

DRAFT

ENVIRONMENTAL ASSESSMENT

PIER 6 PILE REPLACEMENT
NAVAL BASE KITSAP



DEPARTMENT OF THE NAVY

May 2013

Lead Agency:
Department of the Navy

Action Proponent:
Naval Base Kitsap

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**ENVIRONMENTAL ASSESSMENT
PIER 6 PILE REPLACEMENT
NAVAL BASE KITSAP
KITSAP COUNTY, WASHINGTON**

MAY 2013

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| LEAD AGENCY: | United States Department of the Navy |
| PROPOSED ACTION: | The Proposed Action is to remove and replace approximately 400 structurally unsound Pier 6 fender piles at NAVBASE Kitsap Bremerton in Sinclair Inlet over a three-year period, beginning in October 2013. |
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ABSTRACT:

This environmental assessment (EA) evaluates the potential environmental impacts associated with the United States (U.S.) Department of the Navy's (Navy's) proposed action to remove and replace fender piles at Naval Base (NAVBASE) Kitsap Bremerton. The piles to be replaced occur along the perimeter of Pier 6. The Proposed Action is planned to begin in 2013 and will take approximately three years to complete. The Proposed Action would remove approximately 380 creosote treated timber piles and 20 steel piles, and replace them with approximately 330 prestressed concrete piles. As part of the Navy's mission, maintaining facilities and readiness is a priority. Since the action is to replace existing piles, the only alternative would be to not replace the piles; therefore, no practical or feasible action alternatives were identified. This EA will analyze the Proposed Action and the No-Action alternative. The analysis addresses potential direct and indirect impacts on sediments, water quality, threatened and endangered species, essential fish habitat, marine mammals, cultural resources, American Indian traditional resources and cumulative impacts. There is no cooperating agency for this document.

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ENVIRONMENTAL ASSESSMENT
PIER 6 PILE REPLACEMENT
NAVAL BASE KITSAP BREMERTON, KITSAP COUNTY, WA
EXECUTIVE SUMMARY

Proposed Action

The Navy is proposing to remove and replace approximately 400 deteriorated fender piles on Pier 6 in Sinclair Inlet at Naval Base (NAVBASE) Kitsap Bremerton over a three-year period, beginning in October 2013. The Proposed Action would remove approximately 380 creosote treated timber piles and 20 steel piles by vibratory extraction, and replace them with approximately 330 prestressed concrete piles by impact pile driving. As part of the Navy's mission, maintaining facilities and readiness is a priority. In addition to replacing piles, the project would remove and install a new galvanized steel wale system (i.e. a bumper system attached to the edge of the pier to protect against impact), rope guards, ladders, high density plastic rubbing strips and a cathodic protection system (i.e. a rust prevention system).

Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to maintain the existing Pier 6 in working condition and to ensure structural integrity. The need for the Proposed Action is to ensure that Pier 6 on NAVBASE Kitsap Bremerton continues to fulfill shore infrastructure needs and meets assigned operational mission requirements.

Alternatives Considered

Alternatives to the Proposed Action must be considered in accordance with National Environmental Policy Act (NEPA), Council of Environmental Quality (CEQ) regulations for implementing NEPA, and OPNAVINST 5090.1C CH-1 (July 2011). However, only those alternatives determined to be reasonable relative to their ability to fulfill the purpose and need for the Proposed Action require detailed analysis. Since the action is to maintain the existing Pier 6 (Figure 2-1) in working condition and to ensure structural integrity, the only alternative would be to not repair Pier 6; therefore, no practical or feasible action alternatives were identified. This EA will analyze the Proposed Action and the No-Action alternative.

Under the No Action Alternative, existing piles at Pier 6 at NAVBASE Kitsap Bremerton would not be replaced to maintain pier integrity and mission readiness. The No Action Alternative does not meet the purpose of and need for the Proposed Action, but represents the baseline condition against which potential consequences of the Proposed Action can be compared. As required by CEQ guidelines, the No Action Alternative is carried forward for analysis in this EA.

Summary of Environmental Effects

The following is a summary of the potential environmental consequences of the Preferred Alternative (Proposed Action):

Sediments. Some degree of localized changes in sediment composition would occur during construction. Impacts from sediment resuspension would be minor and localized in the area of pile removal and pile installation due to weak, stable tide currents in the project area, which would allow sediments disturbed during construction to resettle in the general area of pile

removal/installation. The Navy has completed cleanup actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and continues to monitor the site. Project-related construction activities would not create sediment contamination concentrations or physical changes that violate state standards or interfere with beneficial uses of Sinclair Inlet because the Navy will coordinate with the EPA before construction to confirm conformance with CERCLA requirements for these locations. Therefore, there would be no significant impact to sediments.

Water Quality. Direct discharges of waste would not occur. Construction-related impacts would be limited to short-term and localized changes associated with re-suspension of bottom sediments. These changes would be spatially limited to the construction site and areas immediately adjacent that may be impacted by plumes of re-suspended bottom sediments. Temporary impacts would not violate applicable state or federal water quality standards because the Navy would implement Best Management Practices (BMPs) and minimization measures to prevent accidental losses or spills of construction debris. Therefore, no significant impacts to water quality are expected.

Noise. Bremerton, Port Orchard, and Washington state exempt temporary construction noise from 7:00 a.m. to 10:00 p.m. (7:00 a.m. to 9:00 p.m. for Port Orchard) from exceeding maximum permissible noise levels. Based on construction timing (not occurring between 9:00 p.m. and 7:00 a.m.), the limited duration of impact pile driving and the distance between the noise source and the receptors, sound pressure levels are expected to attenuate to the residential thresholds, or be within the allowable exceedances of temporary daytime construction. Therefore, no significant impacts to the existing sound environment would result from the Proposed Action.

Threatened, Endangered, and Sensitive Species. Individual Endangered Species Act (ESA)-listed fish may be exposed to impacts from pile replacement including sound pressure levels which may result in injury or behavioral disturbance depending on the distance of the fish to sound source. Fish that occur in the immediate vicinity of the project site could be exposed to underwater noise that exceeds the injury criteria for fish during impact pile driving activity only. Behavioral disturbances from impact pile driving could occur over a relatively broader range; however, because each session of pile driving would be relatively short, few individuals are expected to be impacted. Impacts to ESA-listed fish from changes in water quality as a result of pile driving operations are expected to be minor and temporary. Dissolved oxygen levels are not expected to drop to levels that would result in harm to fish species. Some degree of localized, short-term increase in turbidity is expected to occur during installation and removal of the piles, but would not affect overall conditions in the area. With implementation of protection measures including limiting work to the in-water work window, the Navy has determined that the Proposed Action ‘may affect, not likely to adversely affect’ Chinook salmon, steelhead, yelloweye rockfish, canary rockfish, bull trout, and bocaccio, and therefore would not result in significant impacts to ESA-listed fish species.

ESA-listed marine mammals (humpback whales, killer whales, and Stellar sea lions) are not frequent visitors to Sinclair Inlet and even less likely to occur within the industrial confines of the industrial shipyard surrounding the project area. The high level of existing background noise (underwater and airborne) combined with the high level of marine activity limits the attractiveness of NAVBASE Kitsap Bremerton for marine mammals. To minimize impacts to marine mammals, including ESA-listed marine mammals, the Navy would develop and implement a Marine Mammal Monitoring Plan, which will include monitoring and potential shut

down within a 10-meter zone around pile driving activities for purposes of avoiding injurious effects. Additionally, a soft-start procedure will be implemented at the beginning each of impact pile driving session. The soft-start procedure provides a warning and/or gives animals in close proximity to pile driving a chance to leave the area prior to operating at full capacity thereby, exposing fewer animals to loud underwater and airborne sounds. With implementation of the Marine Mammal Monitoring Plan and other avoidance measures, the Navy has determined that the Proposed Action ‘may affect, but is not likely to adversely affect’ Stellar sea lions, humpback whales, and killer whales, and therefore would not result in significant impacts to ESA-listed marine mammals.

Regarding ESA-listed avian species, underwater and airborne sound levels from impact and vibratory pile driving have the potential to harass marbled murrelets foraging and resting in the project area. Nearshore waters in the vicinity are highly industrial, but may provide foraging habitat and prey species. The presence of construction workers, cranes, vessels (i.e. tugs, barges, small monitoring boats, etc.), pile equipment, and associated activities would create visual disturbances for marbled murrelets attempting to forage or rest in surrounding waters. Exposure to underwater sounds from pile replacement could cause behavioral disturbance, but would not be anticipated to result in injury or mortality. To minimize impacts to marbled murrelets the Navy would monitor impact pile driving of 77 piles along the southeast corner of the pier. Monitoring and potential shutdown would occur within a 42 meter zone surrounding each pile. With implementation of monitoring and other avoidance measures, the Navy has determined the Proposed Action ‘may affect, not likely to adversely affect’ marbled murrelets, and therefore would not result in significant impacts to ESA-listed avian species.

The Navy has completed informal consultations under the ESA with the USFWS (March, 2013) and NMFS (December, 2012). USFWS and NMFS concur with the Navy’s findings of ‘may effect, not likely to adversely affect’ for the species discussed above.

Essential Fish Habitat (EFH). The action area includes habitats for various life stages of groundfish, five coastal pelagic species, and three species of Pacific salmon. The action would result in a short-term increase in underwater sound-pressure levels. The proposed project would not result in excessive levels of organic materials, inorganic nutrients or heat, would not alter physical conditions that could adversely affect water temperature or beach contours, would not remove large woody debris, or other natural beach complexity features, nor would it affect any vegetated shallows. With implementation of protection measures the Navy has determined the Proposed Action will not significantly affect EFH for Pacific salmon, groundfish, and coast pelagic species, and therefore would not result in significant impacts to EFH. The Navy has completed informal consultation under the EFH with NMFS in December, 2012. NMFS concurred with the Navy’s finding.

Marine Mammals. Individual marine mammals may be exposed to sound pressure levels during pile driving operations, which may result in Level B behavioral harassment (defined by the MMPA as potential behavioral disruption). Any marine mammals that are exposed (harassed) may change their normal behavior patterns (i.e., swimming speed, foraging habits, etc.) or be temporarily displaced from the area of construction. Any exposures will likely have only a minor effect on individuals and no effect on the population. As discussed above, the Navy would develop and implement avoidance measures to include limiting work to the in-water work

window, soft-starts and a Marine Mammal Monitoring Plan to avoid injurious exposures to marine mammals. Therefore, there would be no significant impact to marine mammal populations.

Cultural Resources. Pier 6 is a contributing element to the Puget Sound Naval Shipyard National Historic Landmark (NHL). The replacement of existing piles will have no impact to the characteristics that makes Pier 6, the NHL or nearby National Register of Historic Properties (NRHP) historic districts eligible for inclusion in the NRHP or affect any known NRHP eligible archaeological sites. Construction activities would take place in previously disturbed areas along the industrial waterfront. The Navy has determined that the Proposed Action would have no adverse effect to cultural resources and therefore will result in no significant impact.

American Indian Traditional Resources. The Proposed Action would not alter access to, or use of, tribal traditional resources. Access for fishing is currently not allowed inside the Waterfront Restricted Area that surrounds Pier 6. This restriction would remain unchanged. The Proposed Action would not appreciably impact the quantities of fish available for harvest by the Suquamish Tribe in Sinclair Inlet, nor would it restrict access to existing traditional harvest areas in Sinclair Inlet. As such, no significant impacts to American Indian traditional resources would occur with implementation of the Proposed Action.

Under the No Action Alternative, no piles would be removed or driven, thus there would be no change to the natural and physical environment or the relationship of people with that environment.

Resources Eliminated From Further Study

The following resource areas were not analyzed in the EA because impacts were determined to be negligible or non-existent:

Land Use. All project activities would be conducted in previously disturbed areas at or adjacent to existing structures and would not result in any changes to land use.

Air Quality. Effects on air quality from the implementation of the Proposed Action would be negligible due to the limited scope of the action and Kitsap County currently being in attainment with the National Ambient Air Quality Standards. Additionally, the activities associated with the Proposed Action are limited to mobile sources (vehicles, vessels, etc.) and are excluded from all reporting requirements.

Visual Resources. The Proposed Action includes repair and replacement of piles at existing structures, which are part of the installation's waterfront. The Proposed Action would not change the appearance of the waterfront areas of the installation.

Recreational and Commercial Fishing. Recreational and commercial fishing does not occur near the project site as this area is restricted from access by the general public. The project site occurs in a dredged area where no geoduck or other intact shellfish beds occur. The closest shellfish bed is over 1 mile from the project site. Additionally, Sinclair Inlet is closed to shellfish harvesting due to pollution (WA Dept of Health 2013). As such, the Proposed Action have no impact on recreational and commercial fishing.

Terrestrial Wildlife. The Proposed Action would occur entirely within the waters of Sinclair Inlet and does not have a terrestrial component. Any land-based construction equipment and

material staging or support activities, if required, would take place in the already heavily-industrialized portions of NAVBASE Kitsap Bremerton.

Non ESA-Listed Avian Species. Avian species, including migratory and resident species, in the project area would generally be species that have adjusted to the high noise and boat traffic associated with the shipyard. Avian species foraging in the area may be disturbed by boat movement or pile installation, but are expected to continue foraging or temporarily leave the area. No bald eagle nests exist on NAVBASE Kitsap Bremerton or on adjacent properties. The Proposed Action is limited to work at Pier 6 and will not impact undisturbed areas. Given the industrial nature and existing elevated ambient noise levels in the project area, the Proposed Action would have negligible impacts on non ESA-listed avian species.

Socioeconomics and Environmental Justice. The Proposed Action is located entirely within NAVBASE Kitsap Bremerton. Implementation of the Proposed Action is limited to repairs at Pier 6 and would not result in displacement of people or businesses and would not change the economic character or stability of the installation or surrounding area. The Proposed Action would generate very few temporary jobs and would contribute minimally to local spending. There would not be an increased demand on housing, schools, or other social services. The project occurs in a dredged area within the Waterfront Restricted Area where no fishing is allowed. Under the Proposed Action, minority and low-income populations and children would not be exposed to noise, safety hazards, pollutants, or hazardous materials. Therefore, no disproportionately high and adverse environmental, human health, or socioeconomic effects would occur to minority, low income populations or children, and no significant short- or long term environmental justice impacts would occur.

Traffic and Transportation. The volume of marine and vehicle traffic would temporarily increase during pile replacement activities with the presence of contractor vehicles and marine vessels arriving and working on-site. Marine vessel traffic would include a barge mounted crane for pile installation and removal, a barge to deliver new piles and remove extracted piles (anticipated frequency of one barge delivery every one to three weeks), and tugs to assist barge movement. Marine vessels would operate and stage in the Waterfront Restricted Area. The influx of vehicles and marine vessels would be similar to existing traffic due to government vehicles or contractors arriving and leaving for other activities that are concurrently going on at the facility. As such, there would be no or negligible impact to transportation.

Bathymetry. Changes to bathymetry would not occur as the Proposed Action is replacing existing piles in a highly localized and disturbed area.

Marine Vegetation and Benthic Invertebrates. Past surveys have shown that marine vegetation is sparse throughout NAVBASE Kitsap Bremerton and does not exist along Pier 6 (Navy 2102). The Proposed Action would include temporary disruption of the benthic community (marine worms, snails and bivalves, crustaceans, and sea stars) in a highly localized area where pile replacement occurs. However, benthic organisms are very resilient to habitat disturbance and will quickly recover to pre-disturbance levels.

Health and Safety. The waterfront area of NAVBASE Kitsap Bremerton is restricted from public access. Construction contractors and Navy employees would adhere to all applicable

regulations with respect to environmental and safety regulations. Children are restricted from access to the Waterfront Restricted Area. The removal and replacement of piles at Pier 6 would not cause environmental health risks and safety risks, such as products and substances that children could come in contact with or ingest, that may disproportionately affect children. Therefore, the activities described under the Proposed Action would have a negligible impact on health and safety of the public, children, construction contractors, or Navy employees with adherence to construction safety standards.

Public Involvement

The Navy circulated the Draft EA for public review from Month dd, yyyy to Month dd, yyyy. Comments received and responses are provided in Appendix E.

Conclusion

Based on the analyses in this EA, the Navy has concluded that implementing the Proposed Action would have no significant impact on the quality of the human environment and preparation of an Environmental Impact Statement (EIS) is not required.

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ACRONYMS AND ABBREVIATIONS

| | |
|------------|---|
| ACQR | Puget Sound Interstate Air Quality Control Region |
| BA | Biological Assessment |
| BMP | Best Management Practices |
| CAA | Clean Air Act |
| CCD | Coastal Consistency Determination |
| CEQ | Council on Environmental Quality |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| CIA | Controlled Industrial Area |
| CISS | Cast in Steel Shell |
| CZMA | Coastal Zone Management Act |
| DAHP | Department of Archaeological and Historic Preservation |
| dB | Decibel |
| dBA | Decibels Adjusted |
| DNR | Department of Natural Resources |
| DO | Dissolved Oxygen |
| DoD | Department of Defense |
| DON | Department of the Navy |
| DPS | Distinct Population Segment |
| EA | Environmental Assessment |
| EFH | Essential Fish Habitat |
| EIS | Environmental Impact Statement |
| EPP | Environmental Protection Plan |
| ESA | Endangered Species Act |
| ESU | Evolutionarily Significant Unit |
| FIFRA | Federal Insecticide, Fungicide, and Rodenticide Act |
| FONSI | Finding of No Significant Impact |
| Hz | Hertz |
| MMPA | Marine Mammal Protection Act |
| MSA | Magnuson-Stevens Fisheries Conservation and Management Act |
| NAAQS | National Ambient Air Quality Standards |
| NAVBASE | Naval Base |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NOA | Notice of Availability |
| OPNAVINST | Office of the Chief of Naval Operations Instruction |
| PCB | Polychlorinated Biphenyls |
| PSNS & IMF | Puget Sound Naval Shipyard and Intermediate Maintenance Facility |
| RCRA | Resource Conservation and Recovery Act |
| RMS | Root Mean Square |
| ROD | Record of Decision |
| ROI | Region of Influence |

| | |
|------------|---|
| SECNAVINST | Secretary of the Navy Instruction |
| SHPO | State Historic Preservation Officer |
| STA | Sediment Trend Analysis |
| U&A | Usual and Accustomed |
| USACE | United States Army Corps of Engineers |
| U.S. | United States |
| USEPA | United States Environmental Protection Agency |
| U.S.C. | United States Code |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | United States Geological Survey |
| WAC | Washington Administrative Code |
| WDOE | Washington Department of Ecology |
| WQC | Water Quality Certification |

1 **1 PURPOSE OF AND NEED FOR PROPOSED ACTION**

2 **1.1 INTRODUCTION**

3 The United States (U.S.) Department of the Navy (Navy) has prepared this Environmental
4 Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969
5 (42 U.S. Code [USC] §4321-4370h), as implemented by the Council on Environmental Quality
6 (CEQ) Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); Navy regulations
7 for implementing NEPA (32 CFR Part 775); and Chief of Naval Operations Instruction
8 (OPNAVINST) 5090.1C CH-1, *Environmental Readiness Program Manual*.

9 The Navy proposes to remove and replace fender piles on Pier 6 in Sinclair Inlet at Naval Base
10 (NAVBASE) Kitsap Bremerton (Figure 1-1). Construction of Pier 6 was completed in 1926.
11 The pier is 1,320 feet in length and 100 feet wide and is a concrete deck on pilings. In addition to
12 replacing piles, the project would remove and install a new galvanized steel wale system (i.e. a
13 bumper system attached to the edge of the pier to protect against impact), rope guards, ladders,
14 high density plastic rubbing strips and a cathodic protection system. The Proposed Action is
15 planned to begin in 2013 and will take approximately three years to complete. NAVBASE
16 Kitsap, the Action Proponent, is the command that manages several properties in Kitsap County
17 Washington, including NAVBASE Kitsap Bremerton.

18 This EA will be reviewed by the Navy, who will make a determination regarding the Proposed
19 Action and whether a finding of no significant impacts (FONSI) or an EIS is appropriate. There
20 are no cooperating agencies for the Proposed Action.

21 **1.2 LOCATION**

22 NAVBASE Kitsap Bremerton is located on the north side of Sinclair Inlet within the city of
23 Bremerton in Kitsap County (Figure 1-2). The NAVBASE Kitsap Bremerton waterfront,
24 including Pier 6, is restricted from public access. This area is designated as the Waterfront
25 Restricted Area and is delineated by the Port Security Barriers shown on Figure 1-2. Puget
26 Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF) is the major tenant
27 command of NAVBASE Kitsap Bremerton and possesses the capabilities to overhaul and repair
28 all types and sizes of ships while also serving as homeport for a nuclear aircraft carrier and other
29 Navy vessels. Other significant capabilities include alteration, construction, deactivation, and
30 dry-docking of all types of naval vessels.

31 **1.3 PURPOSE AND NEED**

32 The purpose of the Proposed Action is to maintain the existing Pier 6 in working condition and
33 to ensure structural integrity. The need for the Proposed Action is to ensure that Pier 6 on
34 NAVBASE Kitsap Bremerton continues to fulfill shore infrastructure needs and meets assigned
35 operational mission requirements.

36 **1.4 SCOPE OF ENVIRONMENTAL ANALYSIS**

37 This EA includes an analysis of potential environmental impacts associated with the Proposed
38 Action. The environmental resource areas analyzed in this EA include: sediments, water quality,
39 noise, Endangered Species Act (ESA)-listed species, essential fish habitat (EFH), marine
40 mammals, cultural resources, and American Indian traditional resources.

1 Because potential impacts were considered to be negligible or nonexistent, the following
2 resources were not evaluated in this EA:

3 *Land Use* – Implementation of the Proposed Action would not alter existing land use on- or off-
4 base. All project activities would be conducted in previously disturbed areas at or adjacent to
5 existing structures. Implementation of the Proposed Action would have no impact to the quality
6 of nearby residential areas, parklands, prime farmlands, or wetlands. The Proposed Action would
7 have no impact on local or regional development patterns. Therefore, there would be no impact
8 on land use from the Proposed Action.

9 *Air Quality* – Effects on air quality from the implementation of the Proposed Action would be
10 negligible due to the classification of attributed air sources and the attainment designation of
11 Kitsap County in relation to the National Ambient Air Quality Standards. As described in 40
12 CFR Part 51, Determining Conformity of General Federal Actions to State or Federal
13 Implementation Plans (the "General Conformity Rule"), all federal actions occurring in air basins
14 designated in nonattainment or in a maintenance area must conform to an applicable
15 implementation plan. Since Kitsap County is designated an attainment area for all criteria
16 pollutants, the General Conformity Rule does not apply. The activities associated with the
17 Proposed Action are limited to mobile sources and sources excluded from Notice of Construction
18 requirements per Puget Sound Clean Air Agency Regulation I Article 6.03; therefore, New
19 Source Review and Prevention of Significant Deterioration requirements do not apply. The
20 Proposed Action, particularly with respect to pile driving, will not impact PSNS & IMF's Title V
21 air permit since the contractors shall operate equipment in a manner that is in compliance with
22 Puget Sound Clean Air Agency Regulations I, II, and III.

23 *Visual Resources* – Visual resources are the natural and man-made features that give a particular
24 environment its aesthetic qualities. In developed areas, the natural landscape is more likely to
25 provide a background for more obvious man-made features. The size, forms, materials, and
26 functions of buildings, structures, roadways, and infrastructure would generally define the visual
27 character of the built environment. These features form the overall impression that an observer
28 receives of an area or its landscape character. The Proposed Action is consistent with the
29 appearance of the waterfront area as it is limited to repair and replacement of piles at existing
30 structures, which are part of the installation's waterfront. The Proposed Action would not change
31 the appearance of the waterfront areas of the installation; therefore, no impacts to visual
32 resources would occur.

33 *Recreational and Commercial Fishing* – Recreational and commercial fishing does not occur
34 near the project sites as this area is within the Waterfront Restricted Area which is restricted
35 from access by the general public. Fish could flee the immediate construction areas as a result of
36 the Proposed Action, but would be expected to return to the area after the pile driving activities
37 were concluded. The project site occurs in a dredged area where no geoduck or other intact
38 shellfish beds occur. The closest shellfish bed is over 1 mile from the project site. Additionally
39 Sinclair Inlet is closed to shellfish harvesting due to pollution (WA Dept of Health 2013).
40 Therefore, the activities described under the Proposed Action would not impact recreational and
41 commercial fishing.

1 *Terrestrial Wildlife* – The Proposed Action would occur entirely within the water at the
2 installation and does not have a terrestrial component. Construction activities would not
3 adversely impact terrestrial habitats and airborne sound associated with construction would not
4 harm native terrestrial wildlife. Any land-based construction equipment and material staging or
5 support activities, if required, would take place in the already heavily-industrialized portions of
6 NAVBASE Kitsap Bremerton. No clearing or excavation would be required. Therefore, the
7 activities described under the Proposed Action would not impact terrestrial wildlife.

8 *Non ESA-Listed Avian Species*– Proposed pile driving activities and associated boat movements
9 could cause avian species to move from the immediate project area. Avian species, including
10 migratory and resident species, in the project area would generally be species that have adjusted
11 to the high noise and boat traffic associated with the shipyard. Avian species foraging in the area
12 may be disturbed by boat movement or pile installation, but are expected to continue foraging or
13 temporarily leave the area. This behavior is consistent with day to day operations at the shipyard
14 with boat movements, drydock operations, and vessel repair activities. No bald eagle nests exist
15 on NAVBASE Kitsap Bremerton or on adjacent properties. The Proposed Action is limited to
16 work at Pier 6 and will not impact undisturbed areas. Given the industrial nature and existing
17 elevated ambient noise levels in the project area, the Proposed Action would have negligible
18 impacts on non ESA-listed avian species.

19 *Socioeconomics and Environmental Justice* – The Proposed Action is located entirely within
20 NAVBASE Kitsap Bremerton. Implementation of the Proposed Action is limited to repairs at
21 Pier 6 and would not result in displacement of people or businesses and would not change the
22 economic character or stability of the installation or surrounding area. Pile driving activities
23 would be conducted by contractors. The socioeconomic impacts related to temporary
24 construction employment, if needed, would occur intermittently over a three year period. The
25 Proposed Action may create a small number of temporary jobs and contribute minimally to local
26 earnings spending. Any additional population associated with this temporary employment would
27 not create undue demand on housing, schools, or other social services. As such, no
28 socioeconomic impacts are anticipated as a result of the construction associated with the
29 Proposed Action.

30 Environmental justice concerns related to construction activity typically include: exposure to
31 noise, safety hazards, pollutants, and other hazardous materials. Although low income and
32 minority populations are present in the surrounding region, none reside near the project site and,
33 thus, would not be subject to any disproportionate adverse impacts. There would be no
34 disproportionately high and adverse environmental, human health, and socioeconomic affects
35 upon minority and low-income populations, American Indian Tribes, or children.

36 *Traffic and Transportation* – The volume of marine and vehicle traffic would temporarily
37 increase during pile replacement activities with the presence of contractor vehicles and marine
38 vessels arriving and working on-site. Marine vessel traffic would include a barge mounted crane
39 for pile installation and removal, a barge to deliver new piles and remove extracted piles
40 (anticipated frequency of one barge delivery every one to three weeks), and tugs to assist barge
41 movement. Marine vessels would operate and stage in the Waterfront Restricted Area. The influx
42 of vehicles and marine vessels would be similar to existing traffic due to government vehicles or

1 contractors arriving and leaving for other activities that are concurrently going on at the facility.
2 As such, there would be no or negligible impact to transportation.

3 *Bathymetry* – The Proposed Action occurs entirely within an industrial shipyard with bathymetry
4 that has been altered over the past 100 years due to periodic dredging, pier construction, and
5 shoreline armoring. Changes to bathymetry would not occur as the Proposed Action is replacing
6 existing piles in a highly localized and disturbed area. Therefore, the activities proposed under
7 the Proposed Action would not impact bathymetry.

8 *Marine Vegetation* –The Proposed Action includes replacement of piles at or adjacent to existing
9 piles along a heavily modified industrial waterfront. The impacts related to construction would
10 be minimal and localized to the footprint of the new piles. Underwater surveys conducted in
11 2012 show that marine vegetation is sparse throughout the NAVBASE Kitsap Bremerton
12 waterfront and does not exist along Pier 6 (Navy 2012). Therefore, the activities described under
13 the Proposed Action would have negligible or no impact to marine vegetation.

14 *Benthic Invertebrates*–The Proposed Action include would include temporary disruption of the
15 benthic community (marine worms, snails and bivalves, crustaceans, and sea stars) in a highly
16 localized area where pile replacement occurs. However, benthic organisms are very resilient to
17 habitat disturbance and will quickly recover to pre-disturbance levels. Therefore the localized
18 and temporary nature of the Proposed Action would have a negligible impact to benthic
19 invertebrates.

20 *Health and Safety*–The waterfront area of NAVBASE Kitsap Bremerton is restricted from public
21 access by a Port Security Barrier and upland fencing which prevent recreational and commercial
22 boater access to the waterfront areas. The Proposed Action does not differ significantly from
23 normal day-to-day activities that occur at NAVBASE Kitsap Bremerton. Construction
24 contractors and Navy employees would adhere to all applicable regulations with respect to
25 environmental and safety regulations.

26 Children are restricted from access to the Waterfront Restricted Area. The removal and
27 replacement of piles at Pier 6 would not cause environmental health risks and safety risks, such
28 as products and substances that children could come in contact with or ingest, that may
29 disproportionately affect children. Therefore, the activities described under the Proposed Action
30 would have a negligible impact on health and safety of the public, children, construction
31 contractors, or Navy employees with adherence to construction safety standards.

32 **1.5 RELEVANT LAWS AND REGULATIONS**

33 The Navy has prepared this EA based upon federal and state laws, statutes, regulations, and
34 policies that are pertinent to the implementation of the Proposed Action including, but not
35 limited to:

- 36 • NEPA (42 USC 4321-4370h), which requires an environmental analysis for major federal
37 actions that have the potential to significantly impact the quality of the human
38 environment;
- 39 • CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-
40 1508);

- 1 • Navy regulations for implementing NEPA (32 CFR 775), which provides Navy policy for
2 implementing CEQ regulations and NEPA;
- 3 • Clean Air Act (CAA) (42 USC 7401 *et seq.*);
- 4 • Clean Water Act (CWA) (33 USC 1251 *et seq.*);
- 5 • Coastal Zone Management Act (CZMA) (16 USC 1451 *et seq.*);
- 6 • National Historic Preservation Act (NHPA) (16 USC 470 *et seq.*);
- 7 • Endangered Species Act (ESA) (16 USC 1531 *et seq.*);
- 8 • Magnuson–Stevens Fishery Conservation and Management Act (16 U.S.C. 1800)
- 9 • Marine Mammal Protection Act (MMPA) (16 USC 1361 *et seq.*)
- 10 • Migratory Bird Treaty Act (MBTA) (16 USC 703-712);
- 11 • Bald and Golden Eagle Protection Act (16 USC 668-668d);
- 12 • Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in*
13 *Minority and Low-income Populations*;
- 14 • EO 13175, *Consultation and Coordination with Indian Tribal Governments*; and
- 15 • EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

16 A description of the Proposed Action’s consistency with these policies and regulations is
17 presented in Section 5 (Table 5-1).

18 **1.6 PUBLIC INVOLVEMENT**

19 *Public Review of the Draft EA.* The Draft EA will be made available to the public for review and
20 comment from Month dd, 2013 to Month dd, 2013 with a notice of availability (NOA) for
21 comment posted in the local newspaper. The Draft EA will be posted on the internet for review
22 and comment. A summary of comments received, as well as the Navy’s responses, is provided in
23 Appendix E.

24
25 *Release of the Final EA and Decision Document.* The Final EA and decision document will be
26 made available to the public. The NOA will be posted in the local newspaper and the Final EA
27 and decision document will be posted on the internet.

28

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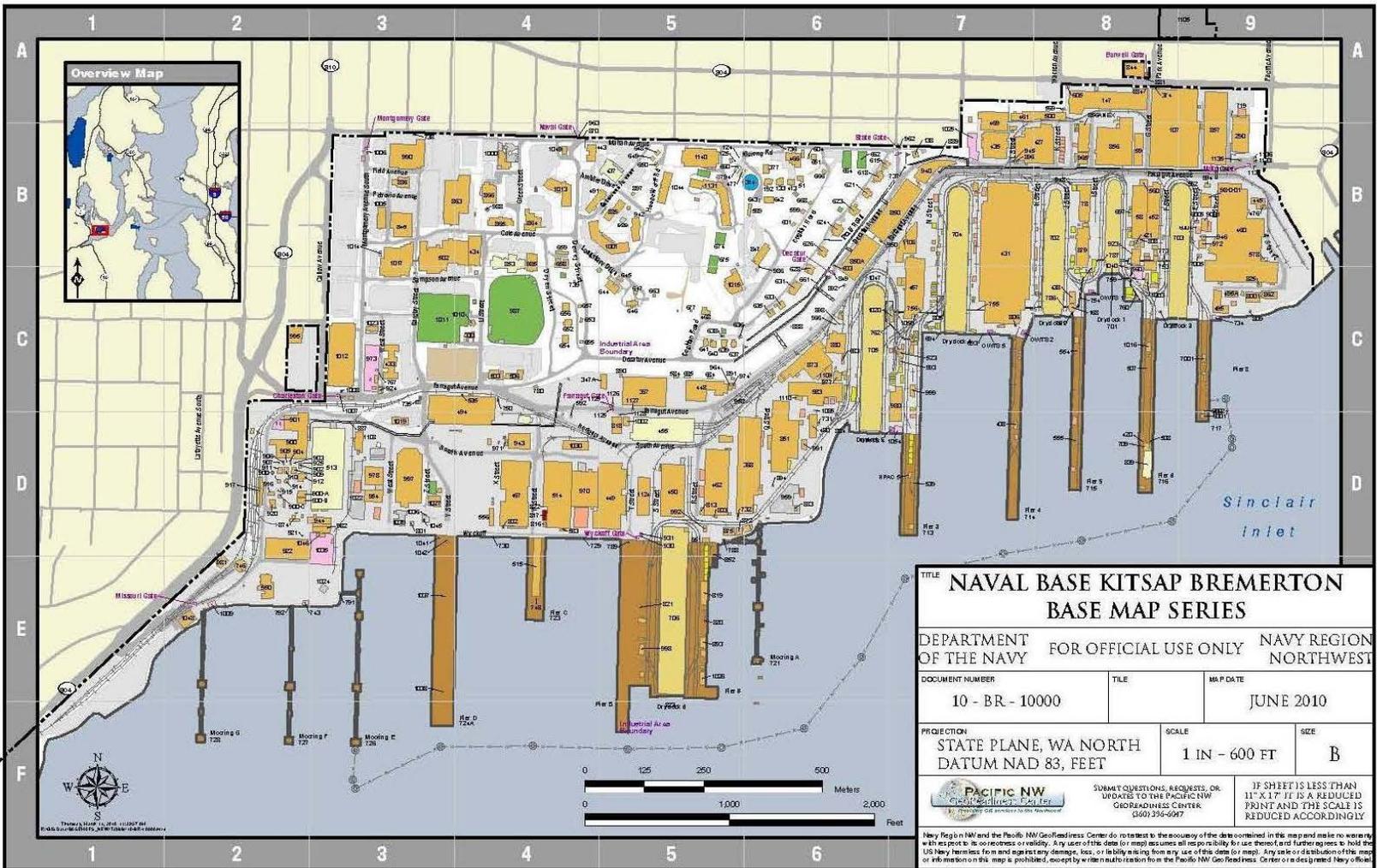


Figure 1-2. NAVBASE Kitsap Bremerton

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2 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Navy proposes to remove and replace approximately 400 structurally unsound piles at Pier 6, located at NAVBASE Kitsap Bremerton over a three-year period, beginning in October 2013. Pier 6 is 1320 feet in length, 100 feet wide and is a concrete deck on pilings. Construction of the pier was completed in 1926. The Proposed Action would remove approximately 380 creosote treated timber piles and 20 steel piles, and replace them with approximately 330 prestressed concrete piles at Pier 6 (Figures 2-1 and 2-2). As part of the Navy's mission, maintaining facilities and readiness is a priority. Table 2-1 provides pile size, material, and number of piles to be replaced. New piles would be placed in the same general location as the removed piles. In addition to replacing piles, the Proposed Action would remove and install a new galvanized steel wale system (i.e. a bumper system attached to the edge of the pier to protect against impact) (Figure 2-3), rope guards, ladders, high density plastic rubbing strips and a cathodic protection system (i.e. a rust prevention technique).

The overwater coverage (or footprint) of Pier 6 and associated fenders, dolphins, and structures would not change.

Table 2-1. Piles Schedule

| Pile Type | Size | No. Removed | Removal Method | No. Installed | Installation Method |
|--------------------------------|---------|-------------|----------------------|---------------|---------------------|
| Creosote treated timber fender | 12" | 380 | Vibratory Extraction | 0 | N/A |
| Steel pipe fender | 12" | 20 | Vibratory Extraction | 0 | N/A |
| Pre-stressed concrete fender | 18"x18" | 0 | N/A | 240 | Impact Driving |
| Pre-stressed concrete reaction | 24"x24" | 0 | N/A | 90 | Impact Driving |
| Total: | | 400 | | 330 | |

2.2 ALTERNATIVES

A reasonable range of alternatives to the Proposed Action must be considered in accordance with NEPA, CEQ regulations for implementing NEPA, and OPNAVINST 5090.1C CH-1. However, only those alternatives determined to be reasonable relative to their ability to fulfill the purpose and need for the Proposed Action require detailed analysis. Since the action is to maintain and

1 repair Pier 6 through the replacement of structurally unsound piles and the replacement of an
2 existing galvanized steel wale system, the only alternative would be to not repair Pier 6;
3 therefore, no practical or feasible action alternatives were identified. Consequently this EA will
4 analyze the Proposed Action and the No-Action alternative.

5 Under the No Action Alternative, existing piles at Pier 6 at NAVBASE Kitsap Bremerton would
6 not be replaced to maintain pier integrity and mission readiness. The No Action Alternative does
7 not meet the purpose of and need for the Proposed Action, but represents the baseline condition
8 against which potential impacts of the Proposed Action can be compared. As required by CEQ
9 guidelines, the No Action Alternative is carried forward for analysis in this EA.

10 **2.3 CONSTRUCTION METHODS AND DESCRIPTIONS**

11 This section describes methods of pile removal and installation that are planned to be used to
12 accomplish the work included as part of the Proposed Action. Removing and installing in-water
13 piles are construction activities that have occurred regularly at NAVBASE Kitsap Bremerton as
14 in-water structures have been built and maintained over the past 100 years.

15 Most in-water structures are pile-supported; therefore, repair of these structures typically
16 involves removal of existing piles and installation of new piles. Fender piles (or guide piles)
17 protect piers from direct contact with vessels and consist of upright freestanding piles driven into
18 the sea floor several feet away from the pier. Fender piles are a common method to protect
19 docks, wharves, and other structures from the impact of large vessels.

20 No in-water dredging or placement of fill would occur under the Proposed Action.

21 **2.3.1 Pile Removal**

22 Vibratory extraction would be the primary method for removing all pile types. A barge-mounted
23 crane operates from the water adjacent to the pile during removal activities. A vibratory driver is
24 a large mechanical device (5-16 tons) suspended from a crane by a cable and clamped onto a
25 pile. The vibrations induced into the pile liquefy the surrounding sediments and allow removal
26 with the aid of the crane. The vibratory driver is shut off once the end of the pile reaches the
27 mudline and the pile is pulled from the water and placed on a barge. Vibratory extraction would
28 be expected to take approximately 5 to 10 minutes per pile. Sediments attached to the outside of
29 the pile fall back to the seafloor.

30 In some cases, complete removal with a vibratory driver is not possible because the pile may
31 break apart from the force of the clamp and the vibration. If piles break or are damaged, a chain
32 or clamshell bucket would be used, if practical, to attempt to entirely remove the broken pile. If
33 the entire pile cannot be removed, the pile would be cut at the mudline using a pneumatic
34 underwater chainsaw to prevent disturbing contaminated sediment.

35 **2.3.2 Pile Installation**

36 Concrete piles would be driven with an impact hammer. Impact hammers are large mechanical
37 hammers that have guides that hold the hammer in alignment with the pile while a heavy piston
38 moves up and down, striking the top of the pile, driving the pile into the substrate from the
39 downward force of the hammer. To drive the pile, a pile is first moved into position and set into

1 the proper location by placing a choker cable around a pile and lifting it into vertical position
2 with the crane. Once the pile is properly positioned, pile installation can take from 5 to 60
3 minutes to reach the required tip elevation depending on substrate conditions. New piles would
4 be installed in the same general location as extracted piles.

5 **2.3.3 Pile Disposal**

6 All materials and waste would be disposed of in accordance with federal and state requirements.
7 Creosote treated piles are not considered a hazardous waste (40 CFR 261.4(b)(9)) or a dangerous
8 waste (Washington Administrative Code (WAC) 173-303-071); however, the disposal of
9 creosote treated wood, is subject to regulation under rules developed under the Federal
10 Insecticide, Fungicide, and Rodenticide Act (FIFRA). In accordance with FIFRA, all removed
11 creosote piles will be disposed of in a Washington state approved non-hazardous waste landfill.
12 Prior to disposal, the creosote-treated piles would be cut into smaller segments in a manner that
13 precludes further use. Pile disposal would also be in accordance with the Washington State
14 Department of Natural Resources (DNR) Best Management Practices (BMPs) for creosote pile
15 removal and disposal. With the exception of creosote-treated piles, the Navy would evaluate if it
16 would be possible to reclaim or recycle the materials.

17 **2.4 BEST MANAGEMENT PRACTICES AND MINIMIZATION MEASURES**

18 The Proposed Action includes BMPs for construction and general minimization measures that
19 will be implemented to minimize or avoid potential environmental impacts. Mitigation measures,
20 such as endangered species monitoring, are discussed in Section 5 of the EA.

21 **2.4.1 General**

22 The Navy will require the construction contractor to develop an Environmental Protection Plan
23 (EPP) that will be implemented throughout the duration of in-water work. The EPP would be
24 completed prior to the commencement of any construction activities. The EPP would identify
25 construction planning elements and recognize spill sources at the site. The EPP would outline
26 BMPs, responsive actions in the event of a spill or release, and notification and reporting
27 procedures. The EPP would also outline contractor management elements such as personnel
28 responsibilities, project site security, site inspections, and training.

29 Other general BMPs incorporated in the EPP and implemented during project construction would
30 include:

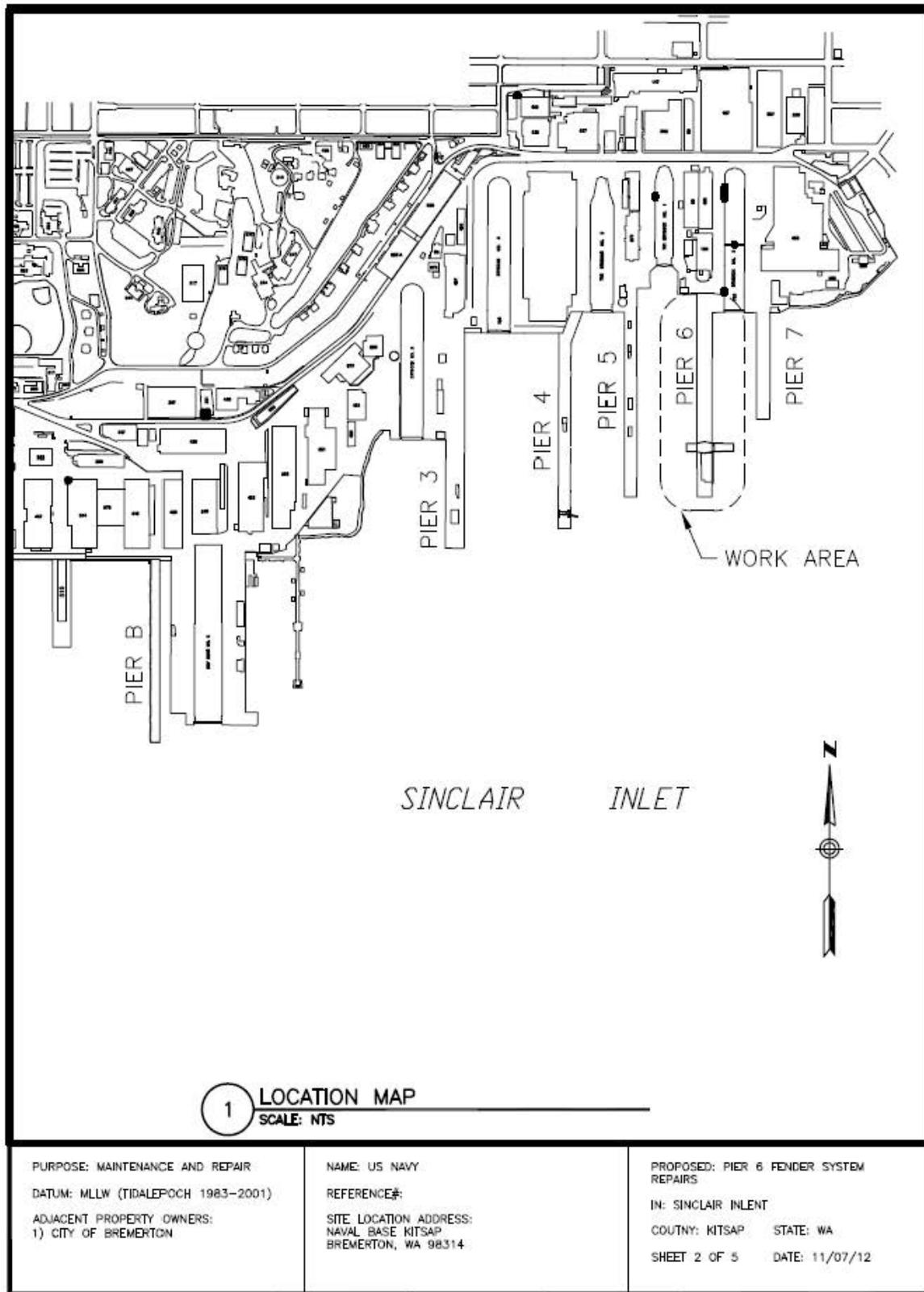
- 31 • Washwater resulting from washdown of equipment or work areas will be contained for
32 proper disposal, and shall not be discharged unless authorized.
- 33 • Equipment that enters surface water will be maintained to prevent any visible sheen from
34 petroleum products.
- 35 • There will be no discharge of oil, fuels, or chemicals to surface waters, or onto land
36 where there is a potential for re-entry into surface waters. Fuel hoses, oil drums, oil or
37 fuel transfer valves, fittings, etc. will be checked regularly for leaks. Materials shall be
38 maintained and stored properly to prevent spills.

- 1 • No cleaning solvents or chemicals used for tools or equipment cleaning will be
2 discharged to ground or surface waters.
- 3 • Oil-absorbent materials will be used in the event of a spill if any oil product is observed
4 in the water.
- 5 • Waste materials will be disposed of in a state approved landfill or recycled. All creosote-
6 treated material would be cut to prevent reuse as piling and disposed of as discussed in
7 Section 2.3.3.
- 8 • Removed piles and associated sediments (if any) will be contained on a barge or stored in
9 a containment area on the pier.
- 10 • Construction materials will not be stored where high tides, wave action, or upland runoff
11 could cause materials to enter surface waters.
- 12 • Any floating debris generated during construction will be retrieved. Any debris in the
13 containment boom will be removed by the end of the work day or when the boom is
14 removed, whichever occurs first.
- 15 • Whenever activities that generate sawdust, drill tailings, or wood chips from treated
16 timbers are conducted, tarps or other containment material will be used to prevent debris
17 from entering the water.

18 **2.4.2 Timing Restrictions**

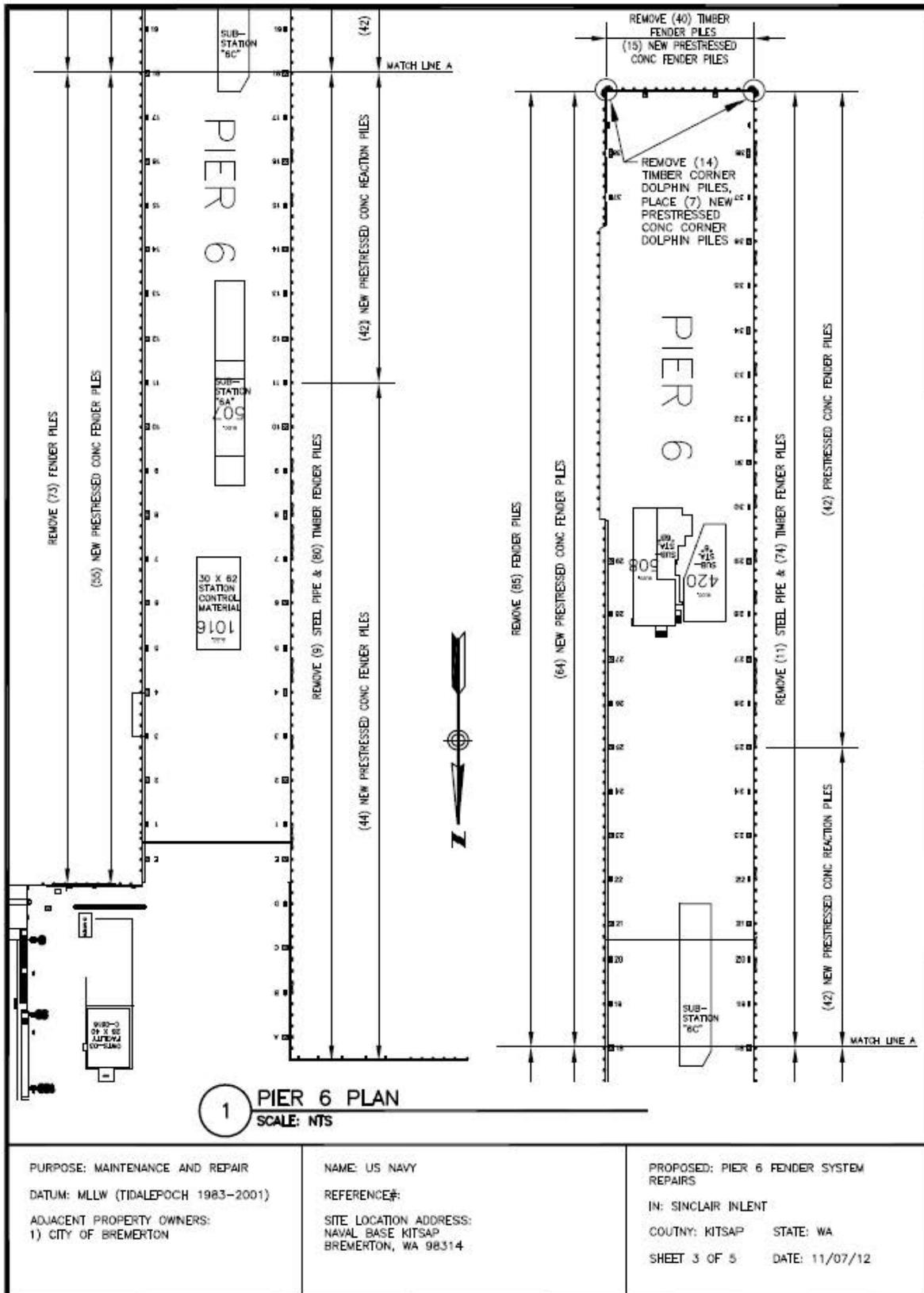
- 19 • To minimize the number of fish exposed to underwater noise and other construction
20 disturbance, in-water work would be performed between June 15 and March 1, when
21 juvenile salmon are less likely to be migrating through the construction area.
- 22 • To minimize impacts to foraging marbled murrelets during their nesting season, impact
23 pile driving would occur between 2 hours after sunrise and end 2 hours before sunset
24 June 15 through September 30. This timing restriction applies only to impact pile driving
25 activity conducted on the south end of the pier and on the southeast side of the pier as
26 detailed in Appendix A. The in-water work window would be adjusted between October
27 1 and March 1, with work occurring from sunrise to sunset.
- 28 • To minimize noise impacts to surrounding residents, noise generating construction
29 activities would not occur between the hours of 9:00 p.m. and 7:00 a.m.

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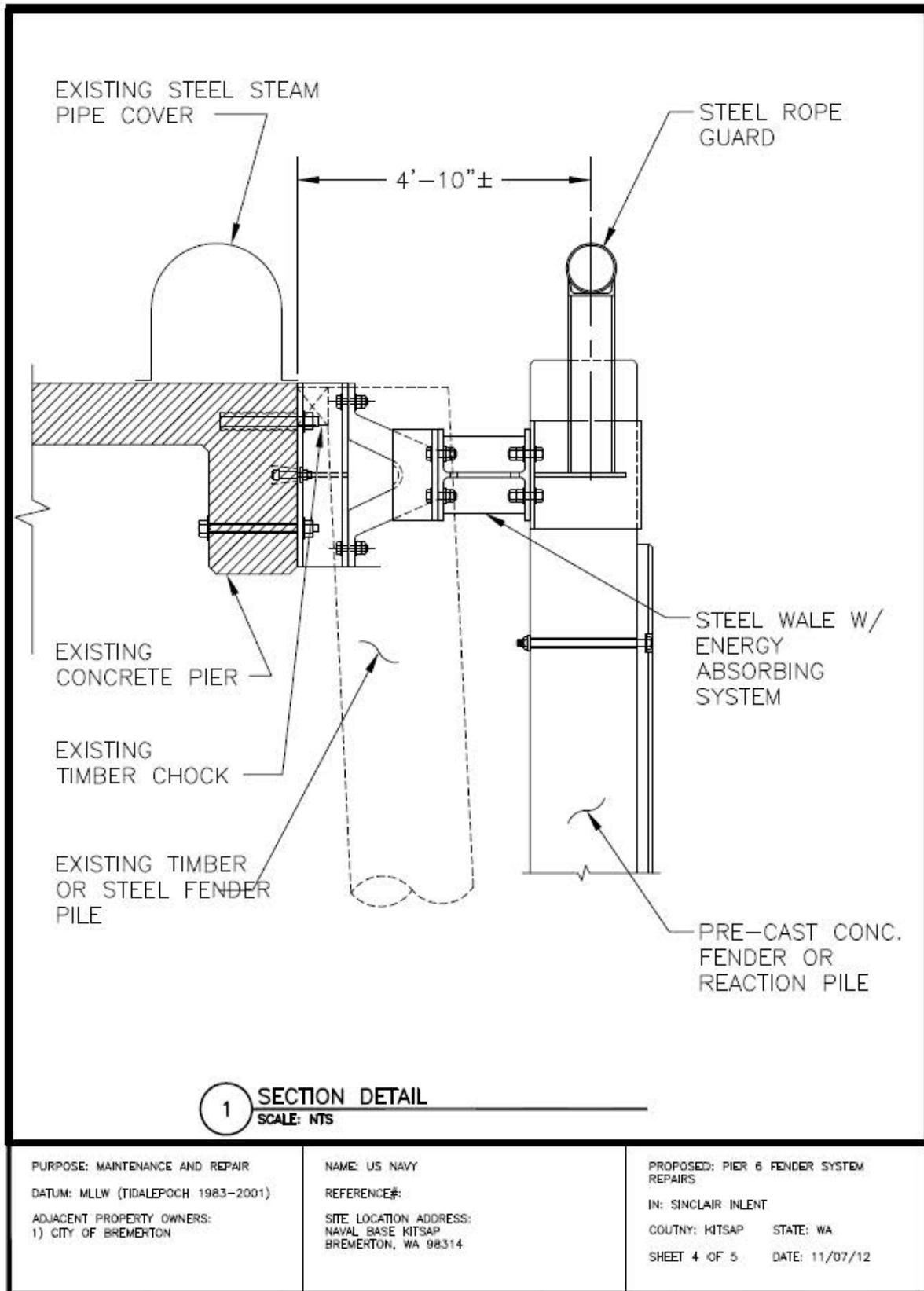
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Figure 2-1. Pier 6 Work Area



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Figure 2-2. Site Plan



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Figure 2-3. Typical Fender System Detail

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3 EXISTING ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the existing environmental resources at NAVBASE Kitsap Bremerton and in the region of influence (ROI) that could be affected by the Proposed Action and the No Action Alternative. This section also analyzes the potential environmental impacts of the Proposed Action and No Action Alternative. To evaluate impacts, the analysis presented in this section overlays the components of the alternatives described in Chapter 2.0 onto baseline conditions within the ROI. In compliance with NEPA, CEQ regulations, and Navy procedures for implementing NEPA, the description of the affected environment and environmental consequences focuses only on those resources potentially subject to impacts. Accordingly, the resources evaluated include sediments, water quality, noise, ESA-listed species, EFH, marine mammals, cultural resources, and American Indian traditional resources.

3.1 SEDIMENTS

3.1.1 Existing Environment

The waterfront area at Bremerton has been significantly altered by industrial development and dredging including the construction of 6 drydocks, 13 piers or wharves, and acres of former tidelands filled and paved to enlarge the installation. Sinclair Inlet exhibits a weak estuarine flushing (i.e. water and sediments stay within Sinclair Inlet instead of being flushed out quickly to other parts of the Puget Sound), clockwise current pattern and sediment deposition along the northern shoreline (URS and SAIC, 1999). Weak tide currents move water in and out of the inlet with a maximum velocity of 0.2 to 0.3 knots (URS and SAIC, 1999). This effect and the generally weak nature of these currents make the inlet more depositional than erosional for both mud (silt and clay) and sand-sized particles. Currents are generally not capable of re-suspending bottom sediments. Existing sedimentation rates at the project site are 0.2 to 0.8 in (0.5 to 2 cm) per year (URS and SAIC, 1999).

In 1998, a Sediment Trend Analysis (STA) was performed on samples taken from Sinclair Inlet and the adjacent Port Orchard waterway (McLaren, 1998). This study has been the basis for determination of areas of erosion, stability of sediments (dynamic equilibrium), and deposition of sediments in Sinclair Inlet. In general, muddy sediments show a dominant clockwise pattern with flood-directed transport on the south side of the Inlet and ebb-directed transport on the north side of the Inlet (McLaren, 1998). The STA study demonstrates the sediments throughout Sinclair Inlet do not move with great speed, but do accumulate in certain areas. This is especially true on the northside of the inlet, near the project site, where the movement of sediments terminates inside the docks and piers of the shipyard (McLaren, 1998).

Sediment contamination within Sinclair Inlet, including the project area, has been well documented and includes a variety of metals and organic chemicals originating from human sources (USEPA, 2000). The marine sediments have been affected by past shipyard operations, leaching from creosote-treated piles, and other activities in Sinclair Inlet. A 2000 Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Record of Decision (ROD) for Operable Unit (OU) B-Marine documents the Navy's decision to cleanup sediment contamination by a combination of sediment removal and disposal in a Confined Aquatic Disposal site located on Navy property, sediment capping, and natural attenuation. The ROD was developed in cooperation with the US Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology). The active cleanup actions are complete and monitoring of

1 the site is ongoing (USEPA, 2000). Since the time the active cleanup was completed, the Navy
2 has completed two fender pile replacement projects at NAVBASE Kitsap Bremerton. Each time
3 preconstruction and post-construction sediment sampling was completed to demonstrate that no
4 sediments were adversely impacted by pile replacement work.

5 **3.1.2 Environmental Consequences**

6 The evaluation of impacts to marine sediments considers whether project-related construction
7 activities create conditions, such as sediment contamination or physical changes that violate state
8 standards. Impacts would be considered significant if they violated state standards (Sediment
9 Quality Standards, WAC 172-204-320). The ROI for analyzing potential impacts to sediments is
10 the northern shoreline of Sinclair Inlet within the Navy's Waterfront Restricted Area.

11 **Proposed Action**

12 The Proposed Action would result in disturbance of bottom sediments through pile removal
13 (vibratory extraction) and installation (impact hammer pile driving). Impacts from sediment
14 resuspension would be minor and localized in the area of pile removal and pile installation due to
15 weak, stable tide currents in the project area (URS and SAIC, 1999). These stable subsurface
16 conditions would allow any disturbed sediments to resettle in the general area of pile
17 removal/installation. Setting spuds and anchors for the barges used for pile removal and
18 installation could also cause disturbance of bottom sediments. Impacts from sediment
19 resuspension from these activities would be minor and localized in the area of the spud or anchor
20 placements. Propeller wash could also disturb bottom sediments, but would not differ from day-
21 to-day activities occurring in this industrial waterfront area. Impacts from sediment re-
22 suspension would be further reduced through the implementation of BMPs during construction.
23 These measures would limit re-suspension of sediments by shutting down the vibratory pile
24 hammer when piles to be removed have broken free from the marine sediments. In the event that
25 a pile breaks and cannot be removed, cutting existing piles at the mudline will minimize
26 disturbance of bottom sediments.

27 Installation of the galvanized steel wale system, rope guards, ladders, high density plastic
28 rubbing strips and a cathodic protection system would have no impact on sediments because
29 these elements of the Proposed Action would not disturb bottom sediments.

30 Impacts to sediment contaminant levels (WAC 172-204-320) would be negligible as no new
31 sources of contaminants are proposed. Additionally, there would be no direct discharges of
32 wastes or contaminants to the marine environment during construction. Long term minor
33 beneficial impacts are possible from the removal of creosote treated piles which are known to
34 leach toxins (DNR, 2013). However, due to the age of the existing creosote piles, they are likely
35 no longer leaching appreciable amounts of toxic materials.

36 Replacement piles would be located at, or adjacent to, the same location as the existing piles,
37 immediately adjacent to other large industrial facilities, and in a low-energy depositional
38 environment (McLaren, 1998). The Proposed Action would not substantially alter existing
39 sediment re-suspension or deposition patterns near the project sites. The Navy will coordinate
40 with EPA's CERCLA program manager before construction to confirm conformance with
41 CERCLA requirements for these locations. Pre construction and post construction sediment
42 sampling is planned to ensure the Proposed Action does not adversely impact past cleanup
43 actions.

1 Implementation of the Proposed Action would result in minor and localized impacts from
2 resuspension of sediments but would not result in the violation of Washington Sediment Quality
3 Standards (WAC 172-204-320). As such, no significant impacts to sediments would occur with
4 implementation of the Proposed Action.

5 **No Action Alternative**

6 Under the No Action Alternative, no piles would be removed or driven and disturbance to
7 sediments would not occur. As such, no significant impacts to sediments would occur with
8 implementation of the No Action Alternative.
9

10 **3.2 WATER QUALITY**

11 **3.2.1 Existing Environment**

12 NAVBASE Kitsap Bremerton and Pier 6 are located within Sinclair Inlet, a 3.5-mile-long
13 shallow, poorly flushing estuary with freshwater input from Gorst, Blackjack, Ross, Anderson,
14 Sacco, and Karcher creeks. While water quality in Sinclair Inlet is considered high enough to
15 support many different uses from sailing to fishing, it has been detrimentally affected by runoff
16 and sediment contamination from the surrounding watersheds, including such land uses as forest
17 land, highways, urban development, commercial development and industrial development.

18 Washington Department of Ecology (WDOE) has established uses for Sinclair Inlet as follows:
19 aquatic life, recreation, wildlife habitat, harvesting, commerce, navigation, boating, and
20 aesthetics (WAC 173-201A-612). Sinclair Inlet is popular amongst private boaters, with several
21 marinas in Port Orchard and Bremerton. While shellfish harvesting is not allowed due to
22 pollutant levels, Sinclair Inlet remains an active water body for fishing.

23 Periodically, WDOE conducts an assessment of the water quality of the surface waters in the
24 state (WDOE, 2008). The outcome of the assessment represents the Integrated Report for
25 Sections 303(d) and 305(b) of the Clean Water Act. The Integrated Report identifies water
26 bodies where water quality does not achieve standards. It also gives an overall indication of
27 water quality of each water body. The most recent report is the 2008 Integrated Water Quality
28 Assessment which conceptually divides Sinclair Inlet in approximately 20 grids. Each grid, or
29 segment, is evaluated by WDOE separately with respect to water quality. For instance, one grid
30 may achieve the dissolved oxygen (DO) standard while the adjacent grid may not.

31 Waters in the western portions of the waterfront area are classified as Category 2 for fecal
32 coliform, temperature, and DO. Category 2 waters are waters of concern where there is some
33 evidence of a water quality problem, but usually not in violation of water quality standards. Piers
34 4 and 5 are located within a grid which is classified as Category 4B (waters that have pollution
35 problems, but where a plan is in place that is expected to resolve the problem) for
36 Polychlorinated Biphenyls (PCBs). Pier 6 and eastward is located in a grid that is not classified
37 in any category. Several areas within Sinclair Inlet outside of the immediate Bremerton
38 waterfront area are classified as Category 5 (the water quality standards have been violated and
39 there is no plan to resolve the problem) for fecal coliform and DO and Category 2 for
40 temperature.

1 Turbidity within Sinclair Inlet generally meets the state of Washington Class A (excellent)
2 standards for marine waters (Gartner et al., 1998). The U.S. Geological Survey (USGS)
3 performed studies during 1998 which measured turbidity within Sinclair Inlet 12 inches (31 cm)
4 above the bottom. Results indicated that the average suspended sediment concentrations were 2.3
5 mg/l with increases of 1 mg/ml during peak tide movement (Gartner et al., 1998).

6 Sinclair Inlet experiences isolated events of low DO associated with elevated nutrient
7 concentrations and phytoplankton blooms (URS and SAIC 1999). DO exceedances were
8 recorded by Kitsap County during 1998, 2001, and 2003. Anthropogenic sources were identified
9 as the major contributor to the low DO readings (WDOE, 2008). DO levels within Sinclair Inlet
10 are seasonably variable; however, increasing development continues to contribute to DO
11 problems (WDOE, 2008).

12
13 While problems exist in Sinclair Inlet due to the surrounding land uses (highways, urban
14 development, commercial development and industrial development), Sinclair Inlet retains a
15 water quality standard that continues to support its designated uses from fishing and sailing to
16 wildlife viewing (WAC 173-201A-612).

17 **3.2.2 Environmental Consequences**

18 The ROI for analyzing potential impacts to water quality is the northern shoreline of Sinclair
19 Inlet within the Navy's Waterfront Restricted Area. The threshold of significance for adverse
20 effects on water quality is defined by the Clean Water Act and Washington's Water Quality
21 Standards for Surface Waters of the State of Washington. Washington's Water Quality
22 Assessment lists the water quality status for water bodies in the state including Sinclair Inlet. The
23 water quality impacts from the proposed activity would be significant if they:

- 24 ● Reduced the ability of Sinclair Inlet to support its designated uses (aquatic life, recreation,
25 wildlife habitat, harvesting, etc.) (WAC 173-201A-612).
- 26 ● Increased pollution levels (e.g., temperature, dissolved oxygen, turbidity, etc) to a point where
27 Sinclair Inlet is placed in a reduced category in Washington's Water Quality Assessment
28 Categories as described in Sections 303(d) and 305(b) of the Clean Water Act.

29 **Proposed Action**

30 Direct discharges of waste to the marine environment would not occur with implementation of
31 the Proposed Action. Impacts to water quality would be limited to short-term and localized
32 changes associated with re-suspension of bottom sediments from pile removal and installation
33 and barge and tug operations, such as anchoring and propeller wash. Because the project area is
34 characterized as having weak and stable tide currents, these changes would be short term and
35 spatially limited to the construction site and areas immediately adjacent that may be impacted by
36 re-suspended bottom sediments (URS and SAIC, 1999). Minor long term water quality benefits
37 are possible from the removal of creosote treated piles which are known to leach toxins (DNR,
38 2013). However, due to the age of the existing creosote piles, they are likely no longer leaching
39 appreciable amounts of toxic materials.

40 Construction-related impacts would not increase pollution levels or violate applicable state or
41 federal water quality standards, nor would they reduce the ability of Sinclair Inlet to support its
42 designated uses. BMPs and minimization measures will be implemented to prevent accidental

1 losses or spills of construction debris into Sinclair Inlet. Therefore, no significant impacts to
2 water quality would occur with implementation of the Proposed Action.

3 **No Action Alternative**

4 Under the No Action Alternative, no piles would be removed or driven and impacts to water
5 quality would not occur. The existing creosote treated timber piles would remain in place. While
6 removal of creosote-treated pilings and structures has been a priority in the Puget Sound, the
7 existing piles are likely no longer leaching appreciable amounts of toxic materials. Therefore, no
8 significant impacts to water quality would occur with implementation of the No Action
9 Alternative.

10 **3.3 NOISE**

11 **3.3.1 Existing Environment**

12 NAVBASE Kitsap Bremerton is located in an urban setting with marine industrial uses
13 characterized by airborne and underwater noise from truck and automobile traffic; marine vessel
14 traffic; ship-loading cranes; diesel-powered equipment; railroad traffic; continuously operating
15 transmission lines for steam, water, and fuel; and compressors. The primary concentration of
16 these types of noise sources is along the shore and piers. Noise is also generated by commercial
17 vessels (e.g., tugs, barges, Navy vessels, and fishing vessels), ferry traffic, and recreational
18 vessels operating on Sinclair Inlet. Depending on the noise-generating activities and distance
19 from those activities, industrial shipyard noise is typically between 60 and 90 dBA (WSDOT,
20 2008). Typical noise from the piers (Table 3-1) is generated by the use of skiffs and small
21 vessels, tugs (Table 3-2), aircraft carriers, submarines, transfer of equipment to and from the
22 pier, ship repair, and motor vehicle traffic to and from the piers. Noise from the shipyard can be
23 heard throughout areas in the City of Bremerton as well as Port Orchard across Sinclair Inlet.

24 The closest off-base sensitive receptors are single family residences located north of the base
25 along Gregory Avenue, approximately 0.5 miles from Pier 6. This residential area is well
26 buffered by distance from most of the industrial noise sources on the NAVBASE Kitsap
27 Bremerton waterfront and is exposed to noise levels typical of an urban residential neighborhood
28 which are approximately 50 to 70 dBA. Forest Ridge Park is located in a residential area west of
29 Callow Avenue, approximately 1.3 miles from Pier 6. Other nearby sensitive receptors include
30 single family residences across Sinclair Inlet in Port Orchard. The nearest residential areas in
31 Port Orchard are approximately 1.5 miles from most of the industrial noise sources on the base
32 waterfront.

33 The State of Washington, the City of Bremerton, and the City of Port Orchard have developed
34 maximum permissible environmental noise levels for receiving properties. However, both
35 Washington and Bremerton have exempted noise generated by construction activities, as long as
36 these activities do not occur between the hours of 10:00 p.m. and 7:00 a.m. (WAC Chapter 173-
37 60 and City of Bremerton Code Chapter 6.32 Noise). The City of Port Orchard has exempted
38 noise generated by construction activities, as long as these activities do not occur between the
39 hours of 9:00 p.m. and 7:00 a.m. (Port Orchard Municipal Code 9.24).

40

Table 3-1. Maximum Air Noise Levels at 50 Feet for Common Construction Equipment

| Equipment Type | Maximum Noise Level (dBA) ¹ |
|-----------------------|--|
| Impact Pile Driver | 105 |
| Vibratory Pile Driver | 95 |
| Scraper | 90 |
| Backhoe | 90 |
| Crane | 81 |
| Pumps | 81 |
| Generator | 81 |
| Front Loader | 79 |
| Air Compressor | 78 |

Source: WSDOT, 2008.

¹ Maximum Sound Pressure Levels in dBA re 20 μ Pa (A-weighted)

Table 3-2. Representative Underwater Noise Levels of Anthropogenic Sources

| Noise Source | Frequency Range (Hz) | Underwater Noise Level (dB re 1 μ Pa) | Reference |
|--|----------------------|---|--------------------------------------|
| Small vessels | 250 – 1,000 | 151 dB rms at 1 meter (m) | Richardson et al. 1995 |
| Tug docking gravel barge | 200 – 1,000 | 149 dB rms at 100 m | Blackwell and Greene 2002 |
| Container ship | 100 – 500 | 180 dB rms at 1 m | Richardson et al. 1995 |
| Impact driving of 24-inch cast-in-steel-shell (CISS) piles | 100 – 1,500 | 203 dB peak at 10 m 190 dB rms at 10 m | Reviewed in Hastings and Popper 2005 |
| Vibratory driving of 36-inch steel pipe piles | 400 – 2,500 | 164 dB rms at 56 m | Blackwell 2005 |
| Impact driving of 66-inch CISS piles | 100 – 1,500 | 210 dB peak at 10 m 195 dB rms at 10 m | Reviewed in Hastings and Popper 2005 |
| Impact driving of 96-inch CISS piles | 100 – 1,500 | 220 dB peak at 10 m 205 dB rms at 10 m | Reviewed in Hastings and Popper 2005 |

Source: WSDOT, 2008.

3.3.2 Environmental Consequences

For this analysis, the ROI for noise is the industrial waterfront and the immediately adjacent nearshore region of Sinclair Inlet. The threshold of significance for noise impacts would be exceedances of an applicable noise threshold at a sensitive receptor (e.g., residential land uses, nursing homes, hospitals, etc.). Noise impacts to ESA-listed species, EFH, and marine mammals are discussed in Sections 3.4, 3.5 and 3.6, respectively.

1 **Proposed Action**

2 Noise generated from construction activities associated with the Proposed Action would include
3 impact pile driving, vibratory pile removal, and installation of the galvanized steel wale system.
4 The sounds produced by these activities fall into one of two sound types: pulsed and non-pulsed.
5 Impact pile driving produces pulsed sounds, vibratory pile removal and machinery operations to
6 install the steel wale system produce nonpulsed (or continuous) sounds. The distinction between
7 these two general sound types is important because they have differing potential to cause
8 physical effects, particularly with regard to hearing (e.g. Ward 1997 as cited in Southall et al.
9 2007).

10 Pulsed sounds (e.g. explosions, gunshots, sonic booms, seismic airgun pulses, and impact pile
11 driving) are brief, broadband, atonal transients (ANSI 1986; Harris 1998) and occur either as
12 isolated events or repeated in some succession (Southall et al. 2007). Pulsed sounds are all
13 characterized by a relatively rapid rise from ambient pressure to a maximal pressure value
14 followed by a decay period that may include a period of diminishing, oscillating maximal and
15 minimal pressures (Southall et al. 2007). Pulsed sounds generally have an increased capacity to
16 induce physical injury as compared with sounds that lack these features (Southall et al. 2007).

17 Nonpulsed sounds (intermittent or continuous) can be tonal, broadband, or both (Southall et al.
18 2007). Some of these nonpulsed sounds can be transient signals of short duration but without the
19 essential properties of pulses (e.g. rapid rise time) (Southall et al. 2007). Examples of nonpulsed
20 sounds include vessels, aircraft, machinery operations such as drilling or dredging, vibratory pile
21 driving, and active sonar systems (Southall et al. 2007). The duration of such sounds, as received
22 at a distance, can be greatly extended in highly reverberant environments (Southall et al. 2007).

23 Residential areas in Bremerton could receive noise levels between 60 and 65 dBA during impact
24 pile driving, which is within the typical range of noise an urban residential neighborhood (50 to
25 70 dBA) (Cavanaugh and Tocci 1998). Residential areas across Sinclair Inlet in Port Orchard
26 could receive sound levels of approximately 60 dBA during impact pile driving. These estimates
27 assume that noise will be attenuated by distance between the source and the receptor, but would
28 not be obstructed by trees, other vegetation, or structures. Typical noise attenuation by distance
29 is 6 dBA for every doubling of distance (WSDOT 2010). In addition, the estimates do not
30 account for other noise sources at the shipyard. Noise impacts due to other construction activities
31 (i.e., cranes, barges, wale installation, etc.) would not exceed normal background noise levels for
32 day-to-day operations at NAVBASE Kitsap Bremerton.

33
34 Scuba divers diving in Sinclair Inlet could experience underwater noise levels that could cause a
35 behavioral response including increased breathing and elevated heart rate (154 dB re 1 μ Pa)
36 (Naval Submarine Medical Research Laboratory 2002) within 40,000 feet of the construction site
37 during pile driving activity but would not receive levels sufficient to cause injury (SPL of 200 dB
38 re 1 μ Pa). Other recreational users (i.e., boating, kayaking, fishing, etc.) in the vicinity could be
39 exposed to noise levels. The sound levels would not be injurious but could result in a behavioral
40 response such as avoiding the area around the installation. These noise impacts would be
41 experienced by greater numbers of recreational users during the summer months when
42 recreational uses are likely to increase. However, the floating security barrier would prevent

1 recreational and commercial users from getting close enough to the pile drivers to sustain injury
2 from noise levels associated with pile driving.

3 Noise generating activities associated with the Proposed Action would not occur between the
4 hours of 09:00 p.m. and 07:00 a.m. and are therefore exempt from Washington State, City of
5 Bremerton and City of Port Orchard noise codes.

6 Additionally, the Proposed Action is a temporary action occurring between June and March over
7 three years. Noise generated during impact pile driving would attenuate to levels typically
8 experienced in the nearest residential neighborhoods and would not cause exceedances of
9 applicable Washington State, City of Bremerton and City of Port Orchard noise thresholds. As
10 such, no significant impacts to noise would occur with implementation of the Proposed Action.

11 **No Action Alternative**

12 Under this alternative, no pile driving would take place, thus no change to noise levels would
13 occur. As such, no significant impacts to noise would occur with implementation of the No
14 Action Alternative.

15 **3.4 ENDANGERED SPECIES ACT (ESA) LISTED SPECIES**

16 **3.4.1 Existing Environment**

17 There are ten species that have been listed as threatened or endangered under the ESA that could
18 occur near NAVBASE Kitsap Bremerton (Table 3-3). Critical habitat has been designated for
19 several of the ESA-listed species that occur in the Puget Sound, but no critical habitat occurs at
20 NAVBASE Kitsap Bremerton where the Proposed Action takes place. For more detail on the life
21 history, critical habitat, and distribution of ESA-listed species please refer to the Biological
22 Assessment (BA) in Appendix A.

23 The majority (77 percent) of ESA-listed Chinook salmon found in Sinclair Inlet are estimated to
24 be of hatchery origin from facilities in Gorst Creek (Fresh, et al. 2006). Ten percent are
25 estimated to have naturally spawned in Sinclair Inlet area streams, with the remainder coming
26 from other hatchery populations (Fresh, et al. 2006). There are no historic populations of
27 Chinook salmon in streams draining into Sinclair Inlet.

28
29 ESA-listed Puget Sound steelhead can also potentially be found in Sinclair Inlet including the
30 project area (Fresh, et al. 2006). ESA-listed bull trout do not utilize any of the East Kitsap
31 drainages due to a lack of suitable spawning habitat. Bull trout use of the project area would be
32 on an incidental basis. However, anadromous forms of bull trout could overwinter or forage in
33 Sinclair Inlet and thus be found rarely in the project area (University of Washington, 2002).

34 Pier 6 at NAVBASE Kitsap Bremerton lacks the deep water habitat preferred by mature
35 bocaccio, canary rockfish and yelloweye rockfish, so no adult rockfish are anticipated to be in
36 the immediate project area (Drake, et al. 2008). Larval rockfish are pelagic and do have the
37 potential to be found in Sinclair Inlet, but the industrial conditions at Pier 6 limit the likelihood
38 of this (Drake, et al. 2008). Juvenile rockfish have the potential to occur near pier side locations,
39 if their preferred, high relief or kelp bed habitat is nearby, but kelp does not occur at NAVBASE
40 Kitsap at Bremerton.

1

Table 3-3. Endangered Species Act Listed Species

| Species | ESA-Listed Status | Critical Habitat Designated | Occurrence in Sinclair Inlet |
|--|-------------------|-----------------------------|---|
| Chinook salmon <i>Oncorhynchus tshawytscha</i> Puget Sound ESU | Threatened | Yes | Juveniles - May to Jul; Adults - Jul to Oct |
| Marbled murrelet <i>Brachyramphus marmoratus</i> California-Oregon-Washington | Threatened | Yes | Rare |
| Steelhead trout <i>Oncorhynchus mykiss</i> Puget Sound DPS | Threatened | No | Year-round |
| Bull Trout <i>Salvelinus confluentus</i> All U.S. stocks | Threatened | Yes | Rare adults and subadults – March to July |
| Bocaccio <i>Sebastes paucispinis</i> Puget Sound/Georgia Basin DPS | Endangered | No | Year-round |
| Canary rockfish <i>Sebastes pinniger</i> Puget Sound/Georgia Basin DPS | Threatened | No | Year-round |
| Yelloweye rockfish <i>Sebastes ruberrimus</i> Puget Sound/Georgia Basin DPS | Threatened | No | Year-round |
| Steller Sea Lion <i>Eumetopias jubatus</i> Eastern U.S. stock/DPS | Threatened | Yes | Rare |
| Killer Whale <i>Orcinus orca</i> Eastern North Pacific Southern Resident/DPS | Endangered | Yes | Rare |
| Humpback Whale <i>Megaptera novaeangliae</i> California-Oregon-Washington stock | Endangered | No | Rare |

2

3 ESA-listed marine mammals with the potential to occur in the waters surrounding NAVBASE
4 Kitsap Bremerton include southern resident killer whale, humpback whale, and the Steller sea
5 lion. Southern resident killer whales occasionally move into rarely visited areas and inlets,
6 probably in response to locally abundant food sources. In 1997, southern residents moved into
7 Dyes Inlet near Bremerton and spent nearly a month feeding on a salmon run (Wiles 2004).
8

1 Humpback whales were common in inland Washington State waters in the early 1900s; however,
2 there have only been a few sightings in this area since the whales were heavily hunted in the
3 eastern North Pacific (Scheffer and Slipp 1948; Calambokidis and Steiger 1990; Pinnell and
4 Sandilands 2004).

5
6 There are currently no Steller sea lion haul-out sites within Sinclair Inlet and no rookeries within
7 Washington State. This, combined with the fact that fish abundance is only available seasonally
8 within Sinclair Inlet, makes Steller sea lion residence in the area highly unlikely (Jefferies et al.
9 2000). Stellar sea lions are rarely observed at NAVBASE Kitsap Bremerton due to high noise
10 and activity levels from the industrial shipyard. An ongoing marine mammal survey within Puget
11 Sound by Washington Department of Fish and Wildlife (WDFW) recently reported a lone Steller
12 sea lion hauled out on the Navy's floating fence off of NAVBASE Kitsap Bremerton (Lance,
13 2012). Depending on the section, the floating fence occurs approximately 300 to 500 ft from Pier
14 6. While all three ESA-listed marine mammals have the potential to occur in Sinclair Inlet,
15 confirmed sightings have been very rare over the past twenty years.

16
17 Marbled murrelets occur in Puget Sound marine habitats in relatively low numbers (Speich and
18 Wahl 1995). Preliminary results from a 2012-2013 WDFW marbled murrelet survey of Sinclair
19 Inlet have shown no presence of the species around NAVBASE Kitsap Bremerton or the
20 surrounding waterways (Pearson, 2013). Although old-growth forest is the preferred habitat for
21 nesting, marbled murrelets are known to nest in mature second growth forest with trees as young
22 as 80 years old (Hamer and Nelson, 1995)). The majority of Kitsap County, including
23 NAVBASE Kitsap Bremerton and the area surrounding Sinclair Inlet, has been logged several
24 times over the past 150 years and no longer contains old growth forest or the large trees
25 necessary for marbled murrelet nesting. The closest documented habitat is on the west side of the
26 Hood Canal in the Olympic National Forest (61 Federal Register 26256). The project area is in
27 an industrial shipyard, miles from known nesting habitat and where high activity and noise levels
28 limit any potential for foraging. While marbled murrelets can be seen in the South Puget Sound
29 foraging, they have not been identified in the industrial waters surrounding NAVBASE Kitsap
30 Bremerton (Pearson 2013). The Navy is currently partnered with WDFW to conduct marbled
31 murrelet surveys surrounding Navy installations.

32 **3.4.2 Environmental Consequences**

33 Impacts to ESA-listed species would be considered significant if there was a loss of critical
34 habitat and/or a finding of *likely to adversely affect* issued by the US Fish and Wildlife Service
35 (USFWS) or National Marine Fisheries Service (NMFS) during the Section 7 consultation.

36 **Proposed Action**

37 Individual ESA-listed fish may be exposed to impacts from pile replacement including sound
38 pressure levels which may result in injury or behavioral disturbance depending on the distance of
39 the fish to sound source. Fish that occur in the immediate vicinity of the project site could be
40 exposed to underwater noise that exceeds the injury criteria for fish during impact pile driving
41 activity only. Behavioral disturbances from impact pile driving could occur over a relatively
42 broader range; however, because each session of pile driving would be relatively short, few
43 individuals are expected to be impacted. The most likely impact to fish from pile driving
44 activities would be temporary behavioral disturbance. Sound pressure levels from vibratory pile
45 removal would not exceed the injury thresholds for fish.

1
2 Any exposures would likely have a minor effect and temporary impact on individuals and are
3 not expected to result in population level impacts. Adherence to minimization measures and best
4 management practices would likely avoid most potential adverse impacts to fish from pile
5 driving. Nevertheless, some level of impact is unavoidable. To minimize the number of fish
6 exposed to underwater noise and other construction disturbance, in-water work would be
7 performed between June 15 and March 1, when juvenile salmon are less likely to be migrating
8 through the construction area. This in-water work window is consistent with work restrictions
9 imposed by the US Army Corps of Engineers (USACE) under their nationwide permitting
10 requirements and NMFS and USFWS under the ESA consultation (refer to Appendix A). Any
11 modifications to this window would require additional consultation with the USACE, NMFS,
12 and USFWS.

13 Impacts to ESA-listed fish from changes in water quality as a result of pile driving operations are
14 expected to be minor and temporary. DO levels are not expected to drop to levels that would
15 result in harm to fish species. Some degree of localized, short-term increase in turbidity is
16 expected to occur during installation and removal of the piles, but would not affect overall
17 conditions in the area. Fish species are expected to avoid areas with elevated suspended
18 sediments or experience minor behavioral effects due to changes in turbidity. Though some
19 sediment at the project location is listed as contaminated, contaminants re-suspended from
20 sediments are not expected to rise to levels that would cause toxicity in fish present. The
21 numbers of fish exposed to underwater noise above injury and behavioral disturbance thresholds,
22 and resulting in a take, would be very small because:

- 23 • The activity occurs when few juvenile Chinook salmon and steelhead are present;
- 24 • migrating adult salmon do not orient to nearshore areas like juveniles of some species and
25 are unlikely to be close enough to the piles for injurious effects to occur;
- 26 • steelhead do not use nearshore habitat in the project area;
- 27 • there are very few juvenile or larval yelloweye rockfish, canary rockfish, and bocaccio
28 anywhere at any time;
- 29 • bull trout are unlikely to be in the project area;
- 30 • the project area is a very small proportion of the total area occupied by the listed fish; and

31 Given these considerations, the Navy expects very small numbers of ESA-listed fish species to
32 be present during the in-water work window and fewer of those to be exposed to sound levels
33 that would elicit adverse behavioral or physical responses. The Navy has determined that the
34 Proposed Action 'may affect, not likely to adversely affect' Chinook salmon, steelhead,
35 yelloweye rockfish, canary rockfish, bull trout, and bocaccio.

36 ESA-listed marine mammals (humpback whales, killer whales, and Stellar sea lions) are not
37 frequent visitors to Sinclair Inlet and even less likely to occur within the industrial confines of
38 the industrial shipyard surrounding the project area. The high level of existing background noise
39 (underwater and airborne) combined with the high level of marine activity limits the
40 attractiveness of NAVBASE Kitsap Bremerton for marine mammals.

1 To minimize impacts to marine mammals, including ESA-listed marine mammals, the Navy
2 would develop and implement a Marine Mammal Monitoring Plan. Implementation of this Plan
3 would prevent exposure to potentially injurious noise levels. In accordance with the Plan,
4 monitoring would occur within a 10-meter shutdown zone for purposes of avoiding injurious
5 effects. Marine mammal monitoring would take place from 15 minutes prior to initiation through
6 15 minutes post-completion of pile driving. Should a marine mammal enter the shutdown zone,
7 pile driving would be immediately halted until the marine mammal has left the area. The 10-
8 meter shutdown zone can be easily monitored by a trained observer from pier side or stationed
9 on the pile driving barge and will prevent injury to any marine mammals in the unlikely event
10 they are in the area. A larger shutdown zone may be applied pending the completion of
11 consultation with NMFS about the IHA. Additionally, a soft-start procedure will be implemented
12 at the beginning each of impact pile driving session. The soft-start procedure provides a warning
13 and/or gives animals in close proximity to pile driving a chance to leave the area prior to
14 operating at full capacity thereby, exposing fewer animals to loud underwater and airborne
15 sounds.

16 With implementation of the Marine Mammal Monitoring Plan, the Navy has determined that the
17 Proposed Action “may affect, but is not likely to adversely affect” Stellar sea lions, humpback
18 whales, and killer whales.

19
20 Underwater and airborne sound levels from impact and vibratory pile driving have the potential
21 to harass marbled murrelets foraging and resting in the project area. Nearshore waters in the
22 vicinity are highly industrial, but may provide foraging habitat and prey species. The presence of
23 construction workers, cranes, vessels (i.e. tugs, barges, small monitoring boats, etc.), pile
24 equipment, and associated activities would create visual disturbances for marbled murrelets
25 attempting to forage or rest in surrounding waters. Exposure to underwater sounds from pile
26 replacement could cause behavioral disturbance, but would not be anticipated to result in injury
27 or mortality.

28 To minimize impacts to marbled murrelets the Navy would monitor impact pile driving of 77
29 piles along the southeast corner of the pier. Monitoring would be conducted within a 42 meter
30 shutdown zone surrounding each pile. Marbled murrelet monitoring would take place from 30
31 minutes prior to initiation of impact pile driving through 30 minutes post-completion of impact
32 pile driving. Should a marbled murrelet enter the shutdown zone, impact pile driving would be
33 immediately halted until the marbled murrelet has left the area. Additionally, during the marbled
34 murrelet breeding season (April 1 through September 30), in-water work will not begin until 2
35 hours after sunrise and will end 2 hours before sunset.

36 The low chance of encountering marbled murrelets in the project area, combined with best
37 management practices and monitoring would limit the exposure of marbled murrelets to sound
38 pressure levels above the behavioral guidance criterion. No critical habitat for the marbled
39 murrelet is located within the project area; therefore pile replacement activities will not affect
40 critical habitat for the species. As such, the Navy has determined the Proposed Action ‘may
41 affect, not likely to adversely affect’ marbled murrelets.

42 The Navy has completed informal consultations under the ESA with the USFWS (March, 2013)
43 and NMFS (December, 2012). USFWS and NMFS concur with the Navy’s findings of ‘may

1 effect, not likely to adversely affect’ for the species discussed above. Detailed analysis can be
2 found in the BA (See Appendix A).

3 The analysis presented above indicates that pile replacement activities at NAVBASE Kitsap
4 Bremerton may have impacts to individual species, but any impacts observed at the population,
5 stock, species, or evolutionary significant unit level would be negligible. Therefore, under
6 NEPA, there would be no significant impact to ESA-listed species or critical habitat from the
7 Proposed Action with implementation of the minimization measures and best management
8 practices.

9 **No Action Alternative**

10 Under this alternative, no piles would be removed or driven, thus there would be no change to
11 ESA-listed species. As such, no significant impacts to ESA-listed species would occur with
12 implementation of the No Action Alternative.

13 **3.5 ESSENTIAL FISH HABITAT (EFH)**

14 **3.5.1 Existing Environment**

15 The Pacific Fishery Management Council designated Puget Sound “riverine, estuarine, and
16 marine areas used by life stages of managed salmon species and riverine areas found within
17 watersheds of documented occurrence” as EFH for the Pacific salmon fishery. The Pacific
18 salmon management unit includes Chinook, coho, and pink salmon. All three species use the
19 marine nearshore environment for rearing as juveniles and migration for both adults and
20 juveniles. The EFH designation for the Pacific salmon fishery in estuarine and marine
21 environments in the state of Washington extends from nearshore and tidal submerged
22 environments within state territorial waters out to the full extent of the exclusive economic zone
23 (200 nautical miles) offshore (PFMC 2003).

24 All types of Pacific groundfish form another fishery which is managed by the Pacific Fishery
25 Management Council that occurs in Puget Sound. Broad swaths of EFH have been designated for
26 this fishery, and include, but are not limited to, sea mounts, eelgrass, kelp, estuaries and rocky
27 reefs. In addition to salmonids and groundfish, the Pacific Fishery Management Council
28 manages coastal pelagic species that occur in Puget Sound including, krill, northern anchovy,
29 mackerels, Pacific sardine, and market squid.

30 While EFH for the above species does exist in Sinclair Inlet, the industrial nature of NAVBASE
31 Kitsap Bremerton minimizes the quality of this habitat in the area surrounding Pier 6.

32 **3.5.2 Environmental Consequences**

33 Impacts to EFH would be considered significant if there was a loss of high value habitat or a
34 finding of adverse affect issued by NMFS during the EFH consultation
35

36 **Proposed Action**

1 The action area includes habitats for various life stages of groundfish, five coastal pelagic
2 species, and three species of Pacific salmon. The action would result in a short-term increase in
3 underwater sound-pressure levels. The proposed project would not result in excessive levels of
4 organic materials, inorganic nutrients or heat, would not alter physical conditions that could
5 adversely affect water temperature or beach contours, would not remove large woody debris, or
6 other natural beach complexity features, nor would it affect any vegetated shallows. The Navy
7 has completed consultations under the EFH with NMFS (December, 2012). Based on the Navy's
8 proposed conservation measures, NMFS concurs with the Navy's findings that the Proposed
9 Action will not adversely affect EFH. Detailed analysis can be found in the BA (See Appendix
10 A). Therefore, the Proposed Action will not significantly affect EFH for Pacific salmon,
11 groundfish, and coast pelagic species.

12 **No Action Alternative**

13 Under this alternative, no piles would be removed or driven, thus there would be no change to
14 EFH. As such, no significant impacts to EFH would occur with implementation of the No Action
15 Alternative.

16 **3.6 MARINE MAMMALS**

17 Marine mammal species that may occur in Sinclair Inlet are listed in Table 3-4. Three of these
18 species are federally listed under the ESA as discussed above. For more detail on the life history,
19 critical habitat, and distribution of ESA-listed species please refer to the BA in Appendix A.
20

21 Any of the species listed in Table 3-4 have the potential to occur within Puget Sound. However,
22 marine mammals regularly identified within Sinclair Inlet are limited to a smaller list of species.
23 The species most likely to be encountered are non ESA-listed harbor seals and California sea
24 lions. Monthly observations indicate that the California sea lion is the animal most abundantly
25 hauled out in the immediate vicinity of the installation (Mollerstuen personal communication,
26 2012). Harbor seal pupping occurs from late June through September in this area of the Puget
27 Sound (NOAA and WDFW, 2009). The submarines at NAVBASE Kitsap Bremerton are not
28 used as a haul out by marine mammals. The preferred haul out locations for these species in the
29 vicinity of the project are the pontoons associated with the floating security barrier that runs from
30 Mooring E to Pier 7 (Figure 1-2). Sea lions hauled out on the barrier have become accustomed to
31 frequent noise from the industrial waterfront of NAVBASE Kitsap Bremerton. Observations
32 from previous pile driving projects have shown no behavioral impacts to sea lions hauled out on
33 the security barrier (Mollerstuen personal communication, 2012). Humpback whales, Minke
34 whales, gray whales, Pacific white sided dolphins, harbor porpoises, Dall's porpoises, and
35 northern elephant seals are extremely unlikely to be in the project area and are included in Table
36 3-4 for informational purposes only. For more information on marine mammals, refer to the
37 application for an IHA in Appendix B.
38
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8**Table 3-4. Sinclair Inlet Marine Mammals Protected Under the MMPA**

| Species | Stock(s) | ESA Status |
|--|---|----------------------------------|
| Humpback Whale (<i>Megaptera novaeangliae</i>) | California-Oregon-Washington stock | Endangered |
| Minke Whale (<i>Balaenoptera acutorostrata</i>) | California-Oregon-Washington stock | None |
| Gray Whale (<i>Eschrichtius robustus</i>) | Eastern North Pacific stock | None |
| Killer Whale (<i>Orcinus orca</i>) | (1) West Coast transient stock (2) Eastern North Pacific Southern Resident/DPS | (1) Not listed (2) Endangered |
| Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>) | California-Oregon-Washington, Northern and Southern stock | None |
| Harbor Porpoise (<i>Phocoena phocoena</i>) | Washington inland waters stock | None |
| Dall's Porpoise (<i>Phocoenoides dalli</i>) | California-Oregon-Washington stock | None |
| Steller Sea Lion (<i>Eumetopias jubatus</i>) | Eastern U.S. stock/DPS | Threatened |
| California Sea Lion (<i>Zalophus californianus</i>) | U.S. stock | None |
| Northern Elephant Seal (<i>Mirounga angustirostris</i>) | California breeding stock | None |
| Harbor Seal (<i>Phoca vitulina</i>) | Washington inland waters stock | None |

3.6.1 Environmental Consequences

Impacts to marine mammals would be considered significant if there was a loss of high value habitat and/or physical injury would result from the Proposed Action.

Proposed Action

Non ESA-listed marine mammals would experience similar impacts as described above for killer whales, Steller sea lions, and humpback whales. Individual marine mammals may be exposed to sound pressure levels during pile driving operations, which may result in Level B behavioral harassment (defined by the MMPA as potential behavioral disruption). Any marine mammals that are exposed (harassed) may change their normal behavior patterns (i.e., swimming speed, foraging habits, etc.) or be temporarily displaced from the area of construction. Any exposures will likely have only a minor effect on individuals and no effect on the population. The sound generated from vibratory pile driving is nonpulsed (e.g., continuous), which is not known to cause injury to marine mammals. The Navy does not anticipate Level A harassment (defined by the MMPA as potential to injure). The reasons for this are two-fold. First, vibratory pile driving used for pile extraction has a relatively low source level (less than 190 dB). Second, pile driving will be either delayed or halted if a marine mammal approaches the shutdown zones as agreed to with NMFS in the IHA. Consultation with NMFS on the IHA is ongoing.

The exposure assessment methodology in the IHA Application (Appendix B) provides estimates for the numbers of individuals exposed to the effects of pile driving activities exceeding NMFS established thresholds. The calculated acoustic impact numbers should be regarded as conservative overestimates that are strongly influenced by limited marine mammal population data. To reduce the number of animals affected, the Navy will implement BMPs and mitigation measures (i.e. monitoring, soft-starts, shutdown zones, coordination with the Orca Network for whale sightings in the area, etc.).

The analysis presented above indicates that activities associated with the Proposed Action at NAVBASE Kitsap Bremerton may impact the behavior of individual marine mammals, but any impacts observed at the population, stock, or species level would be negligible. There would be no impacts to high value habitat or physical injuries to marine mammals from the Proposed Action. Therefore, no significant impacts to marine mammal populations would occur with implementation of the Proposed Action.

No Action Alternative

Under this alternative, no piles would be removed or driven, thus there would be no change to marine mammals. Therefore, no significant impacts to marine mammal populations would occur with implementation of the No Action Alternative.

3.7 CULTURAL RESOURCES

3.7.1 Existing Environment

Areas regarded as having a potential for archaeological sites at NAVBASE Kitsap Bremerton are along the original shoreline and upland areas. The original shoreline is deeply buried under fill and out of the proposed construction area. No known archaeological sites occur within the project area (Lewarch et. al, 2002). The proposed construction site is in a highly disturbed area where dredging, armoring, and general construction has been occurring for over 100 years.

1
2 Four NRHP Historic Districts and one National Historic Landmark (NHL) have been designated
3 at NAVBASE Kitsap Bremerton (Officers Row; Puget Sound Radio Station District; Marine
4 Reservation District; Naval Hospital; and the Puget Sound Naval Shipyard NHL). The NHL is
5 historically significant for its association with World War II (Thompson 1990). The shipyard was
6 the principal repair establishment for battle-damaged battleships and aircraft carriers as well as
7 smaller warships of the Pacific Fleet during World War II. Five of the eight battleships bombed
8 at Pearl Harbor on December 7, 1941, were repaired at the shipyard and returned to sea. During
9 the war, the Navy yard repaired 26 battleships (some more than once), 18 aircraft carriers, 13
10 cruisers, and 79 destroyers. In addition, 50 ships were built or fitted out at the yard. More than
11 30,000 workers built, fitted out, repaired, over-hauled or modernized 394 fighting ships between
12 1941 and 1945. The shipyard's contribution to the success of the Pacific Fleet from the first to
13 the last day of the war was inestimable.

14
15 Puget Sound Naval Shipyard shares with Mare Island Naval Shipyard the distinction of
16 epitomizing the rise of the United States to world power in the Pacific and thus on two oceans.
17 While Mare Island was the Navy's first permanent installation on the Pacific coast, Puget Sound
18 became the focus of attention because it was the only west coast yard capable of repairing
19 modern battleships, which emerged as the symbol and reality of US naval power. Pier 6 is a
20 contributing element to the NHL.

22 **3.7.2 Environmental Consequences**

23 Impacts to cultural resources would be considered significant if the Proposed Action resulted in
24 adverse effects to NRHP eligible resources that could not be mitigated or reduced through a
25 memorandum of agreement with the State Historic Preservation Office (SHPO).

26 **Proposed Action**

27 Implementation of the Proposed Action would not affect any known NRHP-eligible
28 archaeological sites. Construction activities would take place in previously disturbed underwater
29 areas. Although there are no known or expected underwater cultural resources, if there was an
30 "inadvertent discovery" of archaeological resources, the Navy would evaluate the eligibility and
31 effects to the discovered resources through consultation with the SHPO, the Suquamish tribe and
32 other interested parties in accordance with federal regulations and Navy policy. Similarly, if
33 American Indian human remains, funerary items, sacred objects, or items of cultural patrimony
34 are encountered, the Navy would comply with the Native American Graves and Repatriation
35 Act.

36
37 The replacement of existing piles will have no impact to the characteristics that makes Pier 6, the
38 NHL or nearby historic districts eligible for inclusion in the NRHP. The Navy has determined
39 that the Proposed Action would have no adverse effect on historic resources. Consultation with
40 SHPO and coordination with the National Park Service (NPS) is completed. The SHPO and NPS
41 concurred that the Proposed Action would not have an adverse effect on Pier 6 or the NHL.
42 Refer to Appendix C for consultation documentation. No significant impacts to cultural
43 resources would occur with implementation of the Proposed Action.

1 **No Action Alternative**

2 Under this alternative, no piles would be removed or driven, thus there would be no change to
3 Pier 6. As such, no significant impacts to cultural resources would occur with implementation of
4 the No Action Alternative