishment of the Port in 1918, much of the Port area has been heavily modified as fill from construction of the waterways was placed atop the Tacoma tideflats resulting in five to 10 feet of fill deposit upon which the port has been built, indicating that any pre-contact archaeological sites likely exist at a minimum depth of five feet (Berger and Chambers 2006; Port of Tacoma 2018). Geotechnical borings taken immediately west of Blair Waterway indicated peat layers at approximately 35 feet below modern surface, potentially indicative of the past existence of a stable surface within the Tacoma tideflats (Dively and Martin 2010).

The Saltchuk beneficial use zone, a possible location for dredged material disposal, sits immediately southeast of Tyee Marina near the shoreline of southeast Commencement Bay. A 1948 nautical chart produced by the U. S. Coast and Geodetic Survey indicates that the area was used as booming grounds, and ranged in depth from 3 to 47 feet (Coast and Geodetic Survey 1948). A similar chart corrected through 2018 depicts the area in use for the same purpose (National Oceanic and Atmospheric Association 2013). Between 2007 and 2009 multi-beam hydrography and side scan sonar data was collected by NOAA in the majority of the Port of Tacoma, to include Blair and Sitcum Waterways, in order to validate the existing Electronic Nautical Chart. No shipwrecks were noted in Blair or Sitcum. The log booming area in southeast Commencement Bay where Saltchuk is located and the mouth of the Puyallup River were not surveyed. However, the results indicate that the “area near Tyee Marina [...] is littered with debris and sunken wrecks” (Simmons 2009). It is unknown how much dredged material could be placed at the Saltchuk beneficial use area or if it will be selected for the purpose of beneficial use as the project moves forward.

**c. Next Steps:** As this study develops, the Corps will be conducting sediment sampling within Blair and Sitcum waterways. An archaeologist will monitor the sediment sampling to determine if cultural resources are present. The Corps will be conducting further research of the project area as the project progresses.

If the Muckleshoot Indian Tribe has concerns with the proposed project or has information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible so that we may consult with you and ensure consideration of your views and comments in a timely manner. A copy of this letter with enclosures will be sent to Laura Murphy, Archaeologist, Muckleshoot Indian Tribe, 39105 172th Avenue Southeast, Auburn, WA 98092.

For more information about this project, clarification about this request, or to request a formal government-to-government meeting for Section 106 or other concerns with this project please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. You may also contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or by email at [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil). I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,



---

LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of Engineers



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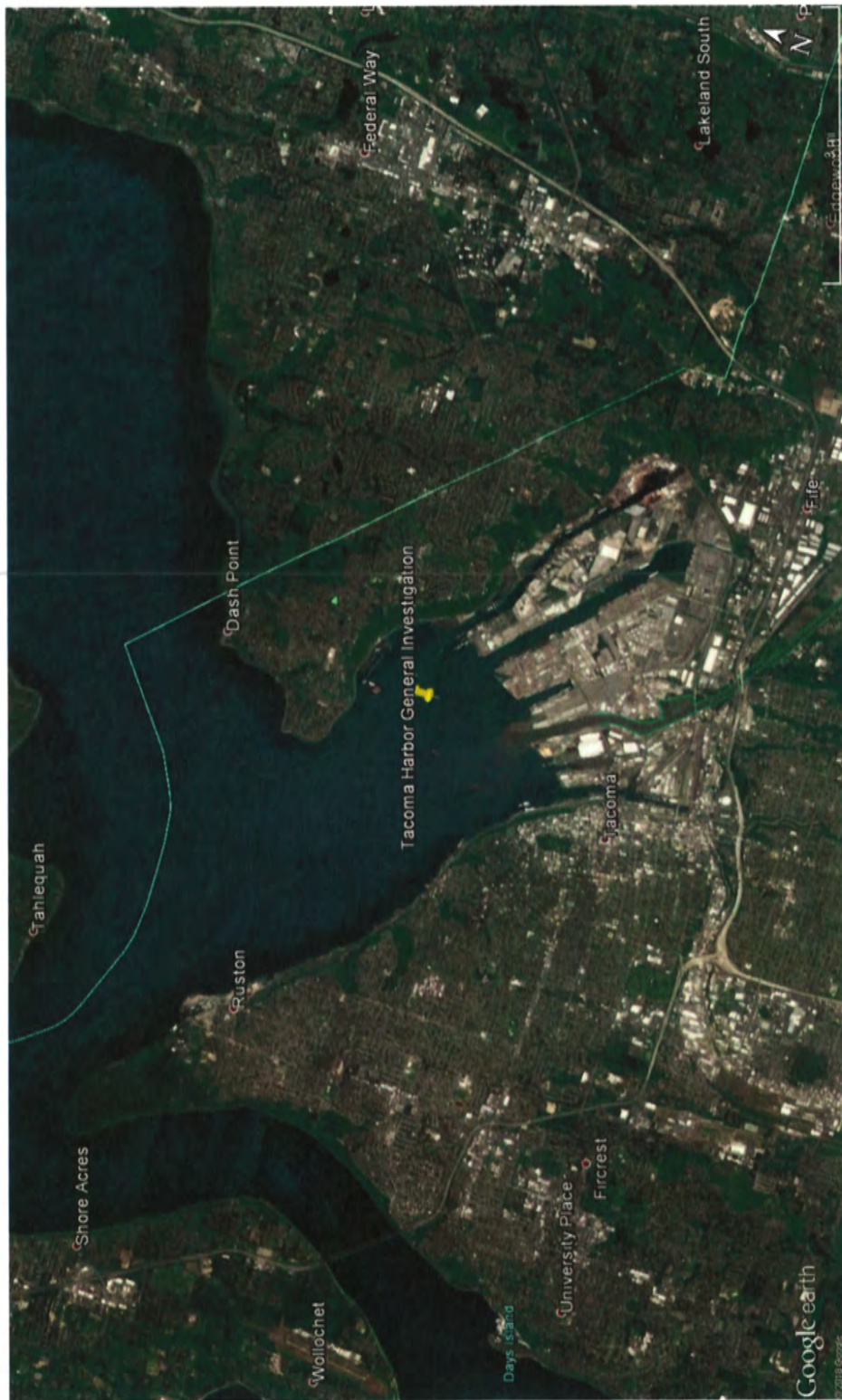


Figure 1: Study location



Figure 2: Overview of study area.





Figure 3: Study APE.



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

Planning, Environmental and Cultural Resources Branch

OCT 30 2018

The Honorable Ken Choke  
Chair, Nisqually Indian Tribe  
4820 She-Nah-Num Drive SE  
Olympia, WA 98513

SUBJECT: Section 106 Review for the Tacoma Harbor General Investigation, Tacoma, Washington

Dear Chairman Choke:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. To assist in our review of the proposed project under Section 106 of the National Historic Preservation Act (NHPA), we are notifying the Nisqually Indian Tribe (Tribe) about the project, requesting your assistance in identifying any issues or concerns the Tribe may have, and seeking information to identify properties that may be affected by the project which may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)).

**a. Project Location:** The project area consists of the federally authorized navigation channel of Blair Waterway, the full extent of Sitcum Waterway, the training wall located east of the mouth of the Puyallup River and extending outward into Commencement Bay; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The two waterways, training wall, and possible disposal site are located within Sections 22, 27, 28, 33, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Figures 1 and 2). The Corps has determined the Area of Potential Effects (APE) to include the full width and length of the federally authorized navigation channel within Blair Waterway, the full length and width of the Sitcum Waterway, the full length and width of the training wall by the Puyallup River mouth, and the entirety of the Saltchuk beneficial use zone. The total surface area of the APE is approximately 770 acres (Figure 3). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the project.

**b. Project Description:** The Corps will identify and evaluate a full range of alternatives in the Blair and Sitcum Waterways. Currently, six alternatives are under consideration:

- No action
- Deepening the federally authorized navigation channel and turning basin in Blair Waterway to 58 feet below mean lower low water (MLLW) with two feet of over dredge
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Any dredged materials removed from the waterways during the process of deepening would be disposed of in one of three locations: an existing open water disposal site, an existing upland disposal site, or the Saltchuk beneficial use zone.

**c. Cultural Resources:** We would like to summarize efforts taken to date to identify cultural resources within the APE. The Corps staff archaeologist has completed a records and literature search in the Washington Information System for Architectural & Archaeological Records Data (WISAARD) and within the Corps' Seattle District library of cultural resource reports. In addition, aerial photographs, General Land Office plat maps, nautical charts, 19<sup>th</sup> century maps of the area, and National Oceanic and Atmospheric Administration (NOAA) bathymetric sounding reports were reviewed.

One archaeological site has been located within the APE. Site 45PI47 (Wapato Creek Fish Weir) is located roughly two miles southeast of the Blair Waterway entrance near Berths A and B, and sat roughly 0.5 miles from the location where Wapato Creek previously emptied into Commencement Bay. The site was found during dredging in October 1970, and was excavated hydraulically (Munsell n. d.). Later, the site was dated to CE 1420-1640 through radiometric analysis (Cooper 2008). Dating and placement suggest that the weir would have been located in the Wapato Creek marsh zone when in use (Berger, Medville, and Chambers 2008). A comparison of nautical charts from 1970 and 2013 indicates that in the vicinity of the site, the depth of Blair Waterway has increased from a maximum of 43 feet to a maximum of 51 feet below MLLW (Coast and Geodetic Survey 1970, National Oceanic and Atmospheric Administration 2013).

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2009), identified as abandoned pilings and historic debris dating to the late 19<sup>th</sup> to mid-20<sup>th</sup> century waterfront; and PI00974, a shell midden 2.14 meters below the modern surface and located below the water table, fill, floodplain, wetland, and a layer of peat (Shantry 2009). Beginning with the establishment of the Port in 1918, much of the Port area has been heavily modified as fill from construction of the waterways was placed atop the Tacoma tideflats resulting in five to 10 feet of fill deposit upon which the port has been built, indicating that any pre-contact archaeological sites likely exist at a minimum depth of five feet (Berger and Chambers 2006; Port of Tacoma 2018). Geotechnical borings taken immediately west of Blair Waterway indicated peat layers at approximately 35 feet below modern surface, potentially indicative of the past existence of a stable surface within the Tacoma tideflats (Dively and Martin 2010).

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If the Nisqually Indian Tribe has concerns with the proposed project or has information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible so that we may consult with you and ensure consideration of your views and comments in a timely manner. A copy of this letter with enclosures will be sent to Annette Bullchild, Tribal Historic Preservation Office, Nisqually Indian Tribe, 4820 She-Nah-Num Drive SE, Olympia, WA 98513.



For more information about this project, clarification about this request, or to request a formal government-to-government meeting for Section 106 or other concerns with this project please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. You may also contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or by email at [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil). I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,



LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of Engineers

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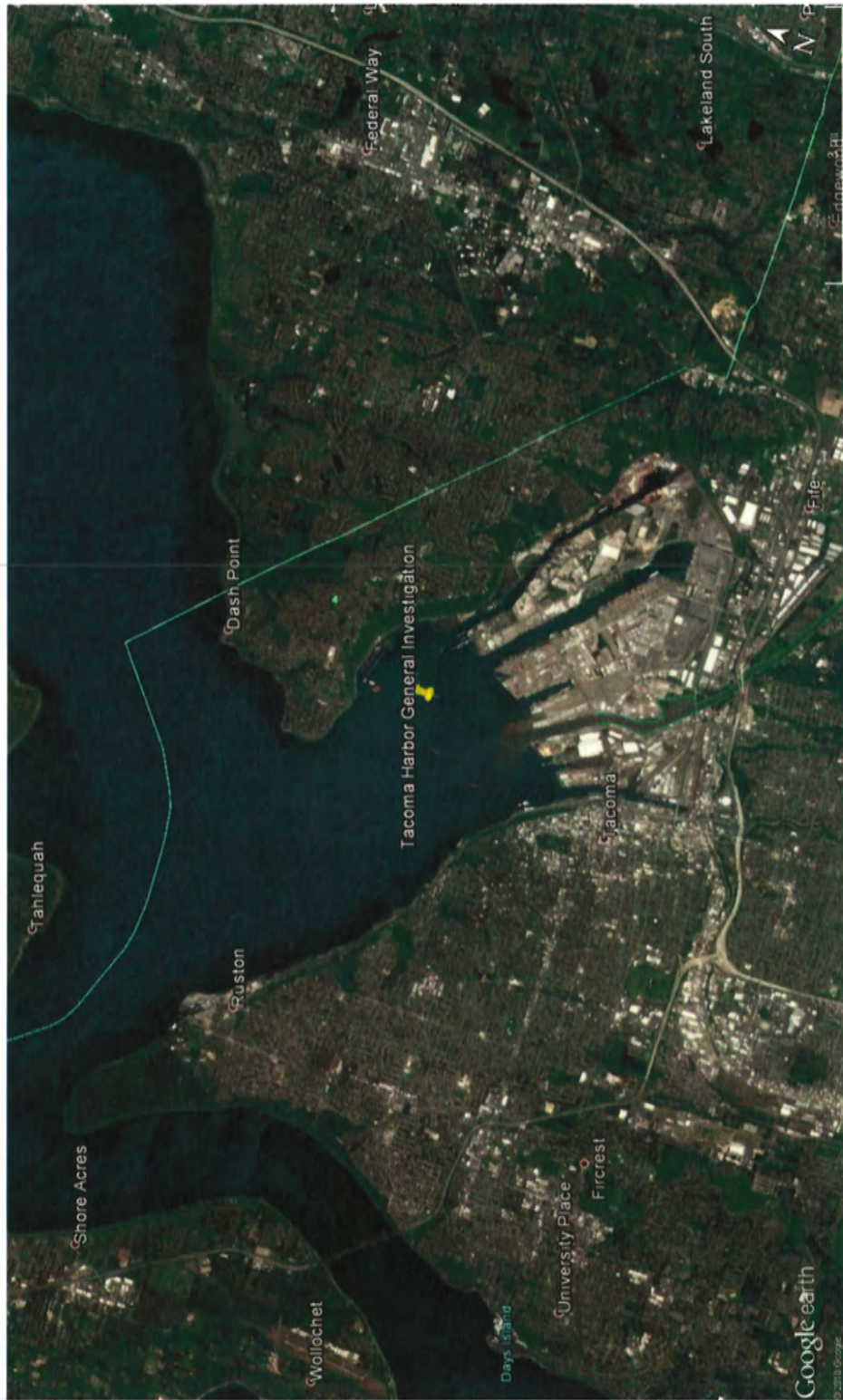


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Figure 2: Overview of study area.



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

Planning, Environmental and Cultural Resources Branch

OCT 30 2018

The Honorable Bill Sterud  
Chair, Puyallup Tribe of Indians  
2009 East Portland Ave.  
Tacoma, WA 98404

SUBJECT: Section 106 Review for the Tacoma Harbor General Investigation, Tacoma, Washington

Dear Chairman Sterud:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. To assist in our review of the proposed project under Section 106 of the National Historic Preservation Act (NHPA), we are notifying the Puyallup Tribe of Indians (Tribe) about the project, requesting your assistance in identifying any issues or concerns the Tribe may have, and seeking information to identify properties that may be affected by the project which may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)).

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If the Puyallup Tribe of Indians has concerns with the proposed project or has information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible so that we may consult with you and ensure consideration of your views and comments in a timely manner. A copy of this letter with enclosures will be sent to Brandon Reynon, Cultural Regulatory Specialist/Tribal Archaeologist, Puyallup Tribe of Indians, 2009 East Portland Avenue, Tacoma, WA 98404.

For more information about this project, clarification about this request, or to request a formal government-to-government meeting for Section 106 or other concerns with this project please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. You may also contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or by email at [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil). I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

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LAURA A. BOERNER

Chief, Planning, Environmental and  
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Seattle District, U. S. Army Corps of Engineers

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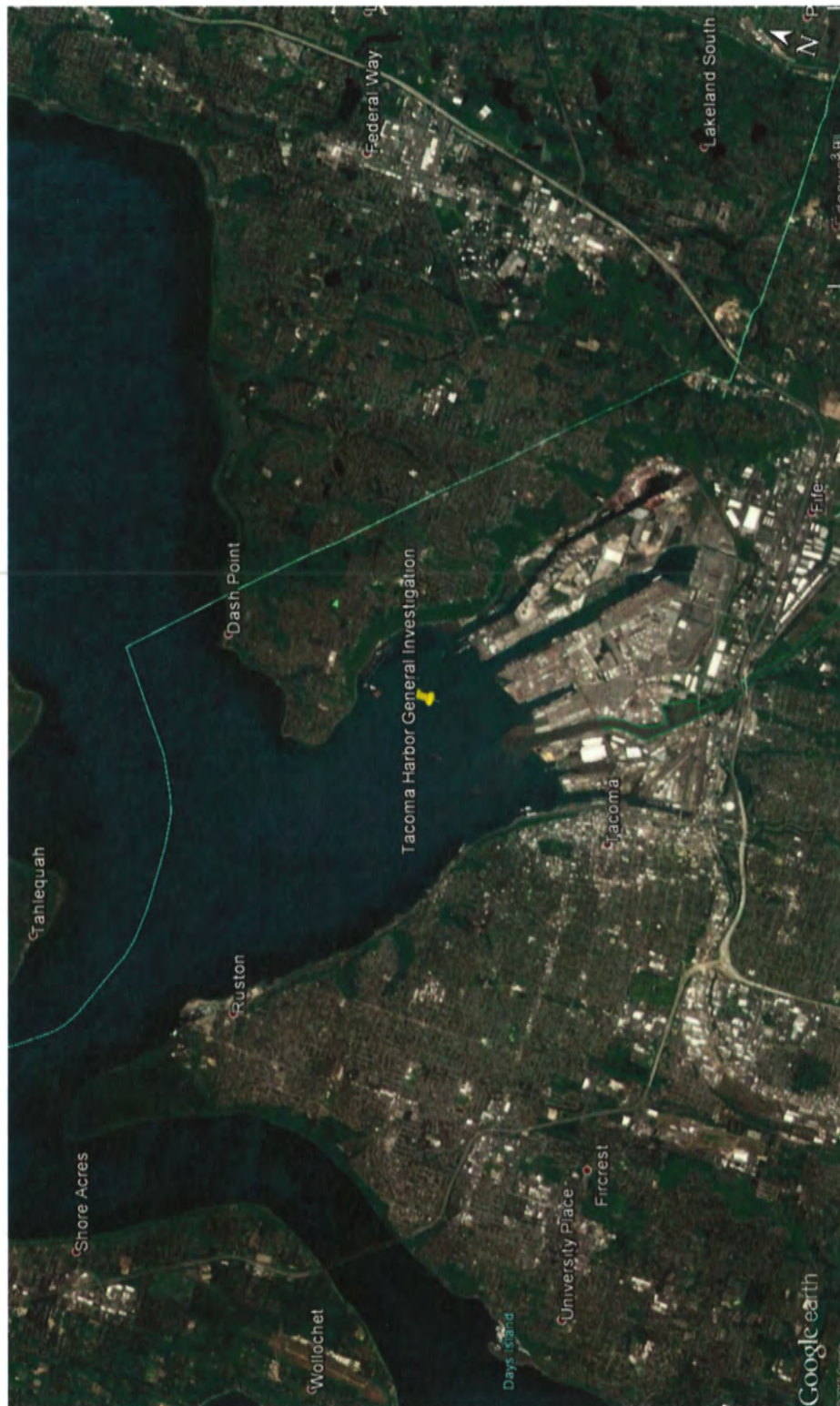


Figure 1: Study location





Figure 2: Overview of study area.







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

Planning, Environmental and Cultural Resources Branch

OCT 30 2018

The Honorable Robert de los Angeles  
Chair, Snoqualmie Tribe  
P. O. Box 969  
Snoqualmie, WA 98065

SUBJECT: Section 106 Review for the Tacoma Harbor General Investigation, Tacoma, Washington

Dear Chairman de los Angeles:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. To assist in our review of the proposed project under Section 106 of the National Historic Preservation Act (NHPA), we are notifying the Snoqualmie Tribe (Tribe) about the project, requesting your assistance in identifying any issues or concerns the Tribe may have, and seeking information to identify properties that may be affected by the project which may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)).

**a. Project Location:** The project area consists of the federally authorized navigation channel of Blair Waterway, the full extent of Sitcum Waterway, the training wall located east of the mouth of the Puyallup River and extending outward into Commencement Bay; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The two waterways, training wall, and possible disposal site are located within Sections 22, 27, 28, 33, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Figures 1 and 2). The Corps has determined the Area of Potential Effects (APE) to include the full width and length of the federally authorized navigation channel within Blair Waterway, the full length and width of the Sitcum Waterway, the full length and width of the training wall by the Puyallup River mouth, and the entirety of the Saltchuk beneficial use zone. The total surface area of the APE is approximately 770 acres (Figure 3). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the project.

**b. Project Description:** The Corps will identify and evaluate a full range of alternatives in the Blair and Sitcum Waterways. Currently, six alternatives are under consideration:

- No action
- Deepening the federally authorized navigation channel and turning basin in Blair Waterway to 58 feet below mean lower low water (MLLW) with two feet of over dredge
- Deepening Sitcum Waterway to 58 feet below MLLW with two feet of over dredge, removing the northeast dock
- Deepening Sitcum Waterway up to 58 feet below MLLW with two feet of over dredge without removing the northeast dock
- Deepening Blair Waterway as described above and deepening Sitcum Waterway to 58 feet below MLLW with two feet of over dredge, removing the northeast dock
- Deepening Blair Waterway as described above and deepening Sitcum Waterway up to 58 feet below MLLW with two feet of over dredge without removing the northeast dock

The depths of the waterways as of April 2018 are as follows:

- Blair Waterway: Controlling depths for Blair waterway in feet at MLLW range from 48 to 51, while depths outside of the federally authorized navigation channel but within the Blair Waterway range from 26 to 53 feet at MLLW (National Oceanic and Atmospheric Administration 2013, corrected through 2018).
- Sitcum Waterway: Soundings for Sitcum Waterway range from 39 to 53 feet at MLLW (National Oceanic and Atmospheric Administration 2013, corrected through 2018).

Any dredged materials removed from the waterways during the process of deepening would be disposed of in one of three locations: an existing open water disposal site, an existing upland disposal site, or the Saltchuk beneficial use zone.

**c. Cultural Resources:** We would like to summarize efforts taken to date to identify cultural resources within the APE. The Corps staff archaeologist has completed a records and literature search in the Washington Information System for Architectural & Archaeological Records Data (WISAARD) and within the Corps' Seattle District library of cultural resource reports. In addition, aerial photographs, General Land Office plat maps, nautical charts, 19<sup>th</sup> century maps of the area, and National Oceanic and Atmospheric Administration (NOAA) bathymetric sounding reports were reviewed.

One archaeological site has been located within the APE. Site 45PI47 (Wapato Creek Fish Weir) is located roughly two miles southeast of the Blair Waterway entrance near Berths A and B, and sat roughly 0.5 miles from the location where Wapato Creek previously emptied into Commencement Bay. The site was found during dredging in October 1970, and was excavated hydraulically (Munsell n. d.). Later, the site was dated to CE 1420-1640 through radiometric analysis (Cooper 2008). Dating and placement suggest that the weir would have been located in the Wapato Creek marsh zone when in use (Berger, Medville, and Chambers 2008). A comparison of nautical charts from 1970 and 2013 indicates that in the vicinity of the site, the depth of Blair Waterway has increased from a maximum of 43 feet to a maximum of 51 feet below MLLW (Coast and Geodetic Survey 1970, National Oceanic and Atmospheric Administration 2013).

Research established that an additional three recorded archaeological sites exist within one mile of the project area. These sites include PI00706, a historic refuse scatter dated to a 1945-1950 squatter occupation and a circa 1910 dairy farm (Kent 2004); PI00975 (Cooper

2009), identified as abandoned pilings and historic debris dating to the late 19<sup>th</sup> to mid-20<sup>th</sup> century waterfront; and PI00974, a shell midden 2.14 meters below the modern surface and located below the water table, fill, floodplain, wetland, and a layer of peat (Shantry 2009). Beginning with the establishment of the Port in 1918, much of the Port area has been heavily modified as fill from construction of the waterways was placed atop the Tacoma tideflats resulting in five to 10 feet of fill deposit upon which the port has been built, indicating that any pre-contact archaeological sites likely exist at a minimum depth of five feet (Berger and Chambers 2006; Port of Tacoma 2018). Geotechnical borings taken immediately west of Blair Waterway indicated peat layers at approximately 35 feet below modern surface, potentially indicative of the past existence of a stable surface within the Tacoma tideflats (Dively and Martin 2010).

The Saltchuk beneficial use zone, a possible location for dredged material disposal, sits immediately southeast of Tyee Marina near the shoreline of southeast Commencement Bay. A 1948 nautical chart produced by the U. S. Coast and Geodetic Survey indicates that the area was used as booming grounds, and ranged in depth from 3 to 47 feet (Coast and Geodetic Survey 1948). A similar chart corrected through 2018 depicts the area in use for the same purpose (National Oceanic and Atmospheric Association 2013). Between 2007 and 2009 multi-beam hydrography and side scan sonar data was collected by NOAA in the majority of the Port of Tacoma, to include Blair and Sitcum Waterways, in order to validate the existing Electronic Nautical Chart. No shipwrecks were noted in Blair or Sitcum. The log booming area in southeast Commencement Bay where Saltchuk is located and the mouth of the Puyallup River were not surveyed. However, the results indicate that the “area near Tyee Marina [...] is littered with debris and sunken wrecks” (Simmons 2009). It is unknown how much dredged material could be placed at the Saltchuk beneficial use area or if it will be selected for the purpose of beneficial use as the project moves forward.

**c. Next Steps:** As this study develops, the Corps will be conducting sediment sampling within Blair and Sitcum waterways. An archaeologist will monitor the sediment sampling to determine if cultural resources are present. The Corps will be conducting further research of the project area as the project progresses.

If the Snoqualmie Tribe has concerns with the proposed project or has information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible so that we may consult with you and ensure consideration of your views and comments in a timely manner. A copy of this letter with enclosures will be sent to Steven Mullen Moses, Director, Archeology and Historic Preservation, Snoqualmie Tribe, P. O. Box 969, Snoqualmie, WA 98065.

For more information about this project, clarification about this request, or to request a formal government-to-government meeting for Section 106 or other concerns with this project please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. You may also contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or by email at [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil). I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,



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LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of Engineers

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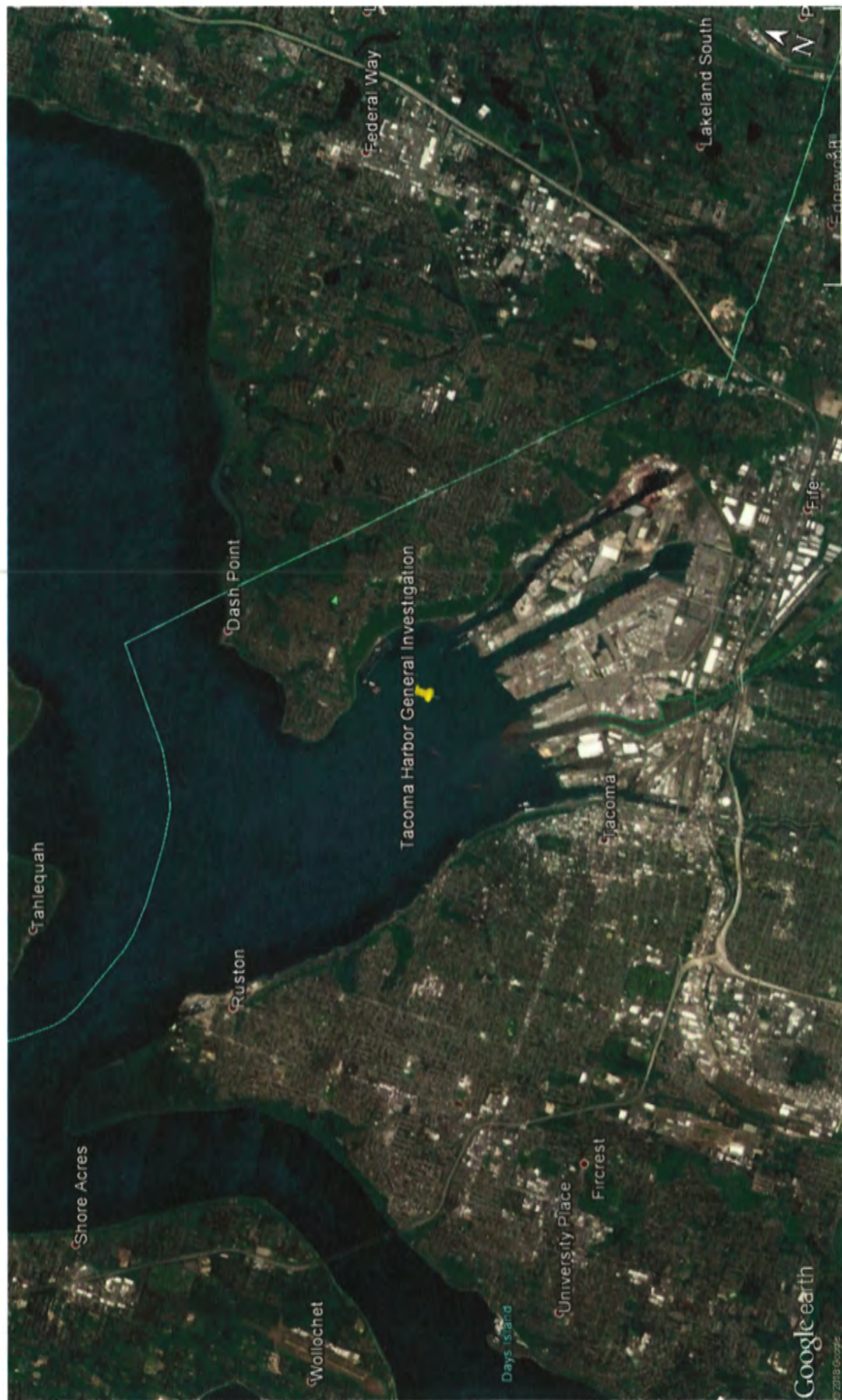


Figure 1: Study location



Figure 2: Overview of study area.





Figure 3: Study APE.



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

Planning, Environmental and Cultural Resources Branch

OCT 30 2018

The Honorable Arnold Cooper  
Chair, Squaxin Island Tribe  
10 SE Squaxin Lane  
Shelton, WA 98584

SUBJECT: Section 106 Review for the Tacoma Harbor General Investigation, Tacoma, Washington

Dear Chairman Cooper:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. To assist in our review of the proposed project under Section 106 of the National Historic Preservation Act (NHPA), we are notifying the Squaxin Island Tribe (Tribe) about the project, requesting your assistance in identifying any issues or concerns the Tribe may have, and seeking information to identify properties that may be affected by the project which may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)).

**a. Project Location:** The project area consists of the federally authorized navigation channel of Blair Waterway, the full extent of Sitcum Waterway, the training wall located east of the mouth of the Puyallup River and extending outward into Commencement Bay; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The two waterways, training wall, and possible disposal site are located within Sections 22, 27, 28, 33, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Figures 1 and 2). The Corps has determined the Area of Potential Effects (APE) to include the full width and length of the federally authorized navigation channel within Blair Waterway, the full length and width of the Sitcum Waterway, the full length and width of the training wall by the Puyallup River mouth, and the entirety of the Saltchuk beneficial use zone. The total surface area of the APE is approximately 770 acres (Figure 3). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the project.

**b. Project Description:** The Corps will identify and evaluate a full range of alternatives in the Blair and Sitcum Waterways. Currently, six alternatives are under consideration:



- No action
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**c. Next Steps:** As this study develops, the Corps will be conducting sediment sampling within Blair and Sitcum waterways. An archaeologist will monitor the sediment sampling to determine if cultural resources are present. The Corps will be conducting further research of the project area as the project progresses.

If the Squaxin Island Tribe has concerns with the proposed project or has information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible so that we may consult with you and ensure consideration of your views and comments in a timely manner. A copy of this letter with enclosures will be sent to Rhonda Foster, Tribal Historic Preservation Officer, Squaxin Island Tribe, 10 Squaxin Lane, Shelton WA 98584.

For more information about this project, clarification about this request, or to request a formal government-to-government meeting for Section 106 or other concerns with this project please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. You may also contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or by email at [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil). I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,



LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of Engineers

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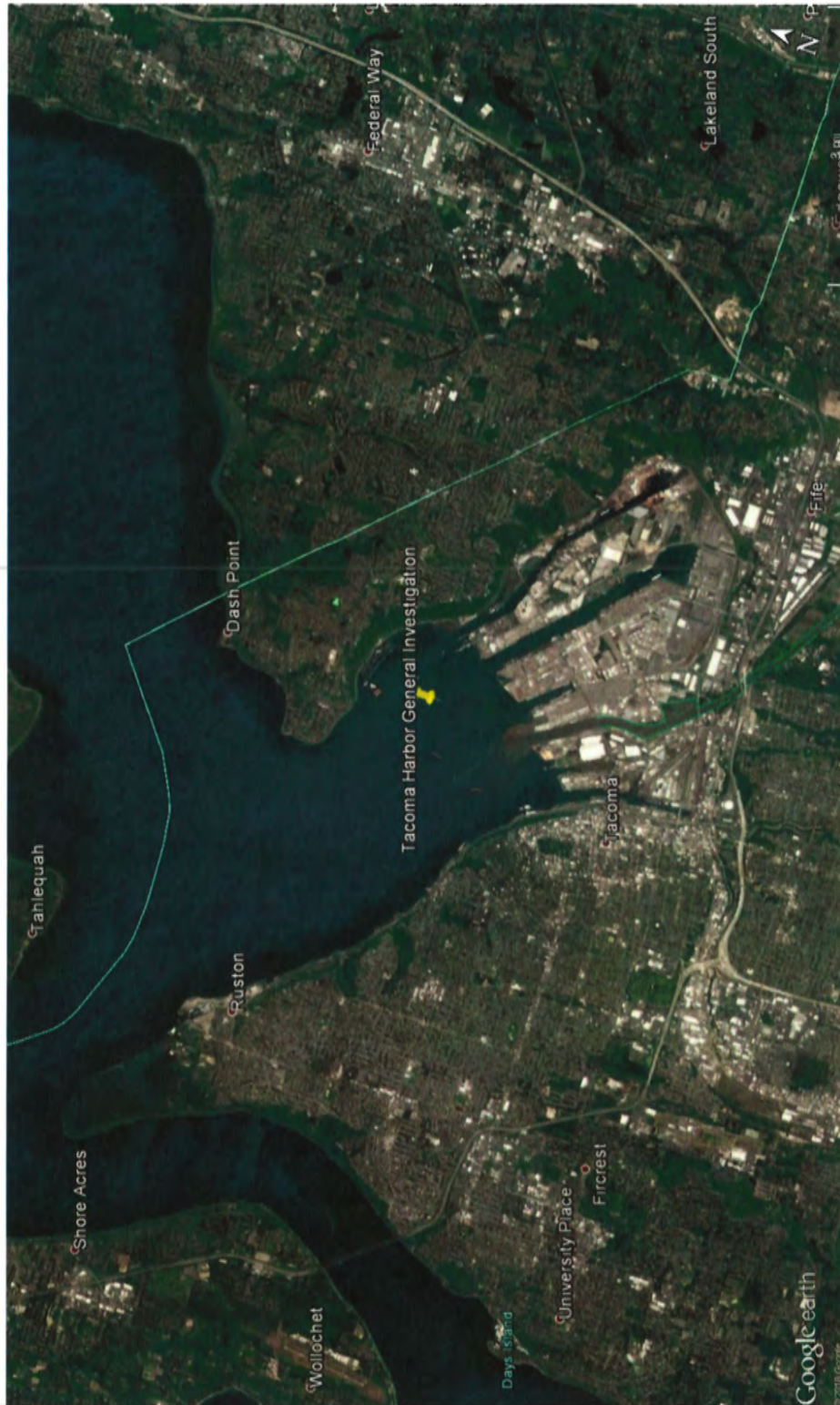


Figure 1: Study location









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

Planning, Environmental and Cultural Resources Branch

OCT 30 2013

The Honorable JoDe Goudy  
Chair, The Confederated Tribes and Bands of the Yakama Nation  
P. O. Box 151  
Toppenish, WA 98948

SUBJECT: Section 106 Review for the Tacoma Harbor General Investigation, Tacoma, Washington

Dear Chairman Goudy:

The United States Army Corps of Engineers (Corps) is conducting a General Investigation for navigation improvements to the Sitcum and Blair Waterways of Tacoma Harbor. The Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. To assist in our review of the proposed project under Section 106 of the National Historic Preservation Act (NHPA), we are notifying the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) about the project, requesting your assistance in identifying any issues or concerns the Yakama Nation may have, and seeking information to identify properties that may be affected by the project which may be of religious or cultural significance to the Yakama Nation (see 36 CFR 800.4(a)(4)).

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One archaeological site has been located within the APE. Site 45PI47 (Wapato Creek Fish Weir) is located roughly two miles southeast of the Blair Waterway entrance near Berths A and B, and sat roughly 0.5 miles from the location where Wapato Creek previously emptied into Commencement Bay. The site was found during dredging in October 1970, and was excavated hydraulically (Munsell n. d.). Later, the site was dated to CE 1420-1640 through radiometric analysis (Cooper 2008). Dating and placement suggest that the weir would have been located in the Wapato Creek marsh zone when in use (Berger, Medville, and Chambers 2008). A comparison of nautical charts from 1970 and 2013 indicates that in the vicinity of the site, the depth of Blair Waterway has increased from a maximum of 43 feet to a maximum of 51 feet below MLLW (Coast and Geodetic Survey 1970, National Oceanic and Atmospheric Administration 2013).

Research established that an additional three recorded archaeological sites exist within one mile of the project area. These sites include PI00706, a historic refuse scatter dated to a 1945-1950 squatter occupation and a circa 1910 dairy farm (Kent 2004); PI00975 (Cooper 2009), identified as abandoned pilings and historic debris dating to the late 19<sup>th</sup> to mid-20<sup>th</sup>



century waterfront; and PI00974, a shell midden 2.14 meters below the modern surface and located below the water table, fill, floodplain, wetland, and a layer of peat (Shantry 2009). Beginning with the establishment of the Port in 1918, much of the Port area has been heavily modified as fill from construction of the waterways was placed atop the Tacoma tideflats resulting in five to 10 feet of fill deposit upon which the port has been built, indicating that any pre-contact archaeological sites likely exist at a minimum depth of five feet (Berger and Chambers 2006; Port of Tacoma 2018). Geotechnical borings taken immediately west of Blair Waterway indicated peat layers at approximately 35 feet below modern surface, potentially indicative of the past existence of a stable surface within the Tacoma tideflats (Dively and Martin 2010).

The Saltchuk beneficial use zone, a possible location for dredged material disposal, sits immediately southeast of Tyee Marina near the shoreline of southeast Commencement Bay. A 1948 nautical chart produced by the U. S. Coast and Geodetic Survey indicates that the area was used as booming grounds, and ranged in depth from 3 to 47 feet (Coast and Geodetic Survey 1948). A similar chart corrected through 2018 depicts the area in use for the same purpose (National Oceanic and Atmospheric Association 2013). Between 2007 and 2009 multi-beam hydrography and side scan sonar data was collected by NOAA in the majority of the Port of Tacoma, to include Blair and Sitcum Waterways, in order to validate the existing Electronic Nautical Chart. No shipwrecks were noted in Blair or Sitcum. The log booming area in southeast Commencement Bay where Saltchuk is located and the mouth of the Puyallup River were not surveyed. However, the results indicate that the “area near Tyee Marina [...] is littered with debris and sunken wrecks” (Simmons 2009). It is unknown how much dredged material could be placed at the Saltchuk beneficial use area or if it will be selected for the purpose of beneficial use as the project moves forward.

c. **Next Steps:** As this study develops, the Corps will be conducting sediment sampling within Blair and Sitcum waterways. An archaeologist will monitor the sediment sampling to determine if cultural resources are present. The Corps will be conducting further research of the project area as the project progresses.

If the Confederated Tribes and Bands of the Yakama Nation has concerns with the proposed project or has information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible so that we may consult with you and ensure consideration of your views and comments in a timely manner. A copy of this letter with enclosures will be sent to V. Kate Valdez, Tribal Historic Preservation Officer, Confederated Tribes and Bands of the Yakama Nation, P. O. Box 151, Toppenish, WA 98948.

For more information about this project, clarification about this request, or to request a formal government-to-government meeting for Section 106 or other concerns with this project please contact the project archaeologists, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857 and Alaina Harmon at [alaina.harmon@usace.army.mil](mailto:alaina.harmon@usace.army.mil) or (206) 764-3630. You may also contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or by email at [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil). I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

Sincerely,

A handwritten signature in blue ink, appearing to read "Laura Boerner", written over a light blue horizontal line.

LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of Engineers

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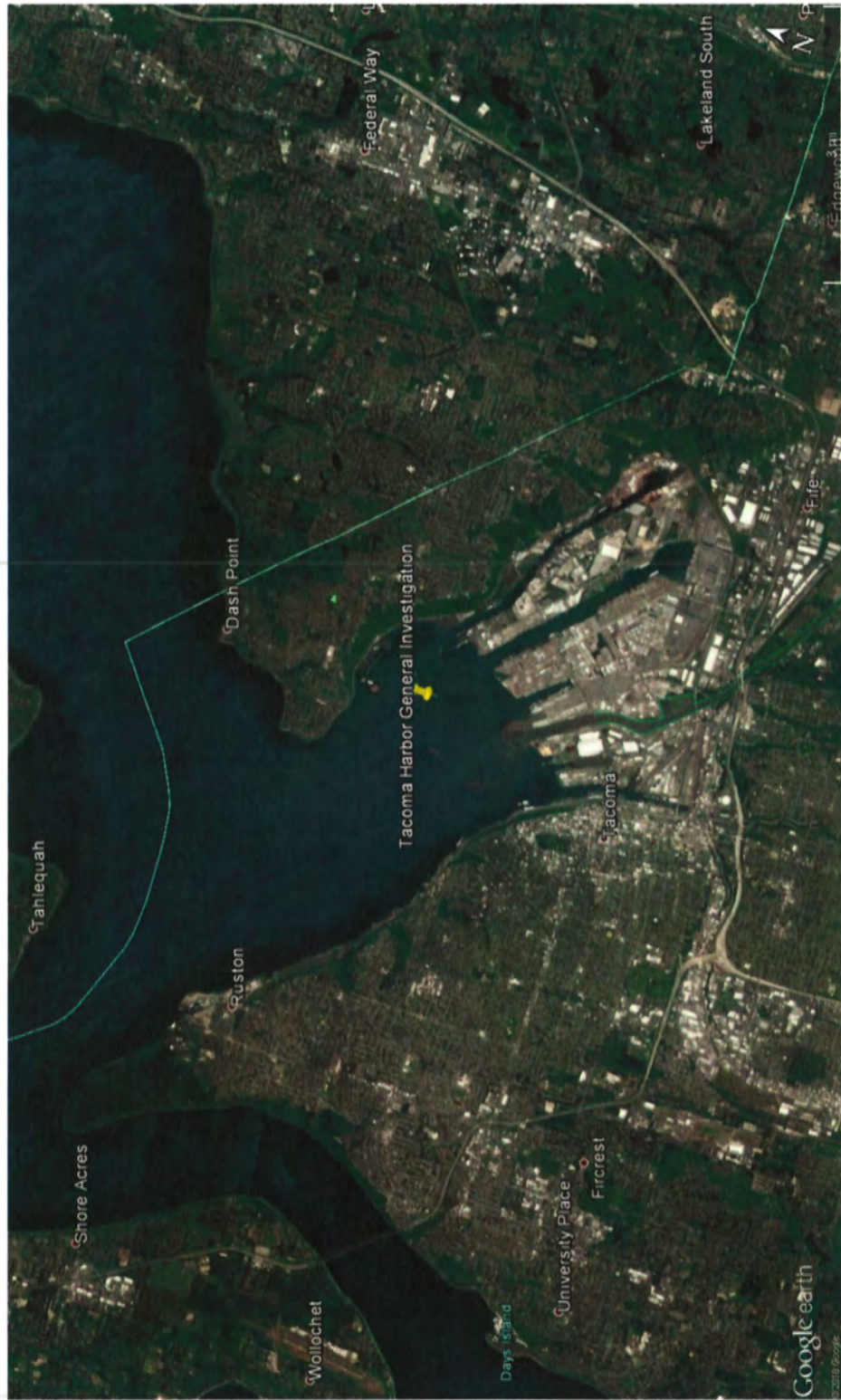


Figure 1: Study location





Figure 2: Overview of study area.



Figure 3: Study APE.

National Historic Preservation Act  
Section 106  
Tribal Project Notification Letters  
May 26, 2019

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

Planning, Environmental and Cultural Resources Branch

The Honorable Virginia Cross  
Chair, Muckleshoot Indian Tribe  
39105 172th Avenue Southeast  
Auburn, WA 98092

MAR 26 2019

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE,  
DAHP Project 2018-10-08487

Dear Madam Chair:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

The following changes have occurred to the project: the training wall by the Puyallup River mouth and the Sitcum Waterway have been removed from the project. The Port of Tacoma has determined that deepening of Sitcum Waterway would require a significant investment, and is not projected to be feasible within the next 10 years. The training wall in the project was connected to the inclusion of Sitcum Waterway to address the possibility that there could be faster accumulation of sediment from the Puyallup River into Sitcum Waterway resulting in an increase of maintenance dredging.

In addition, the footprint for the Blair Waterway has been expanded to account for the widening and lengthening of the navigation channel and widening of the turning basin. Currently, the Blair Waterway is approximately 2.75 miles long including the turning basin. The authorized dimensions are 520 feet wide from the mouth to 11th Street, 345 feet wide through the 11th Street reach, 520 feet wide from 11th street to Lincoln Avenue, and 330 feet wide from Lincoln Avenue to the turning basin. The turning basin is 1300 feet wide and the dredge depth is -51 feet mean lower low water (MLLW) for the Waterway and turning basin. For this project the following is proposed:



- the authorized width of 520 feet from the mouth to 11<sup>th</sup> Street would be maintained;
- the authorized width of the 11<sup>th</sup> Street reach would increase from 345 feet wide to 520 feet wide;
- the authorized width of the 11<sup>th</sup> Street to Lincoln Avenue would be maintained at 520 feet wide;
- the authorized width of the Lincoln Avenue to the turning basin would increase from 330 feet wide to 520 feet;
- the turning basin would increase from 1300 feet to 1600 feet;
- the depth of dredging would be -58 feet MLLW plus two feet of over dredge for the Waterway and turning basin

The project area consists of the federally authorized navigation channel of Blair Waterway; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The Blair Waterway and possible disposal site are located within Sections 22, 27, 28, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Enclosures 1 and 2). The Corps has determined the revised APE to include the full width from pier head to pier head, length and depth of the Blair Waterway necessary for deepening the Waterway, and the entirety of the Saltchuk beneficial use zone.

The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

A copy of this letter with enclosures will be sent to Laura Murphy, Archaeologist, Muckleshoot Indian Tribe, 39105 172<sup>nd</sup> Avenue Southeast, Auburn, WA 98092.

If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

2 Encl

Sincerely,

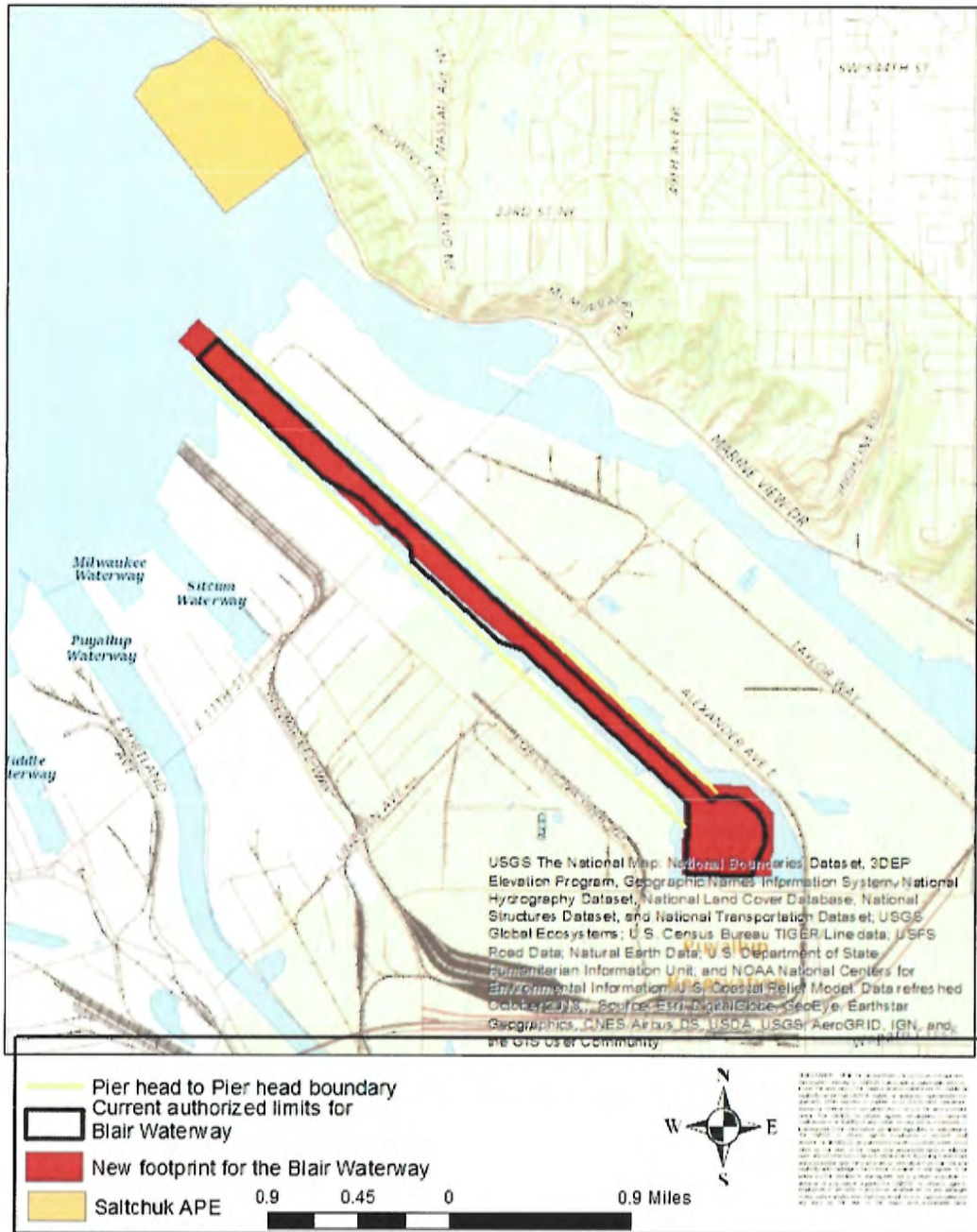


LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers



## Tacoma Harbor General Investigation



Enclosure 1: Revised APE





## Tacoma Harbor General Investigation



Enclosure 2: Aerial map of revised APE.



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

Planning, Environmental and Cultural Resources Branch

MAR 26 2019

The Honorable Ken Choke  
Chair, Nisqually Indian Tribe  
4820 She-Nah-Num Drive SE  
Olympia, WA 98513

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE,  
DAHPP Project 2018-10-08487

Dear Chairman Choke:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

The following changes have occurred to the project: the training wall by the Puyallup River mouth and the Sitcum Waterway have been removed from the project. The Port of Tacoma has determined that deepening of Sitcum Waterway would require a significant investment, and is not projected to be feasible within the next 10 years. The training wall in the project was connected to the inclusion of Sitcum Waterway to address the possibility that there could be faster accumulation of sediment from the Puyallup River into Sitcum Waterway resulting in an increase of maintenance dredging.

In addition, the footprint for the Blair Waterway has been expanded to account for the widening and lengthening of the navigation channel and widening of the turning basin. Currently, the Blair Waterway is approximately 2.75 miles long including the turning basin. The authorized dimensions are 520 feet wide from the mouth to 11th Street, 345 feet wide through the 11th Street reach, 520 feet wide from 11th street to Lincoln Avenue, and 330 feet wide from Lincoln Avenue to the turning basin. The turning basin is 1300 feet wide and the dredge depth is -51 feet mean lower low water (MLLW) for the Waterway and turning basin. For this project the following is proposed:

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The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

A copy of this letter with enclosures will be sent to Annette Bullchild, Cultural Resources, Nisqually Indian Tribe, 4820 She-Nah-Num Drive SE, Olympia, WA 98513.

If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761

Sincerely,



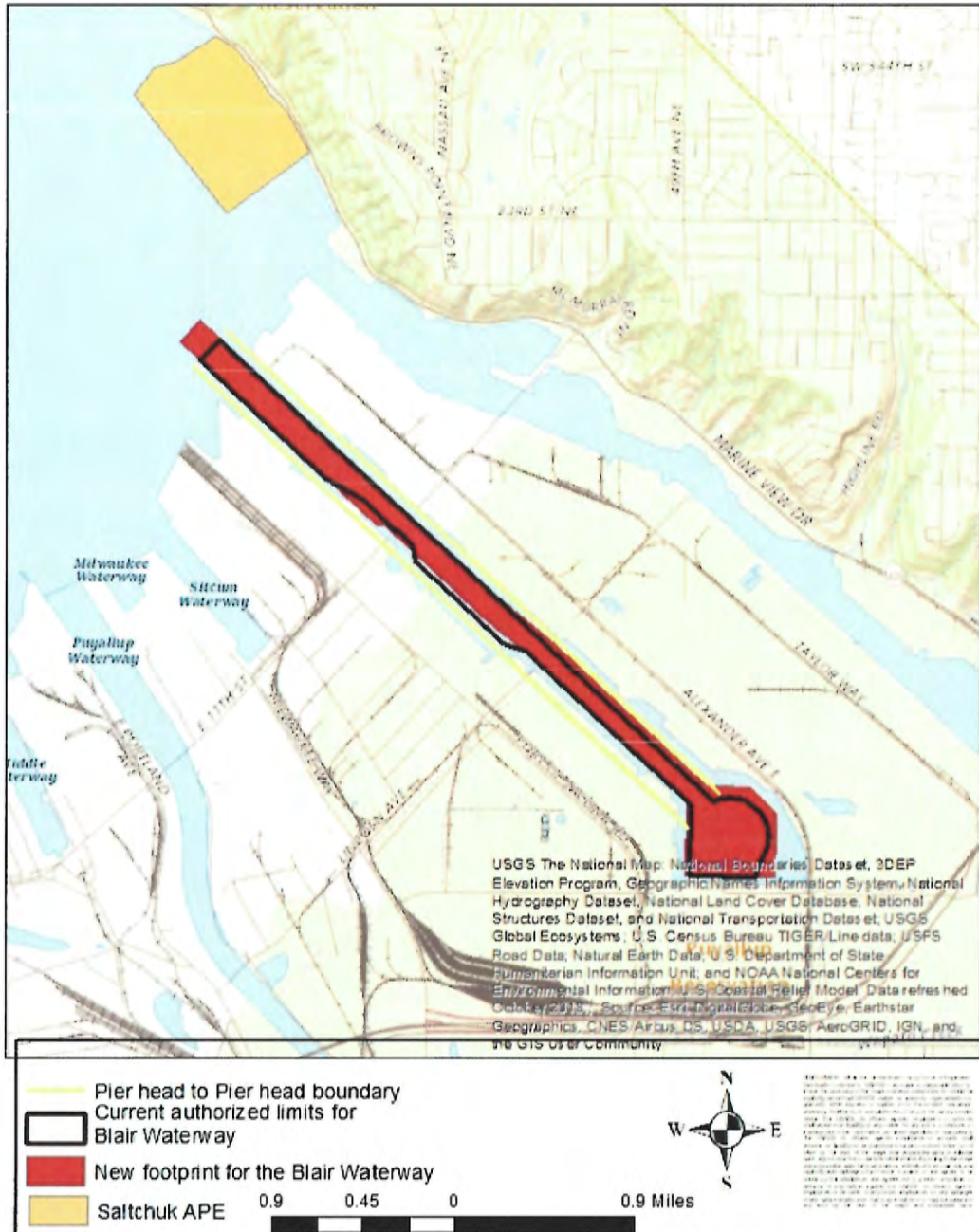
LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers





## Tacoma Harbor General Investigation



Enclosure 1: Revised APE



## Tacoma Harbor General Investigation



- Pier head to Pier head boundary
- Current authorized limits for Blair Waterway
- New footprint for the Blair Waterway
- Saltchuk APE

0.9 0.45 0 0.9 Miles



ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, AEROGRI, IGN, and the GIS USER COMMUNITY





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

Planning, Environmental and Cultural Resources Branch

The Honorable Bill Sterud  
Chair, Puyallup Tribe of Indians  
2009 East Portland Ave.  
Tacoma, WA 98404

MAR 26 2019

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE,  
DAHP Project 2018-10-08487

Dear Chairman Sterud:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

The following changes have occurred to the project: the training wall by the Puyallup River mouth and the Sitcum Waterway have been removed from the project. The Port of Tacoma has determined that deepening of Sitcum Waterway would require a significant investment, and is not projected to be feasible within the next 10 years. The training wall in the project was connected to the inclusion of Sitcum Waterway to address the possibility that there could be faster accumulation of sediment from the Puyallup River into Sitcum Waterway resulting in an increase of maintenance dredging.

In addition, the footprint for the Blair Waterway has been expanded to account for the widening and lengthening of the navigation channel and widening of the turning basin. Currently, the Blair Waterway is approximately 2.75 miles long including the turning basin. The authorized dimensions are 520 feet wide from the mouth to 11th Street, 345 feet wide through the 11th Street reach, 520 feet wide from 11th street to Lincoln Avenue, and 330 feet wide from Lincoln Avenue to the turning basin. The turning basin is 1300 feet wide and the dredge depth is -51 feet mean lower low water (MLLW) for the Waterway and turning basin. For this project the following is proposed:

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The project area consists of the federally authorized navigation channel of Blair Waterway; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The Blair Waterway and possible disposal site are located within Sections 22, 27, 28, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Enclosures 1 and 2). The Corps has determined the revised APE to include the full width from pier head to pier head, length and depth of the Blair Waterway necessary for deepening the Waterway, and the entirety of the Saltchuk beneficial use zone.

The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

A copy of this letter with enclosures will be sent to Brandon Reynon, Cultural Regulatory Specialist/Tribal Archaeologist, Puyallup Tribe of Indians, 2009 East Portland Avenue, Tacoma, WA 98404.

If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

2 Encl

Sincerely,

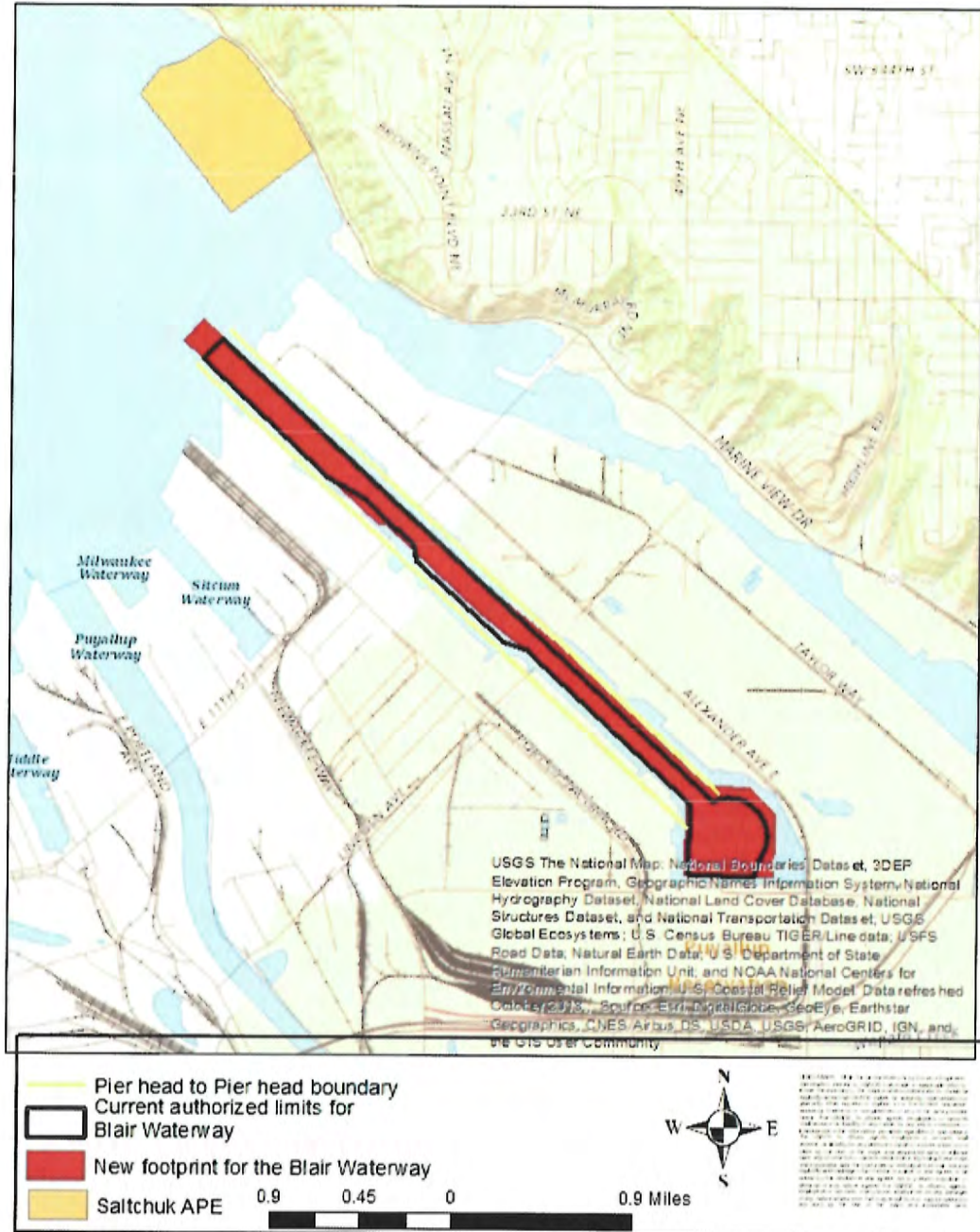


LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers



# Tacoma Harbor General Investigation

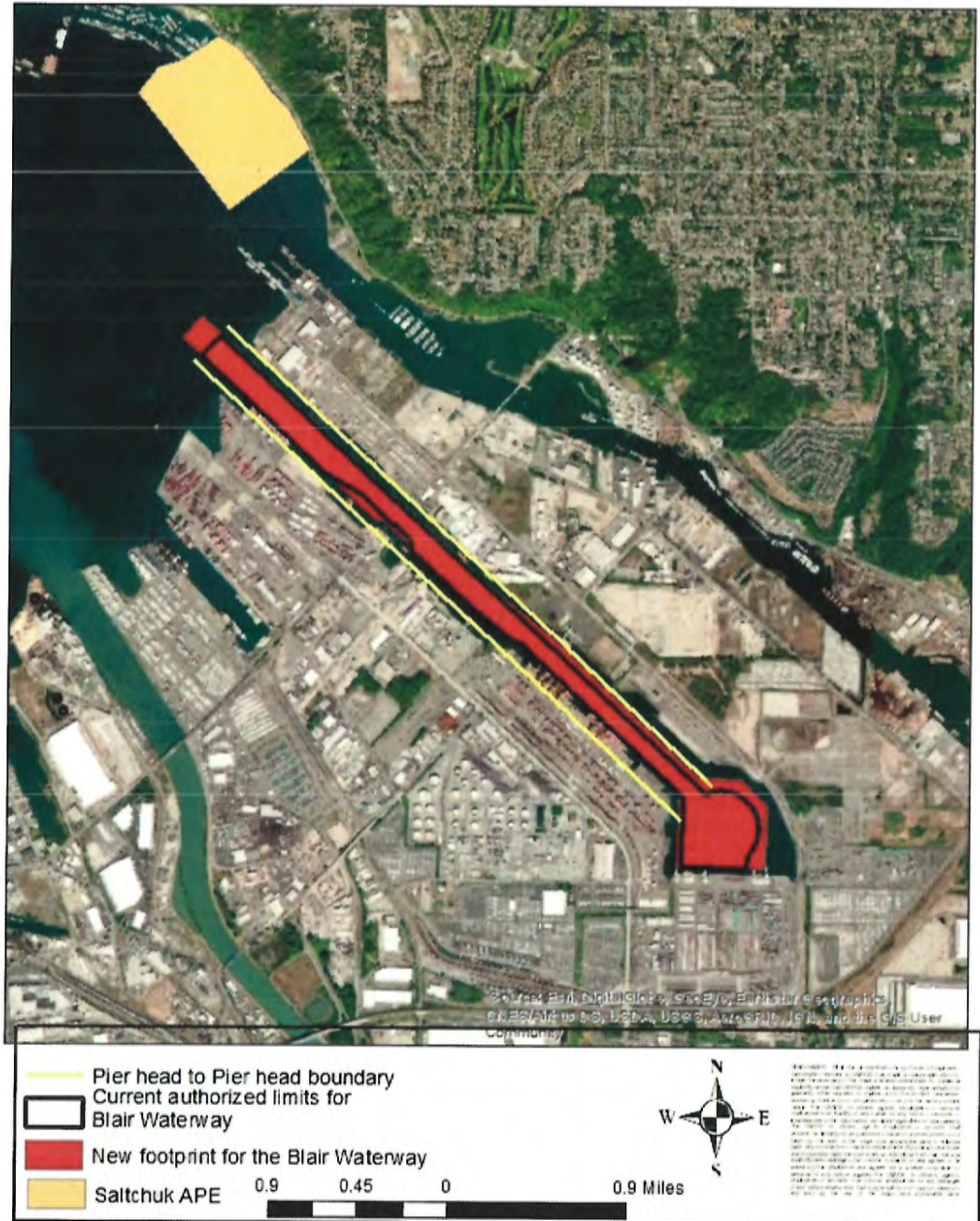


Enclosure 1: Revised APE





# Tacoma Harbor General Investigation



Enclosure 2: Aerial map of revised APE.



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

Planning, Environmental and Cultural Resources Branch

MAR 26 2019

The Honorable Robert de los Angeles  
Chair, Snoqualmie Tribe  
P. O. Box 969  
Snoqualmie, WA 98065

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE,  
DAHPP Project 2018-10-08487

Dear Chairman de los Angeles:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

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The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

A copy of this letter with enclosures will be sent to Steven Mullen Moses, Director, Archeology and Historic Preservation, Snoqualmie Tribe, P. O. Box 969, Snoqualmie, WA 98065.

If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

2 Encl

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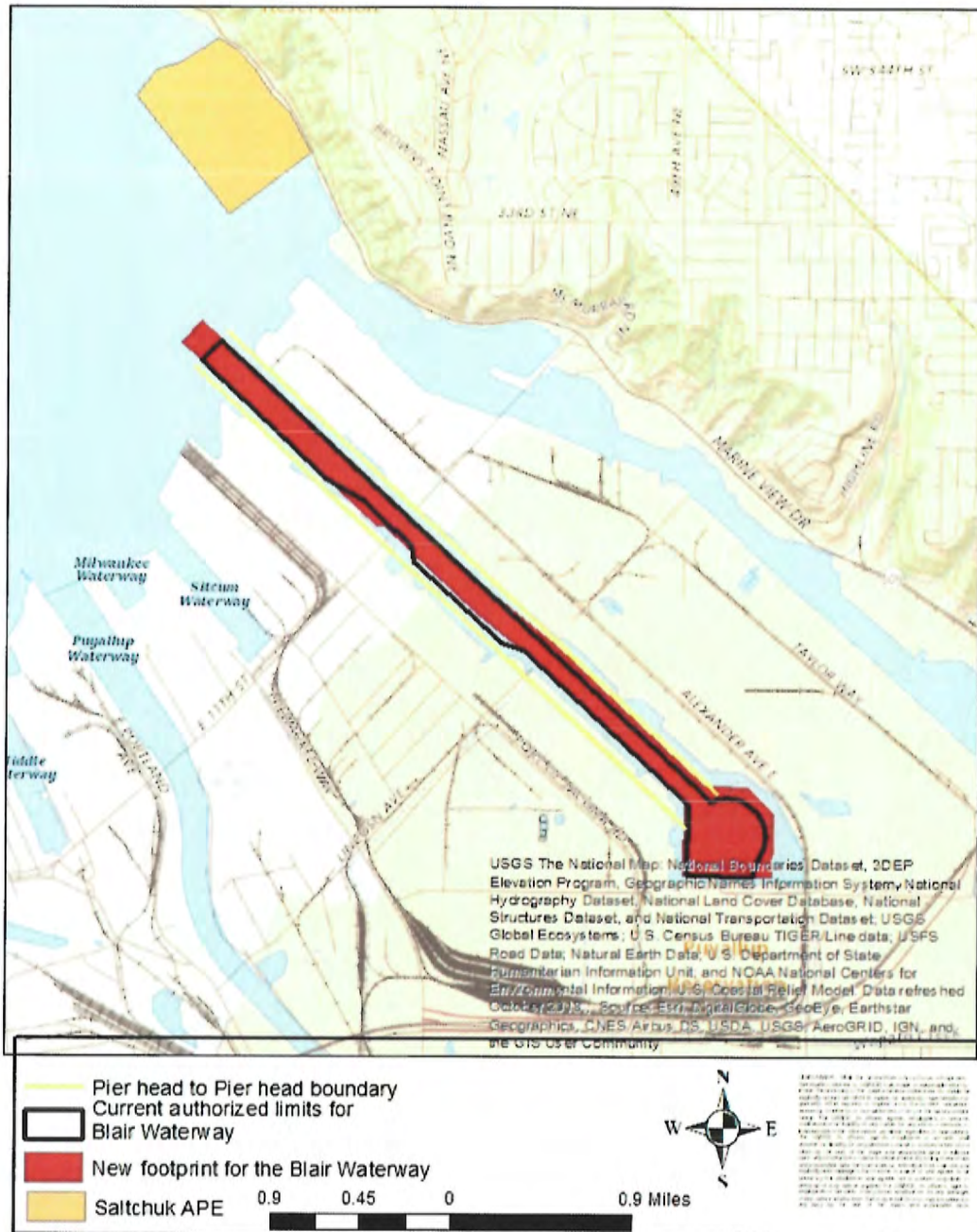


LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers



## Tacoma Harbor General Investigation



Enclosure 1: Revised APE





# Tacoma Harbor General Investigation



Enclosure 2: Aerial map of revised APE.





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

Planning, Environmental and Cultural Resources Branch

MAR 26 2019

The Honorable Arnold Cooper  
Chair, Squaxin Island Tribe  
10 SE Squaxin Lane  
Shelton, WA 98584

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE,  
DAHP Project 2018-10-08487

Dear Chairman Cooper:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

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The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

A copy of this letter with enclosures will be sent to Rhonda Foster, Tribal Historic Preservation Officer, Squaxin Island Tribe, 10 Squaxin Lane, Shelton WA 98584.

If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

2 Encl

Sincerely,



LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers

USGS The National Map, National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Representative Information Unit, and NOAA National Centers for Environmental Information; U.S. Coastal Relief Model. Data references: Calkley (2013), Source: Earthstar, GeoEye, Earthstar Geographics, CNES Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Legend:

- Pier head to Pier head boundary
- Current authorized limits for Blair Waterway
- New footprint for the Blair Waterway
- Saltchuk APE

Scale: 0.9, 0.45, 0, 0.9 Miles

North Arrow

Enclosure 1: Revised APE



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNR/Airphoto, USDA, USDA, AeroGRID, IGN, and the GIS User Community

0.9 0.45 0 0.9 Miles

**Legend:**

- Pier head to Pier head boundary
- Current authorized limits for Blair Waterway
- New footprint for the Blair Waterway
- Saltchuk APE

Enclosure 2: Aerial map of revised APE.





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

Planning, Environmental and Cultural Resources Branch

MAR 26 2019

The Honorable JoDe Goudy  
Chair, The Confederated Tribes and Bands of the Yakama Nation  
P. O. Box 151  
Toppenish, WA 98948

SUBJECT: Tacoma Harbor Investigation, Tacoma, Washington, Revision of APE,  
DAHP Project 2018-10-08487

Dear Chairman Goudy:

The United States Army Corps of Engineers (Corps) is continuing consultation on the Tacoma Harbor Investigation project, DAHP Project 2018-10-08487. In our letter of 30 October 2018, the Corps documented the area of potential effect (APE) with which your office agreed on 30 October 2018. This letter documents the revised APE, and provides an update to the project description. As mentioned in our 30 October 2018 letter, the Port of Tacoma has requested that the Corps conduct a feasibility study of a potential deepening project in order to meet the draft requirements of the current and anticipated container ship fleet and to improve cost efficiencies at the Port of Tacoma. Currently, large vessels upwards of 14,000 twenty-foot equivalent units are already calling on the Blair Waterway and the Port of Tacoma.

The following changes have occurred to the project: the training wall by the Puyallup River mouth and the Sitcum Waterway have been removed from the project. The Port of Tacoma has determined that deepening of Sitcum Waterway would require a significant investment, and is not projected to be feasible within the next 10 years. The training wall in the project was connected to the inclusion of Sitcum Waterway to address the possibility that there could be faster accumulation of sediment from the Puyallup River into Sitcum Waterway resulting in an increase of maintenance dredging.

In addition, the footprint for the Blair Waterway has been expanded to account for the widening and lengthening of the navigation channel and widening of the turning basin. Currently, the Blair Waterway is approximately 2.75 miles long including the turning basin. The authorized dimensions are 520 feet wide from the mouth to 11th Street, 345 feet wide through the 11th Street reach, 520 feet wide from 11th street to Lincoln Avenue, and 330 feet wide from Lincoln Avenue to the turning basin. The turning basin is 1300 feet wide and the dredge depth is -51 feet mean lower low water (MLLW) for the Waterway and turning basin. For this project the following is proposed:

- the authorized width of 520 feet from the mouth to 11<sup>th</sup> Street would be maintained;
- the authorized width of the 11<sup>th</sup> Street reach would increase from 345 feet wide to 520 feet wide;
- the authorized width of the 11<sup>th</sup> Street to Lincoln Avenue would be maintained at 520 feet wide;
- the authorized width of the Lincoln Avenue to the turning basin would increase from 330 feet wide to 520 feet;
- the turning basin would increase from 1300 feet to 1600 feet;
- the depth of dredging would be -58 feet MLLW plus two feet of over dredge for the Waterway and turning basin

The project area consists of the federally authorized navigation channel of Blair Waterway; and the Saltchuk beneficial use zone, a potential disposal site for dredged materials. The Blair Waterway and possible disposal site are located within Sections 22, 27, 28, 34, 35, and 36 Township 21 Range 3 East and Sections 1 and 2 Township 20 Range 3 East, Pierce County, Washington (Enclosures 1 and 2). The Corps has determined the revised APE to include the full width from pier head to pier head, length and depth of the Blair Waterway necessary for deepening the Waterway, and the entirety of the Saltchuk beneficial use zone.

The total surface area of the revised APE is approximately 872 acres. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the project.

A copy of this letter with enclosures will be sent to V. Kate Valdez, Tribal Historic Preservation Officer, Confederated Tribes and Bands of the Yakama Nation, P. O. Box 151, Toppenish, WA 98948.

If you have any questions or desire additional information, please contact the project archaeologist, Kara Kanaby at [kara.m.kanaby@usace.army.mil](mailto:kara.m.kanaby@usace.army.mil) or (206) 764-6857. I may be contacted at [laura.a.boerner@usace.army.mil](mailto:laura.a.boerner@usace.army.mil) or (206) 764-6761.

2 Encl

Sincerely,

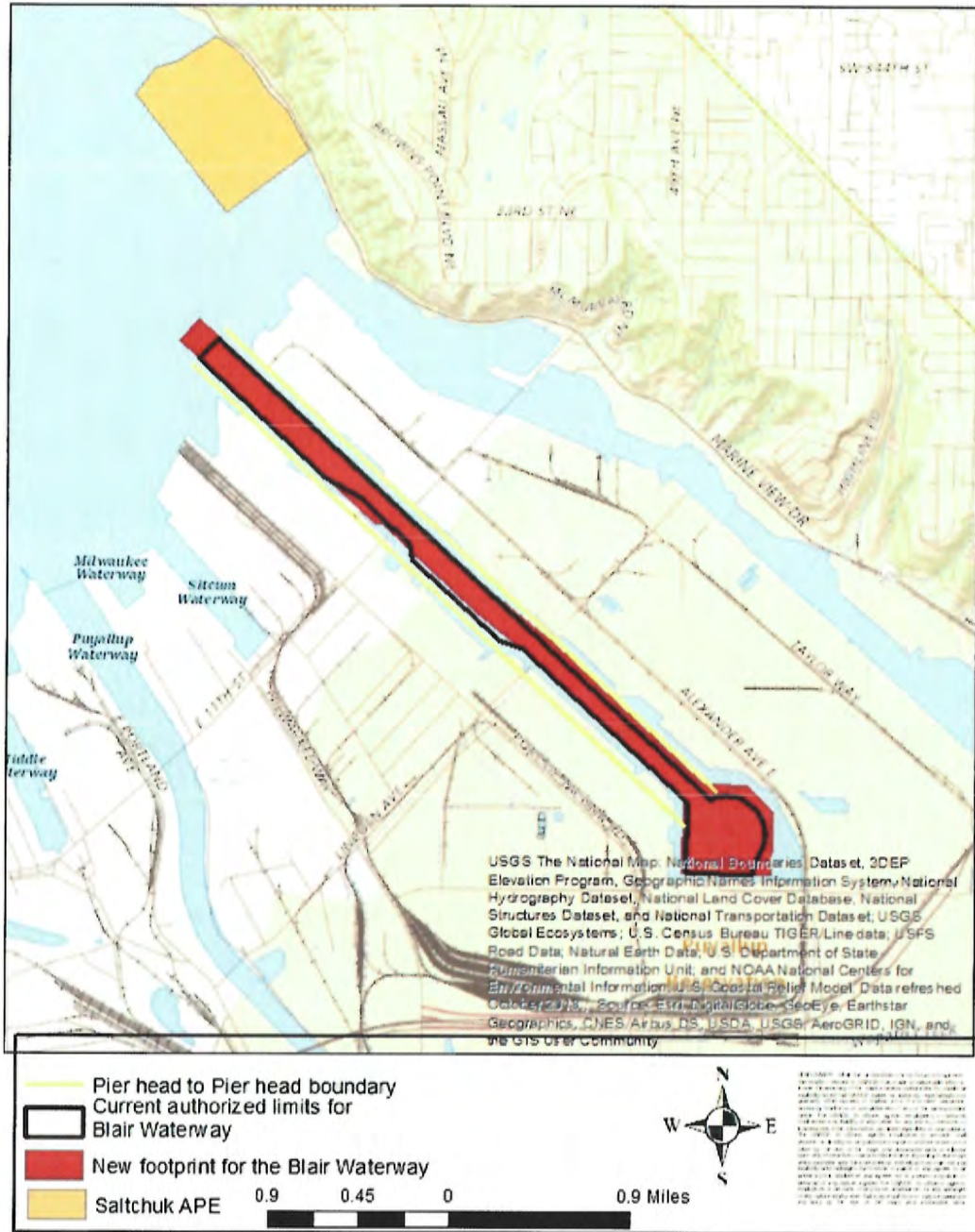


LAURA A. BOERNER

Chief, Planning, Environmental and  
Cultural Resources Branch  
Seattle District, U. S. Army Corps of  
Engineers



# Tacoma Harbor General Investigation



Enclosure 1: Revised APE





## Tacoma Harbor General Investigation



- Pier head to Pier head boundary
- Current authorized limits for Blair Waterway
- New footprint for the Blair Waterway
- Saltchuk APE

0.9 0.45 0 0.9 Miles



This map was created by the U.S. Army Corps of Engineers, Pacific District, Tacoma Harbor General Investigation. It is a technical drawing and not a photograph. It is not to be used for navigation or other purposes without the express written permission of the U.S. Army Corps of Engineers, Pacific District. The Corps of Engineers is not responsible for any errors or omissions in this map. The Corps of Engineers is not responsible for any damages or losses resulting from the use of this map. The Corps of Engineers is not responsible for any claims, damages, or losses resulting from the use of this map. The Corps of Engineers is not responsible for any claims, damages, or losses resulting from the use of this map.

Enclosure 2: Aerial map of revised APE.



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# Introductory Tribal Coordination Letters

Introductory tribal coordination letters were sent to the following local tribes on October 3, 2018:

- Muckleshoot Indian Tribe
- Puyallup Tribe of Indians
- Nisqually Indian Tribe
- Snoqualmie Indian Tribe
- Squaxin Island Tribe
- The Confederated Tribes and Bands of the Yakama Nation

An example letter with identifying information removed follows this sheet. The letters were sent to the tribal chair and the tribal natural resources director to solicit comments and hear about specific resources of concern.

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

October 3, 2018

Planning, Environmental, and Cultural Resources Branch

OCT 03 2018

Dear [REDACTED]

The U.S. Army Corps of Engineers, Seattle District (Corps) has initiated a feasibility study at Tacoma Harbor, Washington. The purpose of the study is to investigate modification of the Tacoma Harbor deep draft navigation project in the interest of navigation improvements for efficiency. The focus of the feasibility study is on navigation improvements specifically in the Blair and Sitcum Waterways, where the Corps will evaluate the feasibility of deepening and widening the waterways up to -58 feet Mean Lower Low Water (Figures 1 and 2). The Corps has identified the [REDACTED] (Tribe) as having interest in this study because of the location and possible effects on water resources located in your traditional lands and potentially usual and accustomed fishing areas. The Port of Tacoma is the non-Federal sponsor for the Corps study.

We would like to introduce our staff who will be working on the project:

|   |                |
|---|----------------|
| Project Manager: Kristine Ceragioli           | (206) 764-6745 |
| Plan Formulator: Donald Kramer                | (206) 764-6967 |
| Lead Environmental Coordinator: Nancy Gleason | (206) 764-6577 |
| Environmental Coordinator: Kaitlin Whitlock   | (206) 764-3576 |
| Cultural Resources: Kara Kanaby               | (206) 764-6857 |

The Corps has initiated scoping for development of an integrated Draft Feasibility Report/National Environmental Policy Act document. During the scoping process, we would like to afford the Tribe the opportunity to provide input to what is studied and regarding tribal resources considerations. We wish to maintain assurance of your interests and be apprised of any objections, requests, or requirements you may have. The Corps welcomes the opportunity to work with your Tribe on the technical issues of this study as well. Should you decide to engage any of your technical staff on this study, please provide the name(s) and contact information of any person(s) with whom you wish us to work directly on technical matters of concern to your Tribe.



To facilitate communication regarding environmental and cultural considerations in this study, the Corps will host a special session to discuss the Tacoma Harbor feasibility study during the next Semi-Annual Agency and Tribal Dredging Coordination meeting on October 25, 2018 at 1:30 p.m. at the Seattle District office. An email will come to your staff requesting participation and to provide meeting details. The Corps is also formally consulting with the Puyallup Tribe of Indians, Nisqually Indian Tribe, Snoqualmie Indian Tribe, Squaxin Island Tribe, and the Yakama Nation. They will be invited to the upcoming meeting.

A copy of this letter has been sent to the following Tribal staff member, [REDACTED] [REDACTED] Natural Resources Director. You will be receiving additional correspondence from the Corps by separate letter regarding the Corps' Section 106 consultation responsibilities under the National Historic Preservation Act.

For additional information regarding the Tacoma Harbor feasibility study, please contact Ms. Kristine Ceragioli, Project Manager, at (206) 764-6745 or [Kristine.S.Ceragioli@usace.army.mil](mailto:Kristine.S.Ceragioli@usace.army.mil). For assistance regarding tribal coordination, please contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or [frances.morris@usace.army.mil](mailto:frances.morris@usace.army.mil).

Sincerely,

[REDACTED]

Laura A. Boerner  
Chief, Planning, Environmental & Cultural  
Resources Branch

Enclosures

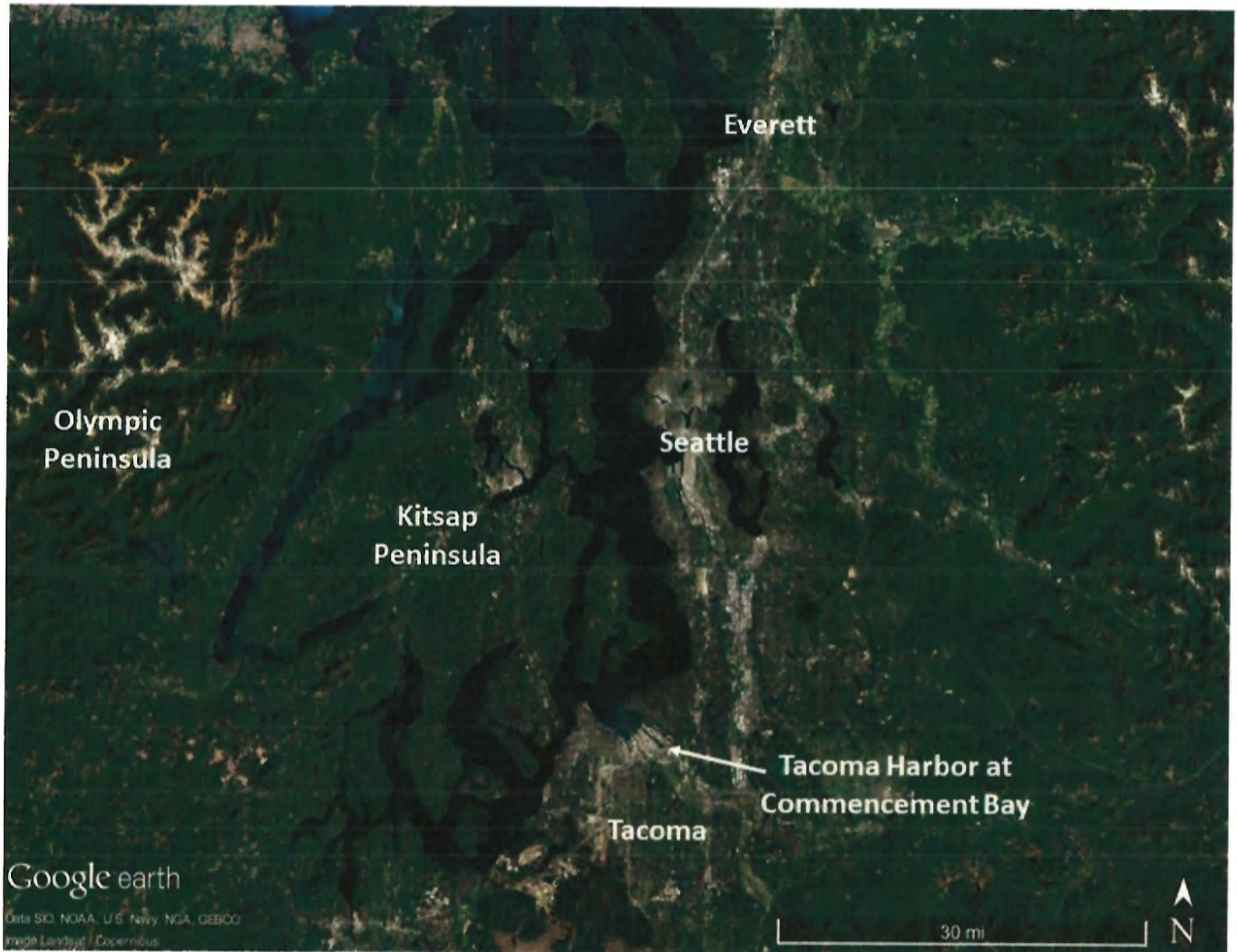


Figure 1. Vicinity of the project location, Tacoma Harbor at Commencement Bay, within Puget Sound.



Figure 2. Location of the proposed feasibility study area in the Blair and Sitcum Waterways within Commencement Bay and adjacent to the Puyallup River.

# Fish and Wildlife Coordination Act Planning Aid Letter



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**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
1201 NE Lloyd Boulevard, Suite 1100  
PORTLAND, OREGON 97232-1274

September 5, 2019

Laura A. Boerner  
Chief, Planning, Environmental, & Cultural Resources Branch  
P.O. Box 3755  
Seattle, WA 98124-3755  
ATTN: CENWS-PMP

Re: Fish and Wildlife Coordination Act Planning Aid Letter on the Corps of Engineers' National Environmental Policy Act environmental assessment (EA) for the Tacoma Harbor, WA Navigation Improvement Project, Pierce, County, Washington.

Dear Chief Boerner;

The National Marine Fisheries Service (NMFS) has reviewed the December 21, 2019 Public Notice for the proposed Tacoma Harbor deepening in the Blair Waterway of Commencement Bay in Pierce County, Washington. This Planning Aid Letter is written in response to the public notice, under the authority given to NMFS through the Fish and Wildlife Coordination Act (16 USC 661-667e; 48 Stat. 401), because trust resources within NMFS' jurisdiction will be affected by the proposed project.

These trust resources include Endangered Species Act (ESA) listed Puget Sound (PS) Chinook salmon (*Oncorhynchus tshawytscha*), PS steelhead (*O. mykiss*), Southern Resident (SR) Killer Whale (*Orcinus orca*), and designated essential fish habitat (EFH) for various life stages of Pacific Coast salmon, Pacific Coast groundfish, and coastal pelagic species. Other species that fall within the fiduciary responsibility of the Federal government are the variety of fishes and shellfishes traditionally harvested by treaty tribes.

### **Purpose and Need for Proposed Action**

The proposal involves the deepening of the Blair Waterway in Commencement Bay, Tacoma, Washington (Figure 1). The Tacoma Harbor currently measures approximately 51 feet MLLW (mean lower low water), a measurement that is equal to the average height of the lowest tide recorded every day during a 19-year period. Initial alternatives include deepening the Blair Waterway from minus 51 feet to up to minus 58 feet Mean Lower Low Water (MLLW) and widening the existing authorized channel (330 to 520 feet wide) to better accommodate larger vessels already calling at Tacoma Harbor, such as the post-Panamax Generation 4.

The Corps and the Port recognize that channel deepening is essential to maintaining the Port's competitive position as a premier international trade gateway, particularly relative to Canadian ports. A deeper harbor would eliminate transit delays due to tidal changes and allow larger, fully-loaded ships to more efficiently and cost-effectively visit the Port of Tacoma. The Tacoma

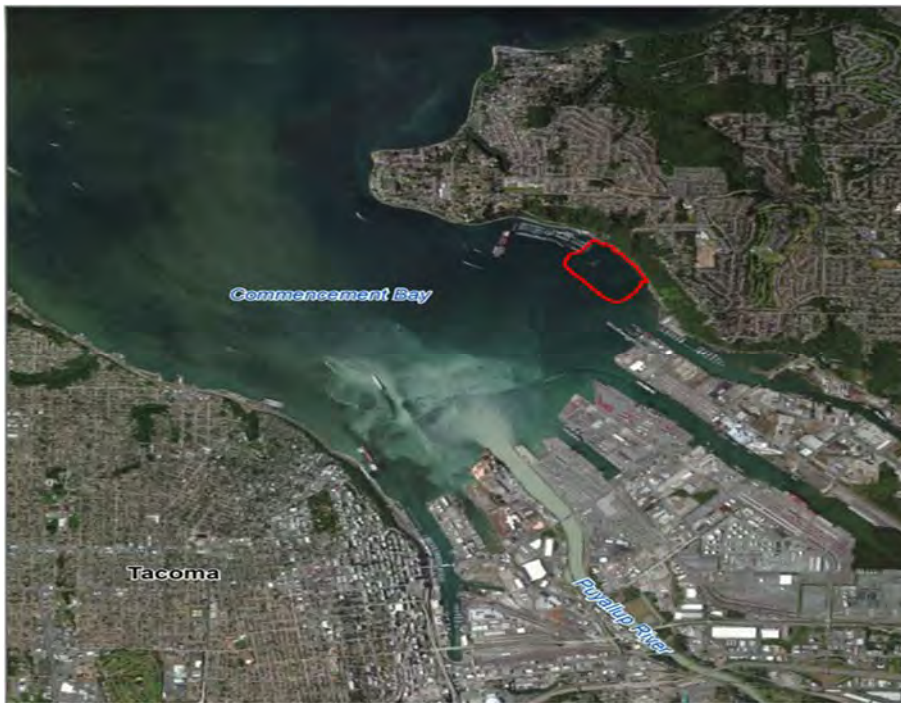
Harbor is a major gateway for containerized traffic and the channels must have sufficient depth for partially loaded vessels to call, take on additional cargo, and leave fully loaded. Tide restrictions, light loading, or other operational inefficiencies created by inadequate channel depth currently limits the Port's competitiveness, especially when competing with nearby and naturally deep harbors in British Columbia and the outer coast.



**Figure 1. Aerial Image of Blair Waterway**

Sediment that is determined to be suitable for beneficial reuse will either go to open water disposal or may be used at the potential Saltchuck marine site. Saltchuck is a deeper water site located adjacent to other restoration actions. The material placed would be intended to raise the elevation to create nearshore juvenile Chinook rearing habitat (Figure 2).





**Figure 2. Location of the potential Saltchuck mitigation site**

### **Existing Conditions**

Lingering effects of more than a century of human development combined with numerous ongoing activities in the industrial waterways have contributed to the currently degraded environmental baseline conditions in Commencement Bay, including the Blair Waterway. In 1981, the U.S. Environmental Protection Agency (EPA) listed Commencement Bay as a Federal Superfund site. As a result of this, the cleanup of contaminants has been a high priority. After the completion of the dredging, the EPA deleted the Blair Waterway and all lands that drain to the Blair Waterway from the National Priorities List.

The shorelines of Commencement Bay have been highly altered using riprap and other materials to provide bank protection. Blair Waterway comprises seven percent of the total of armored shoreline that cover 71 percent of the length of the Commencement Bay shoreline. Based on shoreline surveys and aerial photo interpretation of the area, approximately five miles, or 20 percent of the Commencement Bay shoreline, is covered by wide over-water structures (Kerwin 1999). The existing project area is presently altered using riprap that provides low to medium quality feeding and refuge habitat for juvenile salmon (Spence et al. 1996).

At present, the small amount of functional salmonid habitat within Commencement Bay shorelines is gradually increasing in acreage because of habitat restoration projects and natural processes. The importance of nearshore marine habitat, as part of a restoration strategy for habitat function within the estuary, has been emphasized by the Chinook salmon habitat protection and restoration strategy for the Puyallup Watershed and is an important step toward improving the overall ecological functionality of the area.

### **Proposed Action and Potential Effects**

The proposed project as described above involves deepening the navigational channel by dredging the Blair Waterway in Commencement Bay to accommodate loading and unloading of larger container ships. The Corps has indicated that deepening the navigational shipping channel to accommodate larger container ships is a viable alternative to meet the business needs of the Port of Tacoma. Other alternatives or measures are available or are currently being used, but these measures over the long-term do not solve the Port's issues on cost savings and reducing navigation challenges for larger ships entering the Port.

The Corps' in-water work window for Commencement Bay July 15 to February 15 which can reduce, but not avoid, effects on ESA listed species or designated critical habitat.

Potential construction-related impacts associated with dredging the Blair Waterway would include water quality impacts due to increased turbidity, suspended sediments, and contaminants. The variety of effects of increased turbidity and suspended sediment may be characterized as lethal, sublethal or behavioral (Bash et al. 2001; Newcombe and MacDonald 1991; Waters 1995). Lethal effects include gill trauma (physical damage to the respiratory structures), severely reduced respiratory function and performance, and smothering and other effects that can reduce egg-to-fry survival (Bash et al. 2001). Sublethal effects include physiological stress reducing the ability of a fish to perform vital functions (Cederholm and Reid 1987), increased metabolic oxygen demand and susceptibility to disease and other stressors (Bash et al. 2001), and reduced feeding efficiency (Bash et al. 2001; Berg and Northcote 1985; Waters 1995). Sublethal effects can act separately or cumulatively to reduce growth rates and increase fish mortality over time. Behavioral effects include avoidance, loss of territoriality, and related secondary effects to feeding rates and efficiency (Bash et al. 2001).

Due to the industrial nature of the area, dredging of the Blair Waterway has the potential to cause the release or resuspension of contaminants. The effects to aquatic life differ depending upon the type of contaminant. Metal, polyaromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs), as groupings of related contaminants, present a risk of additive or synergistic effects. Potential effects of bioaccumulation include inhibited reproduction, delayed fry emergence, liver disease or malfunction, morphological abnormalities, immune system impairment, and mortality.

Dredging will cause benthic habitat disturbance for EFH species that may forage in deep water. Juvenile salmon would not be affected as they forage almost exclusively in nearshore areas. The recovery of disturbed habitats following dredging ultimately depends upon the nature of the sediment at the dredge or disposal site, sources and types of re-colonizing animals, and the extent of the disturbance.

The dredging of the navigation channel will result in larger vessels (container ships) utilizing the Blair Waterway to load and unload at Port facilities and privately-owned industrial docks. Vessel traffic is one area that has been identified as having a potential effect on the feeding behavior of the whales. SR killer whales come into the Puget Sound on an irregular basis and for a limited amount of time usually during the winter. The amount of effect from vessel traffic on killer whales during the time they are present in Washington waters is unknown.

### **Coordination with Federal and State Agencies and Tribal Governments**

The NMFS participated in meetings with the COE, had numerous discussions with agencies related to the Tacoma Harbor General Investigation, and coordinated with relevant resource agencies, and the Puyallup Tribe. The information provided in this letter is based on conversations with the Puyallup Tribe, WDFW, and the EPA. Many of the same concerns, conclusions, and recommendations are shared by the NMFS, the Tribe, WDFW, and the EPA. This Planning Aid Letter highlights concerns regarding potential risks and damages to fish, wildlife, and tribal trust resources associated with the Tacoma Harbor deepening project.

In addition to the coordination described above, in order to provide recommendations that benefit the fish and wildlife resources, NMFS reviewed the status of ESA-listed Species and Critical Habitats (See Appendix A for summary), and the Chinook salmon habitat protection and restoration strategy for the Puyallup Watershed. Specific recovery actions identified for Commencement Bay include restoring estuarine and nearshore habitat.

### **Recommendations**

At the outset, in the context of this proposed action, and other federal water resource development proposals, we emphasize the necessity of upholding treaty fishing rights and other/related tribal trust responsibilities.

NMFS further recommends that the U.S. Army Corps of Engineers (COE), prior to issuing its 404 Clean Water Act permit: (1) work with NMFS, US Fish and Wildlife Service, Pierce County, Washington State Department of Fish and Wildlife (WDFW), Environmental Protection Agency (EPA), and the Puyallup Tribe to determine restoration actions to mitigate for project impacts; (2) coordinate with the NMFS throughout the development of the alternatives and design of the project to expedite the ESA section 7 consultation; (3) develop a contingency plan for possible contaminants; (4) provide a full characterization of sediment quality that will be used in nearshore placement; (5) include an analysis of vessel effects to marine mammals; and (6) maximize habitat restoration in the nearshore.

These recommendations are provided in greater detail here:

1. The Corps should work with NMFS, USFWS, Pierce County, WDFW, EPA, and the Puyallup Tribe to determine restoration actions to mitigate for project impacts, as well as impacts associated with interrelated and interdependent action such as long-term habitat loss, increased shade, changes in vessel sizes. Mitigation should meet the objectives of the current Recovery Plans for Puget Sound Chinook salmon.
2. Coordinate with the NMFS throughout the development of the alternatives and design of the project to expedite the ESA section 7 consultation.  
Early coordination can (1) provide an opportunity for the Service(s) to suggest conservation measures that can be incorporated into the project to avoid, reduce, or minimize potential adverse effects to listed species; (2) identify design alternatives or mitigation opportunities that can benefit the recovery of listed species; and (3) provide technical assistance on specific species habitat

requirements that could be incorporated into the project.

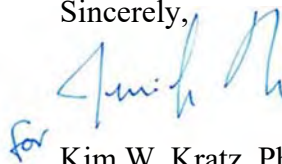
3. Develop a contingency plan to minimize water quality effects should contaminants be discovered during sediment sampling prior to dredging.
4. Because of the possibility of contaminants, sediment used in nearshore placement of dredged material at the Saltchuck marine site needs to be fully characterized to ensure fish or their prey resources will not be adversely affected. The Corps should provide a full characterization of sediment quality that will be used in nearshore placement to confirm fish or their prey resources will not be adversely affected.
5. Include an analysis of effects to marine mammals from larger vessels that will be transiting through Puget Sound to the Blair Waterway.
6. Maximize nearshore habitat restoration. Restored habitat function to areas will benefit ESA listed juvenile salmon and their prey resources, which in turn is beneficial to SRKW. Restored nearshore habitat also benefits designated EFH, and provides beneficial stewardship of treaty trust resources.
7. Perform monitoring of habitat restoration site to confirm that fish use established at baseline or improved levels, and at what time frame.

#### **Summary and Service Position**

Dredging of the Blair Waterway will retain the degraded condition of habitat in Commencement Bay that has been impacted for over 100 years, and which, despite its designation as critical habitat, does not have sufficient habitat conditions to improve conservation outcomes for ESA listed resources, and which currently fails to meet treaty obligations because consumption of fishes and shellfishes harvested from the area must be restricted to avoid human health impacts. Detrimental effects of the Blair Waterway dredging include water quality degradation, benthic effects, exposure of protected and trust species, and habitat and species disruptions associated with increased vessel size. Multiple beneficial effects would result from restored nearshore marine habitat.

Thank you for the opportunity to comment on the proposed project. If you have any questions, please contact Bonnie Shorin, of the Oregon/Washington Coastal Area Office at (360) 753-9578, or by email at [Bonnie.Shorin@noaa.gov](mailto:Bonnie.Shorin@noaa.gov).

Sincerely,



Kim W. Kratz, Ph.D  
Assistant Regional Administrator  
Oregon Washington Coastal Office



## REFERENCES

- Bash, J., C.H. Berman, and S. Bolton. 2001. Effects of turbidity and suspended solids on salmonids. Center for Streamside Studies, University of Washington, Seattle, WA, November 2001. 72 pp.
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- Kerwin, J. 1999. Salmon Habitat Limiting Factors Report for the Puyallup River Basin (Water Resource Inventory Area 10). Washington Conservation Commission, Olympia, Washington.
- Newcombe, C.P., and D.D. MacDonald. 1991. Effects of Suspended Sediments on Aquatic Ecosystems. North American Journal of Fisheries Management 11(1):72-82.
- Spence, B.C., G.A. Lomnický, R.M. Hughs, and R.P. Novitzki. 1996. An ecosystem approach to salmonid conservation. TR-4501-96-6057. ManTech Environmental Research Services Corp., Corvallis, OR. (Available from the National Marine Fisheries Service, Portland, Oregon.).
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## APPENDIX

### Status of the Species

#### *PS Chinook*

This Evolutionary Significant Unit (ESU) comprises 22 populations distributed over five geographic areas. Most populations within the ESU have declined in abundance over the past 7 to 10 years, with widespread negative trends in natural-origin spawner abundance, and hatchery-origin spawners present in high fractions in most populations outside of the Skagit watershed. Escapement levels for all populations remain well below the Technical Review Team (TRT) planning ranges for recovery, and most populations are consistently below the spawner-recruit levels identified by the TRT as consistent with recovery.

Limiting factors include:

- Degraded floodplain and in-river channel structure
- Degraded estuarine conditions and loss of estuarine habitat
- Degraded riparian areas and loss of in-river large woody debris
- Excessive fine-grained sediment in spawning gravel
- Degraded water quality and temperature
- Degraded nearshore conditions
- Impaired passage for migrating fish
- Severely altered flow regime

#### *PS Steelhead*

This DPS comprises 32 populations. The DPS is currently at very low viability, with most of the 32 populations and all three population groups at low viability. Information considered during the most recent status review indicates that the biological risks faced by the Puget Sound Steelhead DPS have not substantively changed since the listing in 2007, or since the 2011 status review. Furthermore, the Puget Sound Steelhead TRT recently concluded that the DPS was at very low viability, as were all three of its constituent MPGs, and many of its 32 populations. In the near term, the outlook for environmental conditions affecting Puget Sound steelhead is not optimistic. While harvest and hatchery production of steelhead in Puget Sound are currently at low levels and are not likely to increase substantially in the foreseeable future, some recent environmental trends not favorable to Puget Sound steelhead survival and production are expected to continue.

Limiting factors include:

- Continued destruction and modification of habitat
- Widespread declines in adult abundance despite significant reductions in harvest
- Threats to diversity posed by use of two hatchery steelhead stocks
- Declining diversity in the DPS, including the uncertain but weak status of summer-run fish
- A reduction in spatial structure
- Reduced habitat quality
- Urbanization
- Dikes, hardening of banks with riprap, and channelization

### *SR Killer Whale*

The Southern Resident killer whale DPS is composed of a single population that ranges as far south as central California and as far north as southeast Alaska. The estimated effective size of the population (based on the number of breeding individuals under ideal genetic conditions) is very small — <30 whales, or about 1/3 of the current population size. The small effective population size, the absence of gene flow from other populations, and documented breeding within pods may elevate the risk from inbreeding and other issues associated with genetic deterioration. As of July 1, 2013, there were 26 whales in J pod, 19 whales in K pod and 37 whales in L pod, for a total of 82 whales. Estimates for the historical abundance of Southern Resident killer whales range from 140 whales (based on public display removals to 400 whales, as used in population viability analysis scenarios.

Limiting factors include:

- Quantity and quality of prey
- Exposure to toxic chemicals
- Disturbance from sound and vessels
- Risk from oil spills

### **Chinook Salmon and SR Killer Whale Critical Habitat**

There is no designated PS steelhead critical habitat in the project area.

### *PS Chinook salmon*

The NMFS designated critical habitat for the Puget Sound Chinook salmon on September 2, 2005 (70 FR 52630). One of the six PBFs of Puget Sound Chinook salmon critical habitat are in the action area:

The action area is located within the marine physical or biological features (PBF) of PS Chinook critical habitat. The PBFs for PS Chinook salmon marine critical habitat are:

- (1) Water quality and quantity conditions and (2) Forage, including aquatic invertebrates and fish, supporting growth and maturation; and (3) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.

Dredging activities will result in temporary degradation of water quality due to increased turbidity, suspended sediments, and possible contaminants.

### *SR Killer Whale*

The final rule listing Southern Resident killer whales (SRKW) as endangered identified several potential factors that may have caused their decline or may be limiting recovery. These are: quantity and quality of prey, toxic chemicals which accumulate in top predators, and disturbance from sound and vessel traffic. The rule also identified oil spills as a potential risk factor for this species (73 FR 4176).

SR Killer Whales are not known to frequent the Blair Waterway. Vessel traffic transiting the Puget Sound may affect the feeding behavior of SR killer whales.

### **Essential Fish Habitat**

The project area includes habitats that have been designated as EFH for various life-history stages of 17 species of groundfish, four coastal pelagic species, and three species of Pacific salmon.



Clean Water Act  
Section 404(b)(1) Evaluation

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**Tacoma Harbor, WA Navigation Improvement Project  
Feasibility Study  
Pierce County, Washington  
  
Substantive Compliance for  
Clean Water Act Section 404**

**1. Introduction.** The purpose of this document is to record the U.S. Army Corps of Engineers' (Corps) evaluation and findings regarding this project pursuant to Section 404 of the Clean Water Act (CWA).

The following actions are covered by this document: deepening and widening the existing Federal navigation channel at the Blair Waterway in the Port of Tacoma with disposal in the following manner:

- (a) Disposal of up to 2,800,000 CY of suitable material dredged from the Blair Waterway in the Port of Tacoma at the DMMP Commencement Bay open-water disposal site;
- (b) Placement of up to 1,850,000 CY of suitable dredged material dredged from the Blair Waterway in Saltchuk for beneficial use in Commencement Bay; and
- (c) Material that is determined to not be suitable for open-water disposal at either of the above open-water disposal locations, would be transported by barge to a transloading facility to be dewatered and hauled by truck to an appropriate upland disposal site. Current estimates indicate that this may involve approximately 392,000 CY of material.

Per 33 CFR Part 323.2(d)(iii), incidental fallback during the proposed dredging process to deepen and widen the existing navigation channel in the Blair Waterway is not considered a discharge of dredged material; therefore, it is not discussed in the following analysis. Subsequent disposal of future maintenance dredging of the Federal navigation channel is not included within the following analysis.

The information contained in this document reflects the findings of the project record. Specific sources of information included the following:

- a. Puget Sound Dredged Disposal Analysis (PSDDA) Unconfined, Open-Water Disposal Sites for Dredged Material Phase I (Central Puget Sound), Final Environmental Impact Statement. Prepared by the Dredged Material Management Program (DMMP), 1988.
- b. Puget Sound Dredged Disposal Analysis (PSDDA) Unconfined, Open-Water Disposal Sites for Dredged Material Phase II (North and South Puget Sound), Final Environmental Impact Statement, Prepared by the DMMP, 1989.
- c. Biological Evaluation for the Continued Use of Multiuser Dredged Material Disposal Sites in Puget Sound and Grays Harbor. Prepared by the U.S. Army Corps of Engineers, Seattle District, June 2015.

A Biological Opinion was issued by the National Marine Fisheries Service (NMFS) for the project dated December 17, 2015; a letter of concurrence for the project was issued by the U.S. Fish and Wildlife Services (USFWS) dated July 28, 2015.



- d. U.S. Army Corps of Engineers. 2015. Biological Evaluation. Continued use of Multiuser Dredged Material Disposal Sites in Puget Sound and Grays Harbor. 111pp+Appendices.
- e. U.S. Army Corps of Engineers. 2019. Draft Integrated Feasibility Report and Environmental Assessment–Tacoma Harbor, WA. U.S. Army Corps of Engineers, Seattle District.
- f. DMMP 2019. DMMP advisory determination regarding the potential suitability of proposed dredged material from the Blair Waterway in Tacoma Harbor for unconfined open-water disposal at the Commencement Bay disposal site or for beneficial use. June 25, 2019. 404(b)(1) Evaluation (see below).
- g. Public Interest Review (see below).

This document addresses the substantive compliance issues of the Clean Water Act 404(b)(1) Guidelines [40 CFR §230.12(a)] and the Regulatory Programs of the Corps of Engineers [33 CFR §320.4(a)].

**2. Project Background.** Tacoma Harbor is a top 25 container port in the U.S., and ninth for cargo value. In 2017, the harbor had a container throughput of over two million twenty-foot equivalent units (TEUs) including incoming and outgoing units. As one of the top 25 container ports, it is of national importance for trade, and it is important to the national and local economies that it maintains its ability to receive calls as ships get larger. The largest ship that has called at the Port is the 13,800 nominal TEU capacity ship *Thalassia Axia*.

The proposed action is to achieve transportation cost savings increase economic efficiencies by conducting navigation improvements at Tacoma Harbor to deepen and widen the existing Federal navigation channel. For analysis of potential environmental impacts of the range of alternatives, the Corps is analyzing a range of alternatives that consider varying length, width, and depth of improvements, including an economically optimized plan that would require less total dredging than the maximum depth analyzed. The proposed action is to deepen the existing Federal channel in Blair Waterway from -51 feet Mean Lower Low Water (MLLW) to -57 feet below MLLW with channel widths ranging from 450 feet to 864 feet and the turning basin expanded from 1,682 feet to 1,935 feet.

Table 1. Federally authorized and proposed channel widths by channel station (STA) at Blair Waterway.

| Stations along the channel | Authorized widths (ft) | Proposed width (ft) |
|----------------------------|------------------------|---------------------|
| STA -5 to STA 0            |                        | 865                 |
| STA 0 to STA 12            | 520                    | 800                 |
| STA 12 to STA 44           | 520, 343               | 520                 |
| STA 44 to STA 52           | 520                    | 520                 |
| STA 52 to STA 79           | 520,330                | 520                 |
| STA 79 to STA 100          | 330                    | 450                 |
| STA 100 to STA 116         | 330, 1,682             | 525                 |
| STA 116 to STA 140         | 1,682                  | 1,935               |

This analysis is based off of the feasibility-level sediment sampling and partial Dredged Material Management Program (DMMP) testing conducted in February – June 2019 to evaluate material for open-water disposal and beneficial use. Reference Section 3.3.3 of the draft Feasibility Report/Environmental Assessment (FR/EA) and Appendix B for further information. The Corps will conduct a full suitability determination of Blair Waterway sediments during the PED phase, and based on this further analysis, determine if further NEPA documentation is warranted.

Deepening the waterway would require dredging up to approximately 2.8 million cubic yards (cy) from the Blair Waterway, and would take up to three years. In-water work would only occur within the authorized work windows established by State and Federal resource agencies to minimize potential impacts to important fish, wildlife, and habitat resources. The in-water work window for material disposal at the Commencement Bay open water disposal site is from August 16 through February 15 based on avoiding impacts to the vulnerable life stages of sensitive species, including migration, spawning, and rearing. In-water work windows for other locations of Commencement Bay is from July 16 through February 15. These quantities assume the proposed depth of -57 MLLW, a quantity representing the average rate of accumulation between the current channel survey and the initiation of construction, and that the contractor removes all of the 2-foot allowable overdepth while dredging the channel.

Preliminary suitability testing of sediments in the Blair Waterway classified them as loam to silt loam in non-native sediments and as sand to loamy sand in native sediments (DMMP 2019). Samples identified as native have a higher percentage of sand and lower percentage of fines than the non-native and unidentified material, consistent with the expected characteristics of the native material. The approximate breakdown of dredged material of native, non-native, and suitability for open-water disposal volumes for each increment appears in Table 2.

Disposal of suitable dredged material would occur at the DMMP Commencement Bay authorized open-water placement site for a portion of the total quantity; further evaluation is occurring in regards to another potential alternative for in-water placement, at the Saltchuk site that may be suitable for beneficial use. Saltchuk is located approximately 1 mile northeast of Blair Waterway. Material placement at Saltchuk would restore up to 64 acres of nearshore intertidal and subtidal substrate conditions for fish and wildlife species, including ESA-listed species. Of the 64 acres, approximately 8 acres (13%) are covered in wood waste. Five scenarios at Saltchuk were evaluated, which consist of three benches that successively build on each other, then island creation:

- **Scenario A** (No Action): no beneficial use of dredged material;
- **Scenario B**: Build the First Bench to -20 MLLW;
- **Scenario C**: Build the First Bench to -20 MLLW and the Second Bench to -10 ft MLLW;
- **Scenario D**: Build the First Bench to -20 MLLW, the Second Bench to -10 ft MLLW, and the Third Bench to -5 ft MLLW;
- **Scenario E**: Build the First Bench to -20 MLLW, the Second Bench to -10 ft MLLW, and the Third Bench to -5 ft MLLW, and create islands on top of the three benches.

Additional information, figures, and economic analysis of the Saltchuk scenarios are available in the draft Feasibility Report/Environmental Assessment (Section 3.6.1.2 and Appendix C). Full placement at Saltchuk (under scenario E) would reduce the quantity of material going to the

Commencement Bay open-water disposal site by approximately 1,850,000 CY of dredged material. Disposal at the Commencement Bay open-water disposal site would then be estimated at approximately 562,000 cy and placement at Saltchuk is estimated at approximately 1,850,000 cy. The remaining estimated 392,000 CY of material not suitable for in-water disposal would be transported to a suitable upland disposal facility, such as the LRI landfill.

Table 2. Volume breakdown by material and suitability for NED alternative, dredge depth = -57', MLLW

| Channel Reach        | Native Material | Non-Native Material | Suitable for In-Water Disposal | Un-suitable for In-Water Disposal |
|----------------------|-----------------|---------------------|--------------------------------|-----------------------------------|
| Blair Waterway       | CY              | CY                  | CY                             | CY                                |
| <i>HUSKY</i>         | 550,000         | 123,000             | 600,000                        | 74,000                            |
| <i>WUT</i>           | 823,000         | 360,000             | 934,000                        | 249,000                           |
| <i>TURNING BASIN</i> | 858,000         | 90,000              | 878,000                        | 69,000                            |
| Total                | 2,231,000       | 573,000             | 2,412,000                      | 392,000                           |

The resulting channel depth would accommodate the larger ships that are anticipated to call at Tacoma Harbor over the 50-year study period (the design vessel is a PPX4 containership with a nominal TEU intake of approximately 15,500 to 19,200 TEUs). Maintenance dredging is expected to be required every 25 years.

**3. Project Need.** This project is needed because existing authorized depths for the Blair Waterway do not meet the draft requirements of today's fleet of container ships. Due to inadequate current depths, ships often light load or experience tidal restrictions, causing lost transportation efficiencies and lost cost efficiencies at Tacoma Harbor. Ships departing Tacoma are not realizing economies of scale afforded by the larger ships currently being deployed (up to 14,000 TEUs) and even larger ships in the future.

**4. Project Purpose.** The purpose of the proposed Federal action is to achieve transportation cost savings (increased economic efficiencies) at Tacoma Harbor. Depths of the Blair Waterway and the Sitcum Waterway result in container ships often experiencing tidal restrictions due to inadequate channel depth. These tidal restrictions are operational inefficiencies and are economic inefficiencies that translate into costs for the national economy.

**5. Availability of Less Environmentally Damaging Practicable Alternatives to Meet the Project Purpose.** The alternatives evaluated for this project were as follows:

- a. *Alternative 1 (No Action).* The No-Action Alternative is analyzed as baseline conditions and the future without-project conditions as a reference condition for comparison of the action alternatives. Taking no action in this case would mean continuing standard operations at Tacoma Harbor with no improvements to the navigation channel. All physical conditions existing at the time of this analysis are assumed to remain, and it is assumed that standard and routine maintenance operations would be executed to maintain access for ships to reach the harbor's terminals.

**b. *Alternative 2 (Blair Waterway Deepening to -58 MLLW).*** To analyze a range of depths for improving navigation, the study team determined the deepest channel would be -58 MLLW. Under this alternative, the proposal analyzed is the following:

- Deepen the existing channel from an authorized depth of -51 MLLW to -58 MLLW
- Expanded channel widths ranging from 450 feet to 865 feet (Table 1)
- Expand the turning basin boundary to a diameter of 1,935 feet (Table 1)

The quantities of sediment that would need to be dredged to achieve this improvement are approximately 3.2 million cy from the Blair Waterway. These quantities assume the proposed depth of -58 MLLW, a quantity representing the average rate of accumulation between the current channel survey and the initiation of construction, and that the contractor removes all of the 2-foot allowable overdepth while dredging the channel. In-water disposal of suitable dredged material would occur at the Commencement Bay DMMP authorized open-water placement site or Saltchuk. The quantity estimated for open-water disposal is approximately 2,783,000 cy from the Blair Waterway. The capacity at Saltchuk is 1,850,000 cy. The remaining 428,000 cy in the Blair Waterway that does not meet open-water disposal criteria would be disposed at a suitable upland facility authorized to accept the material. The dredging is estimated to take up to 3 years to complete, partly due to limiting the work to the in-water work windows for protection of early life stages of sensitive fish species.

**c. *Alternative 2a (Blair Waterway Deepening through Husky Terminal to -58 MLLW).***

Alternative 2a applies the same depths and widths as Alternative 2 to allow access for larger ships to Husky Terminal. Under this alternative, the proposal analyzed is the following:

- Deepen the existing channel from the entrance to just past Husky Terminal (STA – 5+00.00 to STA 41+85.18) from an authorized depth of -51 MLLW to -58 MLLW
- Expanded channel widths ranging from 520 feet to 864 feet (Table 1)

The quantities of sediment that would need to be dredged to achieve this improvement are approximately 780,000 cy from the Blair Waterway. These quantities assume the proposed depth of -58 MLLW, a quantity representing the average rate of accumulation between the current channel survey and the initiation of construction, and that the contractor removes all of the 2-foot allowable overdepth while dredging the channel. Disposal of dredged material would occur at Saltchuk or authorized open-water placement sites if Saltchuk is not used. The quantity estimated for open-water disposal or Saltchuk is approximately 697,000 cy from the Blair Waterway. The remaining 83,000 cy in the Blair Waterway that does not meet open-water disposal criteria would be disposed at a specific upland facility authorized to accept the material. The dredging is estimated to take up to 2 years to complete, partly due to limiting the work to the in-water work windows for protection of early life stages of sensitive fish species.

**d. *Alternative 2b (Blair Waterway Deepening to -57 MLLW).*** The plan that reasonably maximizes economic net benefits is the National Economic Development Plan. Under this alternative, the proposal analyzed is the following:



- Deepen the existing channel from an authorized depth of -51 MLLW to -57 MLLW (STA -5+00.00 to STA 137+24.11)
- Expanded channel widths ranging from 330 feet to 864 feet (Table 1)
- Expand the turning basin from 1,685 feet to 1,935 feet

The quantities of sediment that would need to be dredged to achieve this improvement are approximately 2.8 million cubic yards cy from the Blair Waterway. These quantities assume the proposed depth of -57 MLLW, a quantity representing the average rate of accumulation between the current channel survey and the initiation of construction, and that the contractor removes all of the 2-foot allowable overdepth while dredging the channel. Disposal of dredged material would occur at authorized open-water placement sites or Saltchuk. The quantity estimated for open-water disposal is approximately 2,412,000 cy from the Blair Waterway. The capacity at Saltchuk is 1,850,000 cy. The remaining 392,000 cy in the Blair Waterway that does not meet open-water disposal criteria would be disposed at a specific upland facility authorized to accept the material. The dredging is estimated to take up to 3 years to complete, partly due to limiting the work to the in-water work windows for protection of early life stages of sensitive fish species. Based on preliminary analysis and results, this alternative includes additional evaluation of beneficial use of dredged material at the Saltchuk site.

*Findings.* The Corps rejected Alternative 1 because it would not meet the project purpose and need. Alternative 2a was not selected due to the opportunity to further improve safety, reduce risk of grounding, and gain greater transportation efficiency with Alternatives 2 and 2b. Alternative 2b is the National Economic Development Plan; this alternative meets the purpose and need for action, provides economic benefits to the region and nation, and reduces risk of grounding or the need for light-loading. Further, based on the slightly shorter time to dredge to a shallower depth, it is less environmentally damaging than Alternative 2, and still provides enough material for a best buy beneficial use scenario at Saltchuk (Scenario E). Alternative 2b is the least environmentally damaging practical alternative that meets the purpose and need when considering only open-water placement at the DMMP Commencement Bay disposal site or a combination of open-water and placement at Saltchuk (Scenario E) for considering the benefits that would accrue from the beneficial use of material placement at Saltchuk.

## **6. Significant Degradation, Either Individually or Cumulatively, to the Aquatic Environment**

*Impacts on Ecosystem Function.* Benthic habitat in the Commencement Bay Dredged Material Management Program (DMMP) open-water disposal site and Saltchuk will be disturbed by the disposal of dredged material onto the substrate within the footprint of each respective disposal site. Current velocities are slow enough at this site that material will not distribute beyond the site. The Corps has assessed potential effects from open-water disposal and determined that they will be localized to previously-disturbed areas solely within the footprint of the Commencement Bay DMMP disposal site, short in duration (occurs during disposal, and because actual disposal takes only minutes per episode, the disposal site will sustain a short duration effect), and minor in spatial scope due to the non-dispersive disposal site nature and release within a specified zone.

Turbidity has been determined to be a negligible effect according to DMMP documents (DMMP 2015). Disposal at the DMMP site and Saltchuk means that any benthic species present are at risk of displacement and potential smothering; however, organisms re-populate the area within days to weeks and the habitat characteristics remain stable according to DMMP monitoring. Effects of disposal operations on salmonids will be reduced and/or avoided through implementation of timing restrictions. Due to these measures, negative effects to the aquatic environment would not be significant either individually or cumulatively.

*Impacts on Recreational, Aesthetic and Economic Values.* The waterways are part of an industrialized port and no significant adverse effects on recreation or aesthetics are anticipated. Although the waterways are “working waterfronts,” there are recreational opportunities for the public. However, the proposed work would not interfere with the public’s enjoyment of a working waterfront environment, except on a short-term, limited basis at the Saltchuk site. Throughout the dredging cycle the dredge would be visible from the shore but the project area is comprised of industrial waterways with continual vessel traffic, so the presence of a temporary dredge would not degrade the aesthetics of the existing industrial environment. There would be a positive economic impact to water-dependent businesses and others in the region that rely on access to the water. *Findings.* The Corps has determined that there would be no significant adverse effects to aquatic ecosystem functions and values under the preferred alternative.

## **7. Appropriate and Practicable Measures to Minimize Potential Harm to the Aquatic Ecosystem**

- a. *Impact Avoidance Measures.* Potential effects of disposal operations on juvenile salmonids will be avoided through implementation of timing restrictions. The in-water work window for material disposal at the Commencement Bay open-water disposal site is August 16 through February 15 to avoid the outmigration period of juvenile Chinook salmon (*Oncorhynchus tshawytscha*), a species listed as threatened under the Endangered Species Act. This timing restriction, designated by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), is protective of bull trout (*Salvelinus confluentus*) foraging in Commencement Bay (subadults and adults moving into and out of the estuary) and migrating juvenile Chinook salmon and steelhead (*O. mykiss*). The Washington Administrative Code (WAC) and Corps’ Regulatory Program authorize all other in-water work in Commencement Bay, including dredging, to occur July 16 through February 15 (WAC 220-660-330). Saltchuk construction may occur during this work window; all in-water work windows will be coordinated with Federal and local agencies. All dredged materials disposed at the Commencement Bay open-water site and placed at Saltchuk must meet rigorous testing requirements according to the DMMP standards and natural resource agency input. This avoids impacts that may be caused by contaminated or unsuitable sediments.
- b. *Impact Minimization Measures.* The Commencement Bay open-water site was chosen because deposition of dredged material in that location would have minimal impacts to the aquatic environment and represents the shortest transport distance from Blair

waterway. Material placement at Saltchuk would create beneficial habitat for ESA-listed species. In addition, the dredged material is disposed of at a time of year when ESA-listed species are not likely to be present.

- c. *Compensatory Mitigation Measures.* There will be no mitigation measures because the work will have no more than a negligible adverse change to any habitat characteristics whether or not material is placed at Saltchuk.

*Findings.* The Corps has determined that all appropriate and practicable measures have been taken to minimize potential harm.

## **8. Other Factors in the Public Interest.**

- a. *Fish and Wildlife.* The Corps is coordinating with State and Federal agencies, as well as tribes, to assure careful consideration of fish and wildlife resources. The Corps has prepared a Biological Assessment in accordance with the ESA. The Corps will assure full compliance with the ESA prior to and during project implementation.
- b. *Water Quality.* The Corps will seek a Section 401 Water Quality Certification (WQC) from the Department of Ecology (Ecology). The Corps will abide by applicable conditions in a WQC issued by Ecology to ensure compliance with State water quality standards in accordance with Section 401 of the Clean Water Act and its implementing regulations. See Appendix D for applicable correspondence.
- c. *Historic and Cultural Resources.* National Historic Preservation Act, Section 106 consultation is underway. The Corps has submitted to the State Historic Preservation Office (SHPO) a determination of no historic properties affected with the stipulation that future cultural resources monitoring will be conducted during geotechnical testing of soils that will occur during the PED phase. See Appendix D of the draft FR/EA for all cultural resources letters.
- d. *Activities Affecting Coastal Zones.* The Corps prepared a Coastal Zone Management Act Consistency Determination for the Tacoma Harbor, WA Navigation Improvement Project during feasibility-level design phase. The evaluation demonstrates the proposed work complies with the policies, general conditions, and general activities specified in the Pierce County Shoreline Management Master Plan. The proposed action is consistent to the maximum extent practicable with the State of Washington Shoreline Management Program. See Appendix D for applicable Consistency Determination.
- e. *Environmental Benefits.* The long-term benefit of this action is an approximately 24 percent reduction in the number of large ships calling at Tacoma Harbor by reducing annual ship calls from 819 at present to 740 by the year 2035. This will reduce total greenhouse gas emissions and pollutants that are factors for regional air quality.
- f. *Navigation.* A minor, temporary disruption of navigation traffic may result from dredging and disposal operations. The dredge may impinge on the total width available to vessel traffic in Blair waterway. Impacts to navigation during disposal would be minimal at the Commencement Bay DMMP site since the disposal site are located in a much wider area

and vessels would be able to avoid the barge. The project would allow larger ships access to the Blair waterway in a more operationally efficient and reliable manner. A detailed Ship Simulation will investigate navigation traffic around Saltchuk during PED phase.

A Notice to Mariners will be issued before dredging and disposal operations are initiated. The action will improve the channel for use by deep draft vessels and improve safety by enlarging the entrance reaches to the Blair Waterway. Therefore, the USACE has determined that only a minor, temporary disruption of traffic will result from disposal operations.

*Findings.* The Corps has determined that this project is within the public interest.

- 9. Conclusions.** Based on the analyses presented in the draft Feasibility Report and Environmental Assessment, as well as the following 404(b)(1) Evaluation and General Policies for the Evaluation of the Public Interest the Corps finds that this project complies with the substantive elements of Section 404 of the Clean Water Act.

## **404(b)(1) Evaluation [40 CFR §230] and General Regulatory Policies Analysis [33 CFR §320.4]**

### **404(b)(1) Evaluation [40 CFR§230]**

#### **Potential Impacts on Physical and Chemical Characteristics (Subpart C)**

- 1. Substrate [230.20]** The surface substrate at the Commencement Bay DMMA open-water disposal site consists of fine grain materials of marine and freshwater origin. Surface substrate at Saltchuk is composed of a coarse substrate that transitions to sand and silt near MLLW. Lower shore zone and deeper habitat includes wood waste. Materials disposed of at the DMMP Commencement Bay open-water disposal site are of similar particle size and larger. The DMMP Commencement Bay open-water disposal site is a non-dispersive site and therefore bathymetric surveys are conducted to monitor the accumulation of dredged material (DMMP 2009). Material placement at Saltchuk will be native material from the Blair Waterway that will improve the substrate conditions for benthic organisms, a prey item of ESA-listed Chinook salmon.
- 2. Suspended Particulate/Turbidity [230.21]** The discharge of dredged material at the DMMP Commencement Bay open-water disposal site and Saltchuk will result in a temporary increase in turbidity and suspended particulate levels in the water column, particularly in near-bottom waters.. Sand and most silts would sink rapidly to the bottom, while a small percentage of finer material is expected to remain in suspension. The proportion of non-native material that is loam to silt loam is expected to remain in suspension the longest. Increases in turbidity associated with disposal operations will be minimal (confined to the areas in the immediate vicinity of the disposal sites) and of short duration (currents will disperse any suspended material within hours of disposal).
- 3. Water Quality [230.22]** No significant water quality effects are anticipated. During disposal and material placement operations at Saltchuk, a localized turbidity plume may persist for a short period during the descent of dredged material through the water column. A minor reduction in dissolved oxygen may be associated with this plume, primarily during disposal of silty sediments. Because disposal operations at the DMMP Commencement Bay open-water site and for the first two benches of Saltchuk consist of a series of instantaneous, discrete discharges over the dredging schedule, any water quality effects should be short lived (hours) and localized (immediate vicinity). Material placed at Saltchuk for the third bench and islands will likely be assisted with a flat top barge and excavator, and BMPs will be implemented as applicable to minimize turbidity. This placement at Saltchuk will be discrete discharges localized to Saltchuk; BMPs may include slowing material placement, dropping it close to the bottom, or other measures. All of the sediments for in-water disposal will have been tested and approved for open-water and aquatic disposal under the guidelines of the DMMP administered by the Corps, U.S. Environmental Protection Agency, Ecology, and Washington Department of Natural Resources. Additional input from natural resource agencies will be incorporated for suitability of material placed at Saltchuk. Material that is determined not to be suitable



for in-water disposal will be disposed of in an approved upland disposal site and thus will not impact water quality. Ecology sets limitations on the amount of sediment that is allowed to be re-suspended during placement of dredged materials (and other in-water activities). The USACE will seek aWQC from Ecology and will comply with applicable water quality conditions and criteria issued in the permit and the Ecology approved water quality monitoring plan associated with the discharge of dredged material into the waters of the U.S. See Appendix D of the draft FR/EA for applicable correspondence.

- 4. Current Patterns and Water Circulation [230.23]** The disposal of material dredged from the Blair Waterway will not obstruct flow, change the direction or velocity of water flow/circulation, or otherwise change the dimensions of the receiving water body. Most dredged material placed at the disposal site will remain in the disposal site or Saltchuk and not re-enter the water column.
- 5. Normal Water Fluctuations [230.24]** The disposal of material dredged from the Blair Waterway will not impede normal tidal fluctuations. The Commencement Bay open-water disposal site is located in water deeper than 200 feet. This site is in deep enough water (deeper than 200 feet) that currents and tidal flows will not be affected. Saltchuk is a site for beneficial use of dredged material and intended to create shallow water habitat for juvenile salmonids. Placement of material at Saltchuk will not impede normal tidal fluctuations.
- 6. Salinity Gradients [230.25]** The disposal and placement of material dredged from the Blair Waterway will not divert or restrict tidal flows and thus will not affect salinity gradients.

#### **Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)**

- 1. Threatened and Endangered Species [230.30]** Pursuant to Section 7 of the ESA, the Corps prepared a Programmatic Biological Evaluation in December 2015 to assess potential effects of disposal at the DMMP multiuser sites on protected species (DMMP 2015; <https://usace.contentdm.oclc.org/utlis/getfile/collection/p266001coll1/id/9083>). This document concluded that continued disposal at the multiuser disposal sites, including Commencement Bay, is not likely to adversely affect ESA-listed species: Puget Sound (PS) Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionary Significant Unit (ESU), PS Steelhead (*O. mykiss*), PS/Georgia Basin DPSs of bocaccio (*Sebastes paucispinis*), canary rockfish (*S. pinniger*), and yelloweye rockfish (*S. ruberrimus*), the Southern Distinct Population Segment (DPS) of Pacific eulachon (*Thaleichthys pacificus*), Coastal/Puget Sound Bull Trout (*Salvelinus confluentus*) the Southern DPS of North American green sturgeon (*Acipenser medirostris*), the Southern Resident (SR) killer whale DPS (*Orcinus orca*), humpback whale (*Megaptera novaeangliae*), and Marbled Murrelet (*Brachyramphus marmoratus*), and have no effect to the leatherback sea turtle (*Dermochelys coriacea*). The document concluded the proposed action would not result in the destruction or adverse modification of designated critical habitat for PS Chinook salmon, PS Steelhead, Coastal/PS Bull Trout, PS/Georgia Basin bocaccio, canary rockfish, and yelloweye rockfish, Southern green sturgeon, or SR killer whale, and have no effect on marbled murrelet or leatherback sea turtle critical habitat.

It was submitted to both the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) for their concurrence. NMFS concurred with the finding with the exception of the three ESA-listed rockfish species. Canary rockfish have since been delisted (82 FR 7711). NMFS provided a Biological Opinion to conclude the ESA consultation process for the multiuser disposal sites December 17, 2015. The USFWS provided a letter of concurrence with the Corps' findings July 28, 2015. This programmatic consultation under Section 7 of the ESA fulfills the consultation requirements for aquatic disposal of sediments dredged for the proposed action. The Corps will submit a Biological Assessment to NMFS and USFWS assess potential effects of beneficial use of dredged material at Saltchuk on protected species.

- 2. Aquatic Food Web [230.31]** Turbidity associated with disposal operations may interfere with feeding and respiratory mechanisms of benthic, epibenthic, and planktonic invertebrates. Some sessile invertebrates at the DMMP Commencement Bay disposal site and Saltchuk will suffer mortality from disposal of dredged material. Species characteristic of these sites are opportunistic species, often small, tube-dwelling, surface-deposit feeders that exhibit patchy distribution patterns in space and time. Several studies have found that benthic infauna recolonize disposal sites quickly (several months), but that they may never reach mature equilibrium because of the frequent burying of organisms during disposal of dredged material. More mobile epibenthic organisms are expected to escape the immediate area without significant injury. Potential effects of disposal operations on salmonids will be reduced and/or avoided through implementation of timing restrictions.
- 3. Wildlife [230.32]** Noise associated with disposal operations may have an effect on bird and marine mammals in the project area. The effects of any sound disturbance would likely result in displacement of animals, but not injury. Increases in turbidity associated with dredged material disposal could reduce visibility directly below and for a short distance down-current from the bottom-dump barge, thereby reducing foraging success for any animals in the area. Any reduction in availability of food would be highly localized and would subside rapidly upon completion of the disposal operations. Disposal operations are not expected to result in a long-term reduction in the abundance and distribution of prey items. No breeding or nesting areas for birds will be directly affected. Impacts associated with placement of materials to harbor seals and sea lions that use the waters around the placement sites are expected to be localized and temporary. Animals would likely avoid the dredge and its impact area. Even if an individual(s) changes their behavior in response to noise generated from the action, the limited exposure time to the clamshell hitting the bottom (roughly four to five seconds every 15-20 seconds) would not result in any long-term impacts to the individual or seal and/or sea lion populations.

### **Potential Impacts to Special Aquatic Sites (Subpart E)**

- 1. Sanctuaries and Refuges [230.40]** Not applicable
- 2. Wetlands [230.41]** Dredged material will not be discharged in wetlands. Use of the designated disposal site will not alter the inundation patterns of wetlands in the project area.

3. **Mudflats [230.42]** Dredged material will not be discharged onto mudflats. Use of the designated disposal site will not alter the inundation patterns of nearby mudflats.
4. **Vegetated Shallows [230.43]** Dredged material will not be discharged onto or directly adjacent to vegetated shallows. A small patch of eelgrass is present near the Hylebos Waterway near Saltchuk. Additional information about current patterns at Saltchuk will inform the appropriate best management practices to employ during material placement at Saltchuk. Beneficial use of dredged material at Saltchuk is expected to improve substrate quality for aquatic vegetation.
5. **Coral Reefs [230.44]** Not applicable.
6. **Riffle and Pool Complexes [230.45]** Not applicable.

#### **Potential Effects on Human Use Characteristics (Subpart F)**

1. **Municipal and Private Water Supplies [230.50]** Not applicable.
2. **Recreational and Commercial Fisheries [230.51]** Some sport fishing for shrimp and salmon occurs near the Commencement Bay disposal site. Work is timed and located to minimize effects to fishing seasons in the disposal area and Saltchuk, as well as critical migration periods for salmonids.
3. **Water-related Recreation [230.52]** Commencement Bay is approximately five square miles with the DMMP disposal site centrally located. Therefore, the presence of the disposal barge would not pose an obstruction to recreational vessel traffic and would have no appreciable effect on recreational vessel traffic. A kayak launch near Saltchuk will likely be closed temporarily during construction, but numerous other kayak launching sites are available around Commencement Bay.
4. **Aesthetics [230.53]** Disposal and placement operations will not change the appearance of the project area. Localized, temporary increases in noise, lighting, and turbidity will occur while equipment is operating, but are not expected to be significant.
5. **Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves [230.54]** Not applicable.

#### **Evaluation and Testing (Subpart G)**

1. **General Evaluation of Dredged or Fill Material [230.60]** The material to be disposed is predominantly loam to silt loam (non-native material) and sand to loamy sand (native material). The areas to be dredged have undergone a feasibility-level testing; and further testing will occur during PED, and in accordance with DMMP guidelines, only material that is within DMMP guidelines would be disposed of in-water. Those materials that do not meet DMMP guidelines will be disposed of in an approved upland disposal site. Further coordination with state resource agencies and tribes will occur as to the suitability of material at the Saltchuk site.

2. **Chemical, Biological, and Physical Evaluation and Testing [230.61]** The sediments in the footprint of the proposed dredging areas in the Blair Waterway will undergo additional testing conducted in accordance with DMMP procedures. It is anticipated that the majority of material in the dredge area will meet DMMP guidelines and most of the dredged material will be suitable for open-water disposal at the DMMP Commencement Bay site or placement at Saltchuk. Testing of the material to be dredged will occur immediately preceding dredging and disposal actions. Any material determined not suitable for open-water disposal or placement at Saltchuk will be disposed of in an approved upland site. Only material that meets DMMP guidelines will be disposed of in the Commencement Bay open-water disposal site or placed at Saltchuk.

#### **Action to Minimize Adverse Effects (Subpart H)**

1. **Actions Concerning the Location of the Discharge [230.70]** The effects of the discharge are minimized by the choice of the DMMP disposal site and the beneficial use placement site. The DMMP disposal site has been designated for dredged material discharge. The discharge will not disrupt tidal flows. The location of the proposed discharge has been planned to minimize negative effects to the environment. The choice of Saltchuk as a site for beneficial use of dredged material is based on anticipated use by juvenile salmonids and will ultimately be beneficial. The effects of discharge at Saltchuk will be highly localized and temporary, and will not disrupt tidal flows.
2. **Actions Concerning the Material to be Discharged [230.71]** Concentrations of chemicals of concern in the materials to be discharged at the DMMP Commencement Bay open-water disposal site and Saltchuk are low, therefore, no treatment substances nor chemical flocculants will be added before disposal. The potency and availability of any pollutants present in the dredged material should be maintained.
3. **Actions Controlling the Material after Discharge [230.72]** Because only the dredged materials that have been approved for non-confined open-water disposal by the inter-agency DMMP will be placed at the disposal site, no containment levees or capping are necessary. Material is expected to remain in place at Saltchuk based on the dredged material characteristics and low currents at the site, but current modeling for Saltchuk during PED phase will further refine the material placement design.
4. **Actions Affecting the Method of Dispersion [230.73]** The disposal site has been selected by taking into account currents and circulation patterns to minimize dispersion of the discharge. Standard best management practices will be employed during material placement at Saltchuk to minimize dispersion of the discharge.
5. **Actions Related to Technology [270.74]** Appropriate machinery and methods of transport of the material for discharge and placement will be employed. All machinery will be properly maintained and operated.

6. **Actions Affecting Plant and Animal Populations [270.75]** The Corps has coordinated with the local Native American tribes and the State and Federal resource agencies to assure there will be no greater than minimal effects to fish and wildlife resources.
7. **Actions Affecting Human Use [230.76]** The discharge will not result in damage to aesthetically pleasing features of the aquatic landscape. The discharge will not increase incompatible human activity in remote fish and wildlife areas.
8. **Other actions [230.77]** Not applicable.

### **General Policies for the Evaluation of Permit Applications [33 CFR §320.4]**

1. **Public Interest Review [320.4(a)]** The Corps finds these actions to be in compliance with the 404(b)(1) guidelines and not contrary to the public interest.
2. **Effects on Wetlands [320.4(b)]** No wetlands will be altered by the disposal of material from dredging operations.
3. **Fish and Wildlife [320.4(c)]** The Corps has coordinated with the local Native American tribes and the State and Federal resource agencies to assure there will be no greater than minimal effects to fish and wildlife resources.
4. **Water Quality [320.4(d)]** The Corps will seek a 401 WQC and will abide by applicable conditions of the Section 401 WQC issued by Ecology, in accordance with Section 401 of the Clean Water Act and its implementing regulations to ensure compliance with Washington State water quality standards.
5. **Historic, Cultural, Scenic, and Recreational Values [320.4(e)]** The Corps has consulted with representatives of interested tribes, the State Historic Preservation Office, and other parties and anticipates finding that no historic properties will be affected. No wild and scenic rivers, historic properties, National Landmarks, National Rivers, National Wilderness Areas, National Seashores, National Recreation Areas, National Lakeshores, National Parks, National Monuments, estuarine and marine sanctuaries, or archeological resources will be affected by the proposed work.
6. **Effects on Limits of the Territorial Sea [320.4(f)]** Not applicable.
7. **Consideration of Property Ownership [320.4(g)]** A portion of Saltchuk is located on Washington Department of Natural Resources aquatic lands. The Corps has two perpetual rights-of-way, composed of two tracts) from the Port of Tacoma, and has exercised navigational servitude on the current footprint of the Blair navigation channel not included in the two above tracts. The remaining portions of the Blair Waterway are owned by the Port of Tacoma, Puyallup Tribe of Indians, and the U.S in trust for the Puyallup Tribe of Indians. The Port of Tacoma is responsible for obtaining all real estate and will do so before material placement at Saltchuk.



- 8. Activities Affecting Coastal Zones [320.4(h)]** The Corps prepared a Coastal Zone Management Act Consistency Determination for the Tacoma Harbor Navigation Improvement Project during feasibility-level design phase. The proposed work complies with the policies, general conditions, and general activities specified in the Pierce County Shoreline Management Master Plan. The proposed action is consistent to the maximum extent practicable with the State of Washington Shoreline Management Program.
- 9. Activities in Marine Sanctuaries [320.4(i)]** Not applicable.
- 10. Other Federal, State, or Local Requirements [320.4(J)]**
- a. National Environmental Policy Act (NEPA).** A draft Integrated Feasibility Report and Environmental Assessment (FR/EA) was prepared to satisfy the documentation requirements of NEPA. A 60-day public review period for the draft FR/EA is scheduled to begin December 2019.
  - b. Endangered Species Act.** In accordance with Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration effects to federally listed or proposed threatened or endangered species. A Programmatic Biological Evaluation (PBE) was submitted to USFWS and NMFS in May 2015 for continued disposal at the DMMP multiuser sites. The Corps received a letter from USFWS on July 28, 2015 concurring with the determinations made in the PBE and a Biological Opinion from NMFS on December 17, 2015, which concludes the requirements for Section 7 consultation regarding the aquatic disposal of dredged materials associated with this project. A Biological Assessment that includes an analysis of material placement at Saltchuk will be submitted to USFWS and NMFS for their consultation under Section 7(a)(2) of the Endangered Species Act.
  - c. Clean Water Act.** The Corps must demonstrate compliance with the substantive requirements of the Clean Water Act. Public Notice CENWS-PMP-18-22, a Joint Aquatic Resources form, and draft Water Quality Monitoring Plan will serve as the basis for pre-coordination and the Corps will seek a Section 401 Water Quality Certification (WQC) from Ecology during design phase. The Corps will abide by the applicable conditions in the WQC in a manner consistent with Section 401 of the Clean Water Act and its implementing regulations to ensure compliance with State water quality standards.
  - d. Coastal Zone Management Act.** The Coastal Zone Management Act of 1972, as amended, requires Federal agencies to carry out their activities in a manner which is consistent to the maximum extent practicable with the enforceable policies of the approved Washington Coastal Zone Management Program. The Corps prepared a Coastal Zone Management Act Consistency Determination for the Tacoma Harbor Navigation Improvement Project during feasibility-level design phase. The evaluation demonstrates the proposed work complies with the policies, general conditions, and general activities specified in the Pierce County Shoreline Management Master Plan. The proposed action is consistent to the maximum extent practicable with the State of Washington Shoreline Management Program.

*e. Marine Protection, Research, and Sanctuaries Act.* Not applicable

*f. National Historic Preservation Act.* The National Historic Preservation Act (16 USC 470) requires that the effects of proposed actions on sites, buildings, structures, or objects included or eligible for the National Register of Historic Places must be identified and evaluated. The Corps is consulting with the SHPO, Muckleshoot Indian Tribe, Nisqually Indian Tribe, Puyallup Tribe of Indians, Snoqualmie Tribe, Squaxin Island Tribe, and Confederated Tribes and Bands of the Yakama Nation under Section 106 of the NHPA. On October 19, 2018, the Corps sent an APE letter to the SHPO describing the project and APE. The SHPO responded on October 30, 2018 and agreed with the APE. On October 29, 2018, the Corps sent letters to the SHPO, Muckleshoot Indian Tribe, Nisqually Indian Tribe, Puyallup Tribe of Indians, Snoqualmie Tribe, Squaxin Island Tribe, and Confederated Tribes and Bands of the Yakama Nation describing the project and asking if there are any properties of cultural or religious significance that would be affected by the project. On March 26, 2019, the Corps sent a letter to the SHPO and aforementioned Tribes providing a project update and revising the APE. The SHPO responded on April 8, 2019 concurred with the revised APE. To date, the Corps has not received a response from the Tribes regarding Section 106. A determination and findings letter was submitted to SHPO on November 6, 2019 with a finding of no historic properties affected with the stipulation of cultural resources monitoring during geotechnical testing of soils that will occur during the PED phase.

*g. Fish and Wildlife Coordination Act.* The Fish and Wildlife Coordination Act (16 USC 470) requires that wildlife conservation receive equal consideration and be coordinated with other features of water resource development projects. The Corps initiated coordination for consideration of fish and wildlife species at the outset of the feasibility study and hosted a meeting with all relevant natural resource agencies on September 16, 2019. Further coordination occurred throughout feasibility phase via email and phone with NMFS, USFWS, WDFW, and other agencies. The Corps received a Planning Aid Letter on September 5, 2019. Results of the coordination and USFWS recommendations detailing full compliance appear in Appendix C and D of the draft FR/EA.

**11. Safety of Impoundment Structures [320.4(k)]** Not applicable.

**12. Floodplain Management [320.4(l)]** Disposal operations will not alter any floodplain areas.

**13. Water Supply and Conservation [320.4(m)]** Not applicable.

**14. Energy Conservation and Development [320.4(n)]** Not applicable.

**15. Navigation [320.4(o)]** This project will maintain and improve the navigability of the Blair Waterway for use by deep draft vessels. The disposal activities at the Commencement Bay open-water disposal site will not impede navigation. A detailed Ship Simulation will investigate navigation traffic around Saltchuk during PED phase.

- 16. Environmental Benefits [320.4(p)]** The long-term benefit of this action is an approximately 24 percent reduction in the number of large ships calling at the Port of Tacoma by reducing annual ship calls from 576 at present to 440 by the year 2035. This will reduce total greenhouse gas emissions and pollutants that are factors for regional air quality. Beneficial use of dredged material at Saltchuk will create shallow water habitat for juvenile salmonids and improve substrate quality over 64 acres.
- 17. Economics [320.4(q)]** The economic benefits of the proposed action are important to the local and regional economies and the action contributes to the National Economic Development Plan. The economic analysis is documented in the draft FR/EA.
- 18. Mitigation [320.49(r)]** Potential effects of disposal operations will be avoided and minimized through implementation of timing restrictions. No compensatory mitigation is required for the project.

# Coastal Zone Management Act Consistency Determination

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**COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION**

Tacoma Harbor, WA Navigation Improvement Project

Tacoma, Washington

**Introduction.** The proposed Federal action applicable to this consistency determination is the deepening of the Blair Waterway of Tacoma Harbor to -57 feet below mean lower low water (MLLW) in Tacoma, Washington. This will involve dredging of approximately 2.8 million cubic yards (cy) from the Blair Waterway. Dredged material could be placed at the Commencement Bay open-water disposal site (2.4 million cy) or an upland disposal facility for material unsuitable for open-water disposal (392,000 cy). Additional evaluation of beneficial use of dredged material at the Saltchuk site (1.85 million cy) is included in the tentatively selected plan, which would reduce the amount of material going to the open-water disposal site to about 562,000 cy. The decision to use Saltchuk will be made in the Preconstruction Engineering Design phase (PED) following a full sediment characterization. This determination of consistency with the Washington Coastal Zone Management Act (CZMA) is based on review of applicable sections of the State of Washington Shoreline Management Program and policies and standards of the Pierce County and City of Tacoma Shoreline Management Master Programs.

**Consistency Review.** The Coastal Zone Management Act requires states to identify “Enforceable Policies.” Washington’s authorities and their implementing regulations contain the state Coastal Zone Management Program’s (CZMP) enforceable policies:

- The Shoreline Management Act (SMA)
- The Clean Water Act (CWA)
- The Clean Air Act (CAA)
- State Environmental Policy Act (NEPA)

The remaining two policies, the Energy Facility Site Evaluation Council and the Ocean Resource Management Act, are not applicable to this project.

**State of Washington Shoreline Management Program.** The Washington SMA, Revised Code of Washington [RCW] Chapter 90.58 is the core authority of Washington’s Coastal Zone Management Program. This chapter enunciates the following state policy:

- To provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses.
- To insure the development of shorelines in manner that promotes and enhances the public interest while allowing only limited reduction of rights of the public in the navigable waters.

- To protect against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights.

The proposed activities are consistent with this broad statement of policy. The proposed action will support the continued usage of the industrial shoreline of the Port of Tacoma. The project has been found to be in the public interest due to its cost/benefit ratio for investment of public funds and will not change the rights of navigation.

**The Clean Water Act.** The Corps will provide materials for review to the Washington State Department of Ecology for water quality certification under Section 401 of the Clean Water Act.

**Washington Air Quality Requirements.** The proposed activities do not require an Air Quality Permit.

**State Environmental Policy Act (SEPA).** Corps Civil Works projects comply with the National Environmental Policy Act (NEPA) and are not subject to SEPA. A draft Environmental Assessment has been prepared.

**Local Shoreline Master Program.** The Pierce County Shoreline Master Plan (SMP) constitutes the policies and regulations governing development and uses in and adjacent to marine and freshwater shorelines as defined in Pierce County Code Chapter 18S (<https://www.codepublishing.com/WA/PierceCounty/#!/html/PierceCounty18S/PierceCounty18S.html>).

Following the procedures as detailed at Pierce County Code Title 18S, this document provides information for a determination of consistency. The following outlines pertinent sections of the Pierce County SMP that apply to and implement the SMA, followed by pertinent sections of the City of Tacoma SMP. The Corps of Engineers consistency determinations are located below the relevant code in ***bold italics***.

## **Part I. Pierce County SMP**

### 18S.30. – General Policies and Regulations

The purpose of this Chapter is to provide general development policies and regulations that are, or could be, applicable to all shoreline uses and development in all shoreline environment designations. (Ord. 2013-45s4 § 7 (part), 2015).

#### 18S.30.020 Archaeological, Cultural, and Historic Resources

The intent of the Archaeological, Cultural, and Historic Resources policies and regulations is to recognize that these resources can be found throughout the County and that they are valuable because they are irreplaceable and limited. When these resources are found on shoreline sites they should be preserved, protected, and restored. Archaeological areas, ancient villages, military forts, old settlers' homes, ghost towns, historic trails, historical cemeteries, and other cultural sites and features are nonrenewable resources, many of which are in danger of being lost through present day changes in land use and urbanization.

***Consistent. Based on the cultural resources impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), no impacts to cultural or historic resources are anticipated. Archaeological monitoring results of the sediment sampling cores were negative for cultural resources.***

#### 18S.30.030 Ecological Protection

The intent of the Ecological Protection policies and regulations is to ensure that shoreline development is established and managed in a manner that protects existing ecological functions and ecosystem-wide process and that mitigates adverse impacts to ecological functions. This means assuring no net loss of ecological functions and processes in shorelines, and protecting critical areas designated in Title 18E PCC.

***Consistent. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), the deepening and widening of the Federal Navigation Channel will maintain its present location. Channel improvements will be designed, constructed, and managed to achieve no net loss of ecological functions.***

***Effects to the environment will be minor short-term disturbances and highly localized to only the navigation channels and Saltchuk. Material placement at Saltchuk will have an overall positive effect on the environment by creating juvenile salmonid habitat and improving the local sediment quality. Due to minimal change to the environment as a result of the project, no mitigation is proposed.***

#### 18S.30.040 Excavation, Dredging, Filling, and Grading

A. Applicability. The intent of the Excavation, Dredging, Filling, and/or Grading policies and regulations is to provide direction for shoreline excavation, dredging, filling, and/or grading associated with a principal use. This Section may contain more restrictive regulations that limit or effectively preclude a use or development that is authorized pursuant to another Section(s) and this Section shall control in the event of a conflict.

B. Policies.

1. Prohibit fill waterward of the ordinary high water mark (OHWM) except for restoration projects, mitigation actions, beach nourishment or enhancement projects, or when necessary to support a water dependent use, public access, cleanup of contaminated sediments, or alteration of a transportation facility of statewide significance.

***Consistent. The proposed fill is beneficial use of dredged material to create juvenile salmonid habitat and improve sediment quality at Saltchuk.***

2. Locate and design new development to avoid the need for fill. When fill is deemed necessary, its use should be minimized and environmental impacts mitigated.

***Consistent. Fill is only necessary to construct shallow-water habitat and to improve sediment quality at Saltchuk. Construction of Saltchuk has been designed to minimize impacts to the environment. Based on the environmental impacts analysis in the Feasibility Report and***

***Environmental Assessment (USACE 2019), effects to the environment due to fill will be minor, short-term disturbances and highly localized to only Saltchuk. The short-term effects do not rise to the level that would require compensatory mitigation.***

3. Evaluate fill projects for:

- a. Total water surface reduction;
- b. Navigation restriction;
- c. Impediment to water flow, circulation, and currents;
- d. Reduction of water quality;
- e. Destruction of habitat and natural resources systems; and
- f. Creation of hazard to the public and adjacent properties.

***Consistent. Beneficial use of dredged material at Saltchuk has been evaluated for the above items in the Feasibility Report and Environmental Assessment (USACE 2019). Creation of shallow-water habitat for juvenile salmonids will reduce total water surface during some points of the tide cycle due to the creation of three islands with a maximum elevation of +4 feet MLLW. Each island is approximately 500 feet long by 250 feet wide and would not constitute a discernable loss of total water surface area in Commencement Bay, which is approximately 5 square miles. Ship simulation in PED phase will investigate navigation restrictions around Saltchuk, and the project has been designed to minimize any effects to navigation to the maximum extent practicable. Water flow, circulation, and currents will not be impeded. The project has been designed to minimize the short-term and localized reduction in water quality due to turbidity during construction. Habitat and natural resources systems will not be destroyed; rather, shallow-water habitat will be created. Saltchuk will not pose a hazard to the public or adjacent properties due to the in-water location.***

4. Locate and design new development to avoid or minimize the need for maintenance dredging.

***Consistent. The site of the Blair Waterway in current usage will not change. The project has been designed to minimize the need for maintenance dredging.***

5. Allow dredging only for water-dependent uses and only to the extent necessary to support those uses.

***Consistent. The purpose of the project is improve navigation safety and efficiency to support use of the terminals on the shoreline of the Port of Tacoma, which is a water-dependent use.***

6. Allow dredging for the purpose of establishing, expanding, relocating, or reconfiguring navigation channels and basins to ensure safe and efficient accommodation of existing navigational uses.

***Consistent. The purpose of the project is to improve navigation safety and efficiency of the Blair Waterway, an existing navigation channel.***



7. Restrict maintenance dredging of established navigation channels and basins to the minimum necessary, and limit such dredging to the historic or a previously dredged location, depth, and width.

***Consistent. Maintenance dredging is anticipated to occur every 25 years to maintain the authorized project depth.***

8. Encourage the recycling of clean, drained, dredged material, for uses that benefit shoreline resources, and agricultural, forest land, and landscaping uses.

***Consistent. Dependent on funding and availability, material that is suitable for beneficial reuse will be placed at Saltchuk for the benefit of shoreline resources.***

9. Prohibit dredging waterward of the OHWM for the purpose of obtaining fill material.

***Consistent. The purpose of dredging is to improve safety and efficiency of the Blair Waterway. Beneficial use of dredged material at Saltchuk is an opportunity to improve juvenile salmonid habitat in Commencement Bay.***

10. Pierce County is concerned about potential for impacts to the environment from discharging dredged materials in Pierce County marine waters within the Nisqually Reach Aquatic Reserve. The County encourages citizen participation and engagement in the oversight of dredged material disposal through the Nisqually Reach Aquatic Reserve Implementation Committee and the Anderson Island Citizens Advisory Board (AICAB). The County shall work with DNR Aquatic Reserve Program staff to seek feedback from the Implementation Committee and the AICAB on Shoreline Conditional Use Permit applications related to dredge disposal within Reserve boundaries.

***Consistent. Dredged material would go to the Commencement Bay open-water disposal site, Saltchuk beneficial use site, and/or to an upland disposal facility.***

- C. Regulations. These regulations are in addition to those in Title 17A PCC, Construction and Infrastructure Regulations – Site Development and Stormwater Drainage, Pierce County Stormwater Management and Site Development Manual.

***Not Applicable. Stormwater control is not a component of dredging or material placement at Saltchuk.***

1. The following activities are prohibited:
  - a. Filling in locations that will cut off or isolate hydrologic features, except as allowed pursuant to PCC 18S.40.060, Flood Hazard Management;
  - b. Solid waste landfills; and
  - c. Dredging for the purpose of obtaining fill material, except for projects associated with Model Toxics Control Act (MTCA) or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

habitat restoration, or any other significant restoration effort project approved by a Conditional Use Permit.

***Consistent. Placing material at Saltchuk will not cut off or isolate hydrologic features. Creation of solid waste landfills are not a component of this project, and the purpose of the project is to improve safety and efficiency of the Blair Waterway. Dredged material that is unsuitable for open-water disposal or placement at Saltchuk would go to an upland facility, which may be a solid waste landfill (e.g., the LRI Facility in Graham, WA).***

2. Filling waterward of the OHWM is prohibited for the purpose of creating upland, but may be allowed when necessary to support:
  - a. Water-dependent uses;
  - b. Public access;
  - c. Cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan;
  - d. Disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington State Department of Natural Resources (DNR);
  - e. Expansion or alteration of transportation facilities of statewide significance currently located on the shoreline, and then only upon a demonstration that alternatives to fill are not feasible;
  - f. Mitigation action, environmental restoration, beach nourishment, or enhancement project; or
  - g. Public utility projects approved in accordance with an adopted transportation or utility plan or program.

***Consistent. The purpose of beneficial use of dredged material at Saltchuk is to create and enhance shallow-water habitat for juvenile salmonids. Only dredged material deemed suitable for aquatic placement at Saltchuk by the Dredged Material Management Program, of which the Washington State DNR is a member, will be used.***

3. Excavation, dredging, filling, and/or grading shall not occur without an authorized principal use or development.

***Consistent. The principal purpose of the proposed project is to improve and maintain the safety and efficiency of the Blair Waterway.***

4. Excavation, dredging, filling, and/or grading shall be limited to the minimum amount necessary for the specific use or development proposed.

***Consistent. Deepening the Blair Waterway has been optimized to improve the safety and efficiency for the largest vessels projected to arrive at Port of Tacoma over the next 50 years.***

5. Activities waterward of the OHWM shall only be allowed after the proponent has demonstrated that alternative locations and designs have been considered and found to be infeasible, and the dump site or destination and staging area for dredged material has been provided.

***Consistent. Dredging, disposal, and material placement location alternatives have been considered in the Feasibility Report and Environmental Assessment (USACE 2019).***

6. Excavation, dredging, filling, and/or grading shall not unnecessarily impact natural processes such as water flow, circulation, currents, channel migration, erosion, sediment transport, and floodwater storage, and shall not cut off or isolate hydrologic features.

***Consistent. The proposed project has been designed to minimize or avoid effects to the above natural processes, as described in the Feasibility Report and Environmental Assessment (USACE 2019).***

7. Dredging material, if suitable, should be utilized for beneficial shoreline resources.

***Consistent. Depending on funding, the outcome of the Tacoma Harbor feasibility study and Civil Works planning process, and material availability after a full sediment suitability determination, beneficial use of suitable dredged material will be used at Saltchuk to benefit shoreline resources.***

8. Stabilization measures should be designed to blend physically and visually with existing topography.

***Consistent. Engineered stabilization measures in Blair Waterway would blend physically and visually with the existing industrial topography.***

9. New development shall be located and designed to avoid or minimize the need for maintenance dredging.

***Consistent. The proposed project has been designed to minimize the need for maintenance dredging, which is anticipated every 25 years following deepening of the Blair Waterway.***

#### 18S.30.050 Shoreline Access

The intent of the Shoreline Access policies and regulations is to recognize the rights of the general public to reach, touch, view and enjoy the water's edge, to travel the waters of the State, and to view the water and the shoreline from adjacent locations. These rights are a fundamental element of the Shoreline Management Act (Act).

***Consistent. The proposed project will not limit the rights of the public as listed above. Access to the kayak launch near Saltchuk will be temporarily restricted during construction at Saltchuk; however, access will be fully restored after construction is complete. The Feasibility Report and Environmental Assessment (USACE 2019) provides an analysis of public health and safety. The project has been designed to minimize any effects to public health and safety to the maximum extent practicable.***

#### 18S.30.060 Scenic Protection and Compatibility

The purpose of the Scenic Protection and Compatibility policies and regulations is to preserve shoreline scenic vistas and to ensure development on shorelines is compatible with the surrounding environment, existing, and planned development.

***Consistent. The proposed project will not alter the existing shoreline scenic vista due to the in-water location. The aesthetic qualities of Commencement Bay will not be affected.***

#### 18S.30.070 Shoreline Stabilization

The intent of the Shoreline Stabilization policies and regulations is to allow shoreline stabilization structures or measures where no alternatives are feasible to accommodate development along the shorelines, while preserving and improving ecological functions of the shoreline and while protecting the shoreline environment from impacts caused by development within and adjacent to geologically hazardous areas.

***Consistent. To the extent that they are warranted, further design of engineered slope stabilization measures to accommodate deepening within the Blair Waterway will be refined in PED, and their use will be minimized to the extent possible. Presence of these measures will not degrade the shoreline environment within the Blair Waterway.***

#### 18S.30.080 Shoreline Modifications

The intent of the Shoreline Modification policies and regulations is to limit those actions that modify the physical configuration or qualities of the shoreline area. Shoreline modifications are those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

***Consistent. Engineered shoreline stabilization measures to accommodate deepening within the Blair Waterway will be refined in PED, and their use will be minimized to the extent possible. Modification may include sheetpile, riprap, or another solution to be refined. The purpose of the modification is to stabilize the slope of the navigation channel, which will maintain the existing use of the shoreline area within the Blair Waterway. Clearing, grading, or application of chemicals will not be necessary. Presence of these measures will not degrade the shoreline environment within the Blair Waterway.***

#### 18S.30.090 Water Oriented Development

The intent of the Water Oriented Development policies and regulations is to ensure that water-dependent, water-related, or water-enjoyment, or a combination of such uses, is preferred in shorelines.

***Consistent. A short-term, temporary closure of the kayak launch near Saltchuk would be necessary during construction of Saltchuk, but the proposed project will not prevent long-term water-oriented uses in Commencement Bay; and other sites may be utilized on a short-term basis to maintain water access during construction of Saltchuk.***

18S.30.100 Water Quality, Stormwater, and Nonpoint Pollution

The intent of the Water Quality, Stormwater, and Nonpoint Pollution policies and regulations is to protect against adverse impacts to water quality and quantity.

***Consistent. The Corps will provide materials for review to the Washington State Department of Ecology for water quality certification under Section 401 of the Clean Water Act.***

***Stormwater and Nonpoint Pollution control is not a component of dredging.***



## **Part II. City of Tacoma SMP**

### Chapter 6 – General Policies and Regulations

The following regulations shall apply to all uses and all districts in the City of Tacoma shoreline jurisdiction.

#### Chapter 6.1 – Shoreline Use

Shoreline uses refer to specific common uses and types of development (e.g. residential recreation, commercial, industrial, etc.) that may occur in the City’s shoreline jurisdiction. Shoreline areas are a limited ecological and economic resource and are the setting for multiple competing uses. The purpose of this section is to establish preferred shoreline uses. These preferences are employed in deciding what uses should be allowed in shorelines and resolving use conflicts. Consistent with the Act and Guidelines, preferred uses include, in order of preference: shoreline enhancement and restoration; water-dependent uses; water-related and – enjoyment uses; and single-family development when developed without significant impacts to shoreline functions. Mixed-use developments may also be considered preferred if they include and support water-oriented uses. All uses and development must be consistent with the provisions of the environment designation in which they are located and the general regulations of this Program.

***Consistent. The proposed uses are shoreline enhancement and restoration (Saltchuk beneficial use of dredged material) and water-dependent uses (navigation).***

#### Chapter 6.2 – Site Planning

The Purpose of this chapter is to establish the City’s policies related to the location and dimensions of shoreline uses. This section implements the Act’s and Guidelines’ policies to protect shoreline ecological functions from the adverse effects of shoreline development and use and ensure that proposed uses are developed in a manner that is compatible with a shoreline location, public access and adjacent uses. The section establishes policies and includes regulations and development standards to ensure that shoreline development considers the physical and natural features of the shoreline and assures no net loss of ecological functions.

***Consistent. The deepening and widening of the Federal Navigation Channel will maintain its present location. The Blair Waterway and Saltchuk are consistent with shoreline location, public access, and adjacent uses. The Feasibility Report and Environmental Assessment (USACE 2019) has considered the physical and natural features of the shoreline. Channel improvements and Saltchuk will be designed, constructed and managed to achieve no net loss of ecological functions. Due to minimal change to the environment as a result of the project, no mitigation is proposed.***

#### Chapter 6.3 – Archaeological, Cultural and Historic Resources

The following policies and regulations apply to archaeological and historic resources that are either recorded with the State Department of Archaeology and Historic Preservation (DAHP) and/or the City or have been inadvertently uncovered during a site investigation or construction. Archaeological sites located both in and outside shoreline jurisdiction are subject to chapter 27.44 RCW (Indian graves and records) and chapter 27.53 RCW (Archaeological sites and

records). Development or uses that could impact these sites must comply with the State's guidelines on archaeological excavation and removal (WAC 25-48) as well as the provisions of this Program. Archaeological and historic resources are limited and irreplaceable. Therefore the purpose of these policies and regulations is to prevent the destruction of or damage to any site having historic, cultural, scientific, or educational value as identified by the appropriate authorities, including affected Indian tribes.

***Consistent. Based on the cultural resources impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), no impacts to cultural or historic resources are anticipated. Archaeological monitoring results of the sediment sampling cores were negative for cultural resources.***

#### Chapter 6.4 – Marine Shoreline and Critical Areas Protection

The intent of this chapter is to provide policies and regulations that protect the shoreline environment as well as the critical areas found within the shoreline jurisdiction. These policies and regulations apply to all uses, developments and activities that may occur within the shoreline jurisdiction regardless of the Shoreline Master Program environment designation. They are to be implemented in conjunction with the specific use and activity policies and regulations found in this Master Program.

The Shoreline Management Act (SMA) mandates the preservation of the ecological functions of the shoreline by preventing impacts that would harm the fragile shorelines of the state. When impacts cannot be avoided, impacts must be mitigated to assure no-net-loss of ecological function necessary to sustain shoreline resources. The SMA also mandates that local master programs include goals, policies and actions for the restoration of impaired shoreline ecological functions to achieve overall improvements in shoreline ecological functions over time.

The environment protection policies and regulations of this Master Program address general environmental impacts and critical areas. General environmental impacts include effects upon the elements of the environment listed in the State Environmental Policy Act (SEPA) (WAC 197-11-600 and WAC 197-11-666). This chapter is not intended to limit the application of SEPA.

***Consistent. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), effects to the environment will be minor short-term disturbances and highly localized. The short-term effects do not rise to the level that would require compensatory mitigation.***

#### Chapter 6.5 – Public Access

Shoreline public access is the physical ability of the general public to reach and touch the water's edge or the ability to have a view of the water and the shoreline from upland locations. There are a variety of types of public access, including docks and piers, boat launches, pathways and trails, promenades, street ends, picnic areas, beach walks, viewpoints and others.

An important goal of the Shoreline Management Act is to protect and enhance public access to the state's shorelines. Specifically, the SMA states:

*RCW 90.58.020: “[T]he public’s ability to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally.”*

*“Alterations of the natural conditions of the shorelines of the state, in those limited instances when authorized, shall be given priority for ...development that will provide an opportunity for substantial numbers of people to enjoy the shorelines of the state.”*

Public access and use of the shoreline is supported, in part, by the Public Trust Doctrine. The essence of the doctrine is that the waters of the state are a public resource owned by and available to all citizens equally for the purposes of navigation, conducting commerce, fishing, recreation and similar uses, and that this trust is not invalidated by private ownership of the underlying land. The doctrine limits public and private use of tidelands and other shorelands to protect the public's right to use the waters of the state. The Public Trust Doctrine does not allow the public to trespass over privately owned uplands to access the tidelands. It does, however, protect public use of navigable waterbodies.

***Consistent. The proposed project will not limit the rights of the public as listed above. Access to the kayak launch near Saltchuk will be temporarily restricted during construction at Saltchuk. The Feasibility Report and Environmental Assessment (USACE 2019) provides an analysis of public health and safety. The project has been designed to minimize any effects to public health and safety to the maximum extent practicable.***

#### Chapter 6.6 – Vegetation Conservation

Vegetation conservation includes activities to protect and restore vegetation along or near marine and freshwater shorelines that contribute to the ecological functions of shoreline areas.

Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and nonnative species.

Unless otherwise stated, vegetation conservation does not include those activities covered under the Washington State Forest Practices Act, except for conversion to other uses and those other forest practice activities over which local governments have authority. Vegetation conservation provisions apply even to those shoreline uses and developments that are exempt from the requirement to obtain a permit. Vegetation conservation standards do not apply retroactively to existing uses and structures.

***Consistent. No upland clearing is proposed. Material placement at Saltchuk has been designed to minimize impacts to aquatic vegetation in the area.***

#### Chapter 6.7 – Views and Aesthetics

The following provisions provide for preservation and/or protection of scenic vistas, views of the water, and other aesthetic qualities of shorelines for public enjoyment. They include policies and regulations which protect public views of the City’s shorelines and waters; encourage shoreline uses to orient toward the City’s shoreline resources and ensure that landscaping of the uplands are consistent with the City’s vision of its shorelines.

***Consistent. The proposed project will not alter the existing shoreline scenic vista due to the in-water location. The aesthetic qualities of Commencement Bay will not be affected by the proposed project, which is consistent with the current use of the area.***

#### Chapter 6.8 – Water Quality and Quantity

The following section applies to all development and uses in the City's shorelines, that affect water quality. The provisions protect against adverse impacts to the public health, to the land and its vegetation and wildlife, and to the waters of the state and their aquatic life. The purpose of these policies and regulations is to prevent impacts to water quality and storm water quantity that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities, or recreational opportunities. They are also meant to ensure mutual consistency between shoreline management provisions and other regulations that address water quality and storm water quantity.

***Consistent. The Corps will provide materials for review to the Washington State Department of Ecology for water quality certification under Section 401 of the Clean Water Act. Stormwater and Nonpoint Pollution control is not a component of dredging.***

#### Chapter 8.3 – Fill and Excavation, Dredging and Dredge Material Disposal

Fill raises the elevation or creates dry land area by the addition of sand, soil, gravel, rock, sediment, earth retaining structure, or other material waterward of the OHWM, in wetlands, or on shorelands. Dredging is the removal of material from a stream, river, lake, bay or other water body. The purposes for dredging might include navigation, remediation of contaminated materials, or material mining. Materials generated from navigational and remedial dredging may be suitable for beneficial reuse (e.g., construction of habitat features or construction of uplands) or may require disposal at appropriate disposal facilities.

##### 8.3.1 Policies

- A. Shoreline fill should not be authorized unless a specific use for the site is evaluated and permitted. Speculative fill should not be permitted.

***Consistent. The DMMP Commencement Bay open-water disposal site has been previously permitted for disposal of dredged materials. The Saltchuk beneficial use site is dependent on funding and material availability, and would be fully permitted prior to use. The use of Saltchuk has been evaluated in the Feasibility Report and Environmental Assessment (USACE 2019).***

- B. Where there is a demonstrated need for shoreline fill, they should only be considered for water-dependent uses in committed port and industrial waterways or where such construction can be integrated with the existing shoreline to substantially preclude any resultant damage to marine resources or adverse effects on adjacent properties. Fill should not be permitted in identified channel migration zones.

***Consistent. Shoreline fill would only occur at Saltchuk to create shallow-water habitat for juvenile salmonids and to improve sediment quality. This beneficial use of dredged material***

*would be integrated with the existing shoreline, and effects to the environment will be minor short-term disturbances and highly localized. Saltchuk is not in a channel migration zone.*

- C. The location, design, and construction of all fill should protect ecological processes and functions, including channel migration. In evaluating fill projects such factors as total water surface reduction, navigation restriction, impediment to water flow and circulation, reduction of water quality and destruction of habitat, and the effects on state-owned resources should be considered.

*Consistent. Beneficial use of dredged material at Saltchuk has been evaluated for the above items in the Feasibility Report and Environmental Assessment (USACE 2019). Creation of shallow-water habitat for juvenile salmonids will reduce total water surface during some points of the tide cycle. Ship simulation in PED will investigate navigation restrictions around Saltchuk, and the project has been designed to minimize any effects to navigation to the maximum extent practicable. Water flow, circulation, and currents will not be impeded. The project has been designed to minimize the short-term and localized reduction in water quality due to turbidity during construction. State-owned resources will not be destroyed; rather, shallow-water habitat with improved substrate will be created. Saltchuk is not in a channel migration zone.*

- D. The perimeter of the fill should be provided with a vegetative buffer or other means to prevent erosion.

*Not applicable. Placement of dredged material at Saltchuk will not require use of erosion control due to location in the sub- and intertidal zone. Additional current modeling in PED will further refine Saltchuk design to avoid and minimize material migration.*

- E. Uses of dredge material that can benefit shoreline resources are to be addressed through implementation of regional interagency dredge material management plans and watershed planning.

*Consistent. Beneficial use of dredged material at Saltchuk will be fully coordinated through the DMMP, and the effects of watershed restoration projects have been taken into consideration.*

- F. Dredging of bottom materials for the primary purpose of obtaining fill, material should be prohibited.

*Consistent. The purpose of the project is to improve navigation safety and efficiency at the Blair Waterway.*

#### Chapter 7.6 – Port/Industrial Use

The past geologic development of the Puget Sound Basin has created one of the few areas in the world which provides several deepwater inland harbors. The use of Puget Sound waters by deep-draft vessels is increasing due in part to its proximity to the Pacific Rim countries. This increased trade will attract more industry and more people which will put more pressure on the Sound in the forms of recreation and the requirements for increased food supply.



The Port of Tacoma is a major center for waterborne traffic and as such has become a gravitational point for industrial and manufacturing firms. Heavy industry may not specifically require a shoreline location, but is attracted to the port because of the variety of transportation modes available.

In applying the regulations of this section, the following definitions are used:

- “Port” means a center for water-borne commerce and traffic.
- “Industrial” means the production, processing, manufacturing, or fabrication of goods or materials. Warehousing and storage of materials or production is considered part of the industrial process.

Some port and industrial developments are often associated with a number of uses and modifications that are identified separately in this Master Program (e.g., parking, dredging). Each use activity and every type of shoreline modification should be carefully identified and reviewed for compliance with all applicable sections.

For the purposes of determining to which uses and activities this classification applies, the use of moorage facilities, such as a wharf or pier, for the layberthing, or lay-by berthing of cargo, container, military, or other oceangoing vessels shall be permitted only where port and industrial uses are allowed. This use category shall likewise apply to facilities that handle the loading and unloading of cargo and materials associated with port and/or industrial uses. Facilities for the loading and unloading of passengers associated with passenger vessels, such as ferries, cruise ships, and water taxis shall be classified as a transportation facility or commercial activity as applicable.

Port and/ industrial facilities are intensive and have the potential to negatively impact the shoreline environment. When impacts cannot be avoided, they must be mitigated to assure no net loss of the ecological function necessary to sustain shoreline resources.

***Consistent. The deepening and widening of the Federal Navigation Channel will maintain its present location. Channel improvements will be designed, constructed and managed to achieve no net loss of ecological functions. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), effects to the environment will be minor short-term disturbances and highly localized. The short-term effects do not rise to the level that would require compensatory mitigation.***

#### Chapter 7.6.1 – Policies

##### A. General Policies

1. Because of the great natural deep water potential of Commencement Bay, new deep water terminal and port-related industrial development is encouraged.

***Consistent. Deepening and widening Blair Waterway is considered port-related industrial development.***

2. Because of the exceptional value of Puget Sound shorelines for residential, recreational, resource and other economic elements requiring clean water, deep water terminal expansion should not include oil super tanker transfer or super tanker storage facilities.

***Not applicable. The improvements to the Blair Waterway included in this feasibility study do not include terminal expansions for the above purposes. The proposal is only considering containerized cargo.***

3. Public access and ecological restoration should be considered as potential mitigation of impacts to shoreline resources for all water-related and -dependent port and industrial uses consistent with all relevant constitutional and other legal limitations on the regulation of private property per TSMP 6.5, Public Access.

***Not applicable. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), effects to the environment will be minor short-term disturbances and highly localized. The short-term effects do not rise to the level that would require compensatory mitigation.***

4. Expansion or redevelopment of water-dependent port and industrial facilities and areas should be encouraged, provided it results in no net loss of shoreline functions.

***Consistent. The deepening and widening of the Federal Navigation Channel will maintain its present location. Channel improvements will be designed, constructed and managed to achieve no net loss of ecological functions.***

5. Port and industrial uses and related redevelopment projects are encouraged to locate where environmental cleanup can be accomplished.

***Consistent. Dredged material that is unsuitable for open-water disposal will be disposed of at an upland facility. Sediments exposed by dredging would meet DMMP requirements.***

6. The preferred location for future non-water-dependent industry is in industrial areas away from the shoreline.

***Not applicable. The proposed project is water-dependent.***

7. The cooperative use of docking, parking, cargo handling and storage facilities should be strongly encouraged in waterfront industrial areas.

***Not applicable. Changes to the use of docking, parking, cargo handling and storage facilities are not part of the proposed project.***

8. Land transportation and utility corridors serving ports and water-related industry should follow the guidelines provided under the sections dealing with utilities and road and railroad construction. Where feasible, transportation and utility corridors should not be located in the shoreline to reduce pressures for the use of waterfront sites.

***Not applicable. Land transportation and utility corridors are not included in the proposed project.***

9. Port and industrial uses should be encouraged to permit viewing of harbor areas from viewpoints, and similar public facilities which would not interfere with operations or endanger public health and safety.

***Consistent. The proposed project will not alter viewing of harbor areas from viewpoints. The Feasibility Report and Environmental Assessment (USACE 2019) provides an analysis of public health and safety. The project has been designed to minimize any effects to public health and safety to the maximum extent practicable.***

10. Special attention should be given to the design and development of facilities and operational procedures for fuel handling and storage in order to minimize accidental spills and to the provision of means for satisfactorily handling those spills which do occur.

***Not applicable. The design and development of facilities and operational procedures for fuel handling and storage are not included in the proposed project.***

B. “S-8” Thea Foss Shoreline District

1. Improvements to existing industrial uses, such as the aesthetic treatment of storage tanks, cleanup of blighted areas, landscaping, exterior cosmetic improvements, landscape screening, and support of the Waterway environmental cleanup and remediation plan effort are encouraged.

***Not applicable. The study area does not include the Thea Foss Shoreline District.***

Chapter 7.6.2 – Regulations

A. General Regulations

1. Water-dependent port and industrial uses shall have shoreline location priority over all other uses in the S-7 and S-10 Shoreline Districts.

***Consistent. The proposed project is a water-dependent port use.***

2. The location, design, and construction of port and industrial uses shall assure no net loss of ecological functions.

***Consistent. The deepening and widening of the Federal Navigation Channel will maintain its present location. The Feasibility Report and Environmental Assessment (USACE 2019) has considered the physical and natural features of the shoreline. Channel improvements and Saltchuk will be designed, constructed, and managed to achieve no net loss of ecological functions.***

3. New non-water-oriented port and industrial uses are prohibited unless they meet one of the following criteria:
  - a. The use is part of a mixed-use project or facility that supports water-oriented uses and provides a significant public benefit with respect to the public access and restoration goals of this Program;

- b. Navigability is severely limited at the proposed site and the use provides a significant public benefit with respect to the public access and restoration goals of this Program;
- c. The use is within the shoreline jurisdiction but physically separated from the shoreline by a separate property, public right-of-way, or existing use, and provides a significant public benefit with respect to the public access and restoration goals of this Program. For the purposes of this Program, public access trails and facilities do not constitute a separation.

***Consistent. The proposed project is an existing, water-oriented port and industrial use, and Saltchuk provides a significant public benefit with respect to the public access and restoration goals of this Program.***

- 4. Deep-water terminal expansion shall not include oil super tanker transfer or super tanker storage facilities.

***Consistent. Oil super tanker transfer or super tanker storage facilities are not part of the proposed deepening and widening of Blair Waterway.***

- 5. Where shoreline stabilization or in-water structures are required to support a water-dependent port or industrial use, the applicant shall be required to demonstrate:
  - a. That the proposed action shall give special consideration to the viability of migratory salmonids and other aquatic species;
  - b. That contaminated sediments are managed and/or remediated in accordance with state and federal laws;
  - c. That public access to the water body is provided where safety and operation of use are not compromised;
  - d. That shading and water surface coverage is the minimum necessary for the use.

***Consistent. The Feasibility Report and Environmental Assessment (USACE 2019) documents consideration of the above items. Blair Waterway improvements and Saltchuk will be designed, constructed and managed to achieve no net loss of ecological functions. Analyses of effects to migratory salmonids and other aquatic species and public access, and the management of dredged material are included. Shading and water surface coverage is not part of the proposed project.***

- 6. Port and industrial development shall comply with all federal, state, regional and local requirements regarding air and water quality.

***Consistent. The Feasibility Report and Environmental Assessment (USACE 2019) has documented compliance with all Federal, state, regional and local requirements regarding air and water quality.***

7. Where possible, oxidation and waste stabilization ponds shall be located outside the Shoreline District.

***Not applicable. Oxidation and waste stabilization ponds will not be used.***

8. Best management practices shall be strictly adhered to for facilities, vessels, and products used in association with these facilities and vessels.

***Consistent. Best management practices (BMPs) will be implemented during the proposed project construction.***

9. All developments shall include the capability to contain and clean up spills, discharges, or pollutants, and shall be responsible for any water pollution which they cause.

***Consistent. Best management practices (BMPs) will be implemented during the proposed project. The Corps requires all dredging contractors to provide a Spill Prevention and Response Plan.***

10. Petroleum products sump ponds shall be covered, screened, or otherwise protected to prevent bird kill.

***Not applicable. Petroleum products sump ponds will not be used.***

11. Procedures for handling toxic materials in shoreline areas shall prevent their entering the air or water.

***Consistent. Best management practices (BMPs) will be implemented during the proposed project. The Corps requires all dredging contractors to provide a Spill Prevention and Response Plan.***

#### **B. Log Rafting and Storage**

1. New log rafting and storage shall only be allowed in the “S-10” Port Industrial Area Shoreline District, the “S-11” Marine View Drive Shoreline District and in the associated portions of the “S-13” Marine Waters of the State Shoreline District.
2. Restrictions shall be considered in public waters where log storage and handling are a hindrance to other beneficial water uses.
3. Offshore log storage shall only be allowed on a temporary basis, and should be located where natural tidal or current flushing and water circulation are adequate to disperse polluting wastes.
4. Log rafting or storage operations are required to implement the following, whenever applicable:
  - a. Logs shall not be dumped, stored, or rafted where grounding will occur.
  - b. Easy let-down devices shall be provided for placing logs in water. The freefall dumping of logs into water is prohibited.



- c. Bark and wood debris controls and disposal shall be implemented at log dumps, raft building areas, and mill-side handling zones. Accumulations of bark and wood debris on the land and docks around dump sites and upland storage sites shall be kept out of the water. After cleanup, disposal shall be at an upland site where leachate will not enter surface or ground waters.
  - d. Where water depths will permit the floating of bundled logs, they shall be secured in bundles on land before being placed in the water. Bundles shall not be broken again except on land or at mill sites.
  - e. Stormwater management facilities shall be provided to protect the quality of affected waters.
5. Log storage facilities shall be located upland and properly sited to avoid fish and wildlife habitat conservation areas.
  6. Log storage facilities must be sited to avoid and minimize the need for dredging in order to accommodate new barging activities at the site.
  7. Log booming shall only be allowed offshore in sub-tidal waters in order to maintain unimpeded nearshore migration corridors for juvenile salmonids and to minimize shading impacts from log rafts. Log booming activities include the placement in or removal of logs and log bundles from the water, and the assembly and disassembly of rafts for waterborne transportation.
  8. Log storage and log booming facilities shall be adequately maintained and repaired to prevent log escapement from the storage site.
  9. A Debris Management Plan describing the removal and disposal of wood waste must be developed and submitted to the City. Debris monitoring reports shall be provided, where stipulated.
  10. Existing in-water log storage and log booming facilities in critical habitats utilized by threatened or endangered species classified under ESA shall be reevaluated if use is discontinued for two (2) years or more, or if substantial repair or reconstruction is required. The evaluation shall include an alternatives analysis in order to determine if logs can be stored upland and out of the water. The alternatives analysis shall include evaluation of the potential for moving all, or portions of, log storage and booming to uplands.

***Not applicable. Log storage and log booming are not proposed.***

#### Chapter 8.3.2 – Regulations

##### A. Regulations - Fill and Excavation

1. Fill placed waterward of the OHWM is prohibited except for the following instances.:

- a. Water-dependent use;
- b. Public access;
- c. Clean-up and disposal of contaminated sediments as part of an interagency environmental clean-up plan;
- d. Disposal of dredged material in accordance with a DNR Dredged Material Management Program;
- e. Expansion or alteration of transportation facilities of statewide significance currently located on the shoreline (if alternatives to fill are shown not to be feasible).

***Consistent. Disposal of dredged material at the Commencement Bay open-water disposal site and material placement at Saltchuk will be in accordance with the Dredged Material Management Program, of which the Washington State DNR is a member.***

- 2. Fill waterward of the OHWM shall be permitted for ecological restoration and enhancement projects, provided the project is consistent with all other provisions of this program.

***Consistent. The proposed fill is beneficial use of dredged material to enhance juvenile salmonid habitat and improve sediment quality at Saltchuk. The proposed project is consistent with all other provisions of this program.***

- 3. Fill and excavation must avoid impacts to buffers exception for those instances in section 10.3 above and restoration actions, when consist with all other provisions of this Program.

***Consistent. Construction of Saltchuk has been designed to minimize impacts to the environment. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), effects to the environment due to fill and excavation will be minor, short-term disturbances and highly localized. The short-term effects do not rise to the level that would require compensatory mitigation.***

- 4. Fill is prohibited within the Puyallup River, except for environmental remediation and habitat improvement projects.

***Not applicable. Fill will not be placed within the Puyallup River.***

- 5. Fill and excavation shall be considered only where such construction can be integrated with the existing shoreline.

***Consistent. Construction of Saltchuk will be integrated with the existing shoreline for the benefit of juvenile salmonids.***

- 6. Fill and excavation shall not be authorized unless a specific use for the site has been evaluated and permitted; speculative fill and excavation shall be prohibited in all Shoreline Districts.

***The DMMP Commencement Bay open-water disposal site has been previously permitted for disposal of dredged materials. The Saltchuk beneficial use site is dependent on funding and material availability, and would be fully permitted prior to use. The use of Saltchuk has been evaluated in the Feasibility Report and Environmental Assessment (USACE 2019).***

7. Applications for fill or excavation shall address methods which will be used to minimize damage of the following types:
  - a. Biota:
    - i. Reduction of habitat;
    - ii. Reduction of feeding areas for shellfish, fishlife, and wildlife;
    - iii. Reduction of shellfish, fishlife, and wildlife reproduction areas; and
    - iv. Reduction of fish migration areas.

***Consistent. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), effects to the environment due to fill and excavation will be minor, short-term disturbances and highly localized. The short-term effects do not rise to the level that would require compensatory mitigation.***

- b. Physical:
    - i. Alteration of local current;
    - ii. Wave damage;
    - iii. Total water surface reduction;
    - iv. Navigation restriction;
    - v. Impediment to water flow and circulation;
    - vi. Reduction of water quality;
    - vii. Loss of public access;
    - viii. Elimination of accretional beaches;
    - ix. Erosion; and
    - x. Aesthetics.

***Consistent. Based on the environmental impacts analysis in the Feasibility Report and Environmental Assessment (USACE 2019), effects to the environment due to fill and excavation will be minor, short-term disturbances and highly localized. The short-term effects do not rise to the level that would require compensatory mitigation.***

8. All perimeters of fills shall use vegetation, retaining walls, or other means for erosion control.

***Not applicable. Placement of dredged material at Saltchuk will not require use of erosion control due to location in the sub- and intertidal zone. Additional current modeling in PED will further refine Saltchuk design to avoid and minimize material migration.***

9. Only materials that comply with State Water Quality Standards may be used in permitted fill projects.

***Consistent. The Corps will provide materials for review to the Washington State Department of Ecology for water quality certification under Section 401 of the Clean Water Act.***

10. Dust control measures, including plants and vegetation where feasible, shall be taken in all fill and excavation projects.

***Not applicable. Proposed fill and excavation will take place in water.***

#### **B. Regulations - Dredging and Dredge Material Disposal**

1. Dredging and dredge material disposal shall avoid or minimize significant ecological impacts; impacts that cannot be avoided shall be compensated for to achieve no net loss of ecological functions.

***Consistent. The deepening and widening of the Federal Navigation Channel will maintain its present location. Channel improvements and Saltchuk construction will be designed, constructed and managed to achieve no net loss of ecological functions. Due to minimal change to the environment as a result of the project, no mitigation is proposed.***

2. Dredging to establish, expand, relocate, or reconfigure navigation channels are permitted only where needed to accommodate existing navigational uses and then only when significant ecological impacts are minimized or compensated for.

***Consistent. The proposed dredging would take place in the existing Blair Waterway. Channel improvements will be designed, constructed and managed to achieve no net loss of ecological functions. Due to minimal change to the environment as a result of the project, no mitigation is proposed.***

3. New non-water-dependent development that would result in the need for new dredging shall be prohibited.

***Not applicable. The proposed project does not include new non-water-dependent development that would result in the need for new dredging.***

4. Dredge disposal within river channel migration zones is prohibited.

***Not applicable. Dredge disposal would only take place at the DMMP Commencement Bay open-water disposal site, Saltchuk beneficial use site, or at an upland disposal facility.***

5. Maintenance dredging of established navigation channels and basins is restricted to maintaining previously dredged and/or existing channels and basins at their authorized location, depth, and width.

***Consistent. After deepening and associated widening, maintenance dredging of the established navigation channel would only maintain the authorized project depth and width.***

6. Deposit of dredge materials shall only be permitted in an approved disposal site, for habitat improvement, to correct material distribution problems which are adversely affecting fish and shellfish resources, where land deposition would be more detrimental to shoreline resources than water deposition, as a cap for contaminated sediments, or a fill used in conjunction with an approved environmental remediation project. Where deposit of dredge material is allowed upland, it shall avoid buffers and wildlife habitat and be subject to the regulations of fill in TSMP 8.3.2(A).

***Consistent. Dredge material disposal would only take place at the DMMP Commencement Bay open-water disposal site, Saltchuk beneficial use site for habitat improvement, or at an upland disposal facility.***

7. Dredging of bottom materials for the primary purpose of obtaining fill materials shall not be permitted, except for projects associated with MTCA or CERCLA habitat restoration, or any other significant restoration effort approved by a Shoreline Conditional Use Permit. In such cases, placement of fill must be waterward of the OHWM.

***Consistent. The purpose of the project is to improve navigation safety and efficiency at the Blair Waterway.***

8. Returned water from any dredge material disposed of on land shall meet all applicable water quality standards in accordance with applicable water quality regulations.

***Consistent. The Corps will provide documentation for review to the Washington State Department of Ecology for water quality certification under Section 401 of the Clean Water Act to provide information about the fate of dredge material destined for upland disposal. Upland disposal would occur at a facility authorized to receive dredged materials that are unsuitable for aquatic disposal. This facility is responsible for environmental compliance upon receipt of dredged materials.***

9. Sides of dredged channels for port and industrial use shall be designed and constructed to prevent erosion and permit drainage.

***Consistent. The Feasibility Report and Environmental Assessment (USACE 2019) provides a geotechnical analysis of the channel design and identified areas where engineered solutions may be necessary to prevent erosion.***

10. On-site containment facilities shall only be permitted in the “S-10” Port Industrial Area Shoreline District, where such on-site containment facilities shall be conditional uses.

***Consistent. On-site containment facilities would be located in the “S-10” Port Industrial Area Shoreline District, and would comply with all conditions for use.***

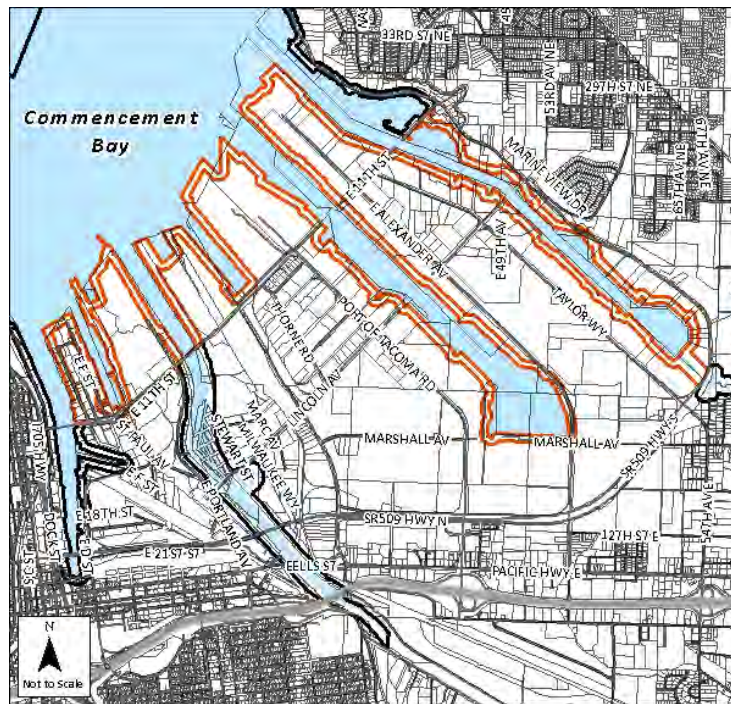


## Chapter 9.12 – S-10 Port Industrial Area (HI)

- A. The intent of the S-10 Port Industrial Area Shoreline District is to allow the continued development of the Port Industrial Area, with an increase in the intensity of development and a greater emphasis on terminal facilities within the City.

***Consistent. The purpose of the project is to improve navigation safety and efficiency of the Blair Waterway, an existing navigation channel with terminal facilities.***

- B. District Boundary Description. The S-10 Shoreline District extends from the E 11<sup>th</sup> Street right-of-way on the Thea Foss Waterway, to the Hylebos Waterway, including only those areas upland 200' of the OHWM and except that portion of the Puyallup River southeast of East 11<sup>th</sup> Street and including that portion of Hylebos Waterway and Hylebos Creek waterward of SR 509.
- C. Map of District. Refer to Figure 9-12 below for a map of the S-10 Port Industrial Area Shoreline District Shoreline District boundaries:



D. Shoreline District S-10: Port Industrial, High Intensity

**Figure 9-12. Port Industrial Area**

1. District-Specific Use and Modification Regulations. Table 9-2 lists permitted uses, prohibited uses and uses permitted through issuance of a shoreline conditional use permit.

***Consistent. All proposed project components within the Port Industrial Area are permitted uses.***

2. District-Specific Development Standards. Developments in the S-10 Port Industrial Area Shoreline District shall comply with the development standards included in Table 9-2 and the general regulations included in this Chapter.

***Consistent. All proposed project components within the Port Industrial Area are permitted uses and are consistent with the development standards and general regulations.***

#### Chapter 9.13 – S-11 Marine View Drive (UC)

- A. The intent of the S-11 Marine View Drive Shoreline District is to encourage the development of water-related parks, open space, and recreation facilities, to allow development of marinas and related facilities, water-oriented commercial uses, and residential uses that are compatible with the existing shoreline processes and functions and that result in a net gain of shoreline functions over time.

***Consistent. The Saltchuk beneficial use site does not prevent upland development of water-related parks, open space, and recreation facilities, and is anticipated to result in net gain of shoreline functions over time.***

- B. District Boundary Description. The S-11 Shoreline District boundaries include that area upland within 200' of the OHWM and from centerline of the 11<sup>th</sup> Street Bridge north to the City Limit at Eastside Dr. NE (extended).
- C. Map of District. Refer to Figure 9-13 below for a map of the S-11 Marine View Drive Shoreline District Shoreline District boundaries:



**Figure 9-13. Marine View Drive**

1. District-Specific Use Regulations. Table 9-2 lists permitted uses, prohibited uses and uses permitted through issuance of a shoreline conditional use permit.

***Consistent. All proposed project components within the Marine View Drive Shoreline District are permitted uses.***

2. District-Specific Development Standards. Developments in the S-11 Marine View Drive Shoreline District shall comply with the development standards included in Table 9-2 and the general regulations included in this Chapter.

***Consistent. All proposed project components within the Marine View Drive Shoreline District are permitted uses and are consistent with the development standards and general regulations.***

#### Chapter 9.15 – S-13 Marine Waters of the State (A)

- A. The intent of the S-13 Marine Waters of the State Shoreline District is to maintain these water bodies for the use by the public for navigation, commerce and recreation purposes and to manage in-water structures in a consistent manner throughout the City's shorelines.

***Consistent. The purpose of the proposed project is to improve navigation safety and efficiency of the Blair Waterway.***

- B. District Boundary Description. The S-13 Shoreline District boundary includes all marine waters waterward from the ordinary high water mark to the seaward City limit common to the City of Tacoma and Pierce County, except that area lying within the Town limits of the Town of Ruston. S-13 also includes the portion of the Puyallup River waterward of the OHWM and downstream of 11<sup>th</sup> Street.
- C. Map of District. Refer to Figure 9-15 below for a map of the S-13 Marine Waters of the State Shoreline District boundaries:



**Figure 9-15. Marine Waters of the State**

D. District-Specific Use Regulations. Table 9-2 lists permitted uses, prohibited uses and uses permitted through issuance of a shoreline conditional use permit. Permitted uses and activities are also subject to the district-specific regulations listed below:

1. The following regulations shall apply to overwater uses and development within the S-13 Shoreline District:
  - a. New uses and development in the S-13 Shoreline District that are associated with an upland shoreline district shall only be permitted where the use or development is also permitted in the upland Shoreline District. In determining whether an in-water use or development is associated with an upland shoreline district, those uses or development occurring between ordinary high water mark and the Outer Harbor Line shall be considered 'associated' with the upland zoning. Uses or development occurring entirely beyond the outer harbor line shall be permitted in accordance with the provisions of the S-13 Shoreline District. The in-water use or development will be considered 'associated' with whichever upland Shoreline District is closest or that district with which the use or development has a direct physical connection. Where two or more shoreline districts are equidistant from a proposed use or development that does not have a physical upland connection, the more restrictive zone shall apply.
  - b. New overwater residential structures are prohibited. This prohibition does not apply to live-aboards, which must comply with the regulations in 7.4.2(K).
  - c. New over-water structures shall only be permitted for water-dependent uses, restoration projects, and public access.
  - d. New structures for non-water-dependent or non-public access uses are strictly prohibited.
  - e. The size of new over-water structures shall be limited to the minimum necessary to support the structure's intended use.

***Not applicable. New structures are not proposed.***

- f. Non-water-oriented uses shall only be permitted on existing over-water structures as part of a permitted mixed-use development that contains a water-dependent component.

***Not applicable. Non-water-oriented uses are not proposed.***

- g. Water-oriented commercial uses shall only be permitted overwater on existing overwater structures.

***Consistent. Water-oriented commercial use of the Blair Waterway would continue on existing overwater structures.***

- h. Improvement or modifications to residential or non-water-oriented commercial uses on existing overwater structures shall be permitted; provided, that the modifications do not result in an increase in overwater coverage or shading, that the improvements are designed consistent with Washington Department of Fish and Wildlife standards to limit impacts on the aquatic environment and fisheries habitat, do not adversely affect the public use of the shoreline area or surface waters, and are consistent with the standards in Chapter 2.5.

***Not applicable. Improvement or modifications to residential or non-water-oriented commercial uses are not proposed.***

- i. All modification of existing uses on recognized overwater structures shall occur in a manner consistent with all provisions of this program as well as building, fire, health, and sanitation codes.

***Not applicable. Modification of existing uses on recognized overwater structures is not proposed.***

E. District-Specific Development Standards. Developments in the S-13 Marine Waters of the State Shoreline District shall comply with the regulations and standards included the Table 9-2 and the general regulations included in this Chapter.

***Consistent. The proposed project complies with Table 9-2 and general regulations in this Chapter.***

**Conclusion.** Based on the above evaluation, the Corps has determined that the proposed Tacoma Harbor Navigation Improvement Project is consistent with the enforceable policies of the approved coastal zone management programs of Washington State, including the enforceable policies as specified in the local planning documents for Pierce County and the City of Tacoma that are incorporated in the approved programs. The action is, therefore, consistent with the State of Washington's CZMP to the maximum extent practicable.

#### Reference Report:

USACE (U.S. Army Corps of Engineers). 2019. Tacoma Harbor, WA Navigation Improvement Project: Draft Integrated Feasibility Report and Environmental Assessment. Available online: <https://www.nws.usace.army.mil/Missions/Civil-Works/Programs-and-Projects/Projects/Tacoma-Harbor-Navigation-Improvement/>

# Draft Finding of No Significant Impact



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## DRAFT FINDING OF NO SIGNIFICANT IMPACT

### Tacoma Harbor, WA Navigation Improvement Project

#### Tacoma, Pierce County, Washington

The U.S. Army Corps of Engineers, Seattle District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The draft Integrated Feasibility Report and Environmental Assessment (IFR/EA) dated 18 December 2019, for the Tacoma Harbor Navigation Improvement Project, addresses navigation safety and cost efficiency improvement opportunities and feasibility in the Sitcum and Blair Waterway of Tacoma Harbor in Pierce County, Washington.

The Draft IFR/EA, *incorporated* herein by reference, evaluated various alternatives that would improve safety and economic efficiency of commercial navigation in the study area. The recommended plan is the National Economic Development (NED) Plan and includes the following:

- Blair Waterway: Deepen the existing channel to an authorized project depth of -57 feet Mean Lower Low Water (MLLW; STA-5+00 to STA 137+24.11). Expand channel widths ranging from 343 feet to 864 feet. Expand the turning basin boundary from 1,682 feet to a diameter of 1,935 feet (see table below).

#### Federally Authorized and Proposed Alternative Widths by Channel Station (STA) at Blair Waterway

| Stations along the channel | Authorized widths (ft) | Proposed width (ft) |
|----------------------------|------------------------|---------------------|
| STA -5 to STA 0            |                        | 865                 |
| STA 0 to STA 12            | 520                    | 800                 |
| STA 12 to STA 44           | 520, 343               | 520                 |
| STA 44 to STA 52           | 520                    | 520                 |
| STA 52 to STA 79           | 520, 330               | 520                 |
| STA 79 to STA 100          | 330                    | 450                 |
| STA 100 to STA 116         | 330, 1,682             | 525                 |
| STA 116 to STA 140         | 1,682                  | 1,935               |

- Under the least cost disposal option, approximately 2.4 million cubic yards (CY) of dredged material would be placed in the Commencement Bay open water disposal site and approximately 392,000 CY would be placed at an upland facility.

In addition to a “no action” plan, three alternatives were evaluated. The alternatives included deepening the entire waterway to -57 MLLW and to -58 MLLW, and a smaller scope alternative included deepening the waterway to -58 MLLW through Husky Terminal. Chapter 3 of the IFR/EA outlines the formulation, evaluation, and screening of alternatives from the economic perspective. Chapter 4 of the IFR/EA provides the analysis and comparison of environmental effects of the final array of alternatives. Four

non-structural measures were considered for inclusion in the alternatives; these included tug assists, high-tide transiting, light-loading, and lightering. The non-structural measures were screened from further analysis because either they are already in use or would not meet the project objectives of transportation cost savings and reducing navigation challenges for pilots. The NED plan is deepening the entire Blair Waterway to -57 MLLW. The tentatively selected plan (TSP) includes the NED plan, the base plan for disposal, and ongoing evaluation of beneficial use of suitable dredge material for ecosystem restoration.

The Non-Federal Sponsor identified an additional in-water disposal site at Saltchuk, which was evaluated for beneficial use of suitable dredge material (1,850,000 CY) for ecosystem restoration. While approval of a nearshore habitat valuation model to evaluate beneficial use is pending, preliminary Cost analysis show that up to 64 acres of nearshore intertidal and subtidal substrate conditions could be improved for fish and wildlife species at the Saltchuk site.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

|                                      | Insignificant effects               | Insignificant effects as a result of mitigation | Resource unaffected by action       |
|--------------------------------------|-------------------------------------|---|-------------------------------------|
| Aesthetics                           | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Air quality                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Aquatic resources/wetlands           | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Invasive species                     | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Fish and wildlife habitat            | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Threatened/Endangered species        | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Historic properties                  | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Other cultural resources             | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Floodplains                          | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Hazardous, toxic & radioactive waste | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Hydrology                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Land use                             | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Navigation and Economic Conditions   | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Noise levels (underwater)            | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Public infrastructure                | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Socio-economics                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Environmental justice                | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Soils                                | <input type="checkbox"/>            | <input type="checkbox"/>                        | <input checked="" type="checkbox"/> |
| Water quality                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Climate change                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Public Health and Safety             | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |
| Sea Level Change                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>                        | <input type="checkbox"/>            |

All practical and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in Section 5.7.2 of the IFR/EA will be implemented to minimize impacts. Avoidance and minimization measures include compliance with appropriate conditions of a Clean Water Act Section 401 Water Quality Certification, observance of the designated in-water work window of 16 July through 15 February for use of the open-water DMMP Commencement Bay disposal site, observance of the designated in-water work window of 16 August through 15 February for dredging and material placement at Saltchuk or upland disposal, monitoring turbidity during dredging, and use of an environmental dredging bucket while working in sediment determined unsuitable for aquatic disposal. Section 5.7 of the IFR/EA provides information on the impact minimization measures. The USACE will include a detailed list of applicable BMPs in the future construction contract(s) for dredging.

No compensatory mitigation is required as part of the recommended plan.

Public review of the draft IFR/EA and FONSI occurred from 18 December 2020 until [16 February 2020](#). All comments submitted during the public review period will be responded to in the Final IFR/EA and FONSI. A 30-day state and agency review of the Final IFR/EA will be completed in [2020](#). Comments from state and federal agency review did not result in any changes to the final IFR/EA.

#### *ENDANGERED SPECIES ACT*

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, initiation of formal consultation with the National Marine Fisheries Service (NMFS) is expected to occur, and it is anticipated that they will issue a Biological Opinion for effects of the project on the following federally listed species or adversely modified designated critical habitat: Puget Sound Chinook salmon. The Corps determined the recommended plan may affect, but is not likely to adversely affect the following federally listed species or their designated critical habitat: Puget Sound steelhead, bocaccio, yelloweye rockfish, green sturgeon, and Southern Resident killer whale.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the Corps determined that the recommended plan may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: bull trout and marbled murrelet. Informal consultation with the U.S. Fish and Wildlife Service will be initiated and it is anticipated that they will issue a letter of concurrence.

All terms and conditions, conservation measures, and reasonable and prudent alternatives and measures resulting from these consultations shall be implemented in order to minimize take of endangered species and avoid jeopardizing the species.

#### *NATIONAL HISTORIC PRESERVATION ACT*

Section 106 of the NHPA (16 U.S.C. 470f) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archaeological, and cultural resources, and afford the Advisory Council on Historic Preservation opportunities to comment on

the proposed undertaking if there is an adverse effect to an eligible historic property. The lead agency must examine whether feasible alternatives exist that will avoid eligible historic properties.

All project areas have been researched and assessed for possible effects to known historic properties. No historic properties are located within the area of potential effect of the undertaking. Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that no historic properties are affected by the recommended plan. The Determinations and Findings letter has been submitted to the Washington State Historic Preservation Officer dated 4 November 2019, and has a 30-day review period for comments.

The Corps sent letters to the Muckleshoot Indian Tribe, Nisqually Indian Tribe, Puyallup Tribe of Indians, Snoqualmie Indian Tribe, Squaxin Island Tribe, and the Confederated Tribes and Bands of the Yakama Nation describing the project and asking for input regarding any properties of cultural or religious significance that would be affected by the project. As of the date of this document, the Corps has not received a response from the Tribes listed above.

#### *CLEAN WATER ACT*

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan has been found to be compliant with section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix D of the IFR/EA.

401 WQC PENDING: A water quality certification pursuant to section 401 of the Clean Water Act will be sought from the Washington State Department of Ecology (Ecology) prior to construction. All applicable conditions of the water quality certification will be implemented in order to minimize adverse impacts to water quality standards in accordance with the Clean Water Act.

#### *COASTAL ZONE MANAGEMENT ACT*

CZMA CONSISTENCY PENDING: A determination of consistency of this proposed action to the maximum extent practicable with the enforceable policies of the Washington State Coastal Zone Management program pursuant to the Coastal Zone Management Act of 1972 will be provided to Ecology prior to construction, and their concurrence in that determination will be sought.

#### *OTHER ENVIRONMENTAL COMPLIANCE REQUIREMENTS*

All applicable environmental laws have been considered, and coordination with appropriate agencies and officials will be completed prior to finalization. No other issues have been raised to date relative to environmental laws or Executive Orders.

#### *FINDING*



Technical, environmental, economic, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on these reports, the reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not significantly affect the human environment; therefore, preparation of an Environmental Impact Statement is not required.

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Date

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Mark A. Gerald  
Colonel, Corps of Engineers  
District Commander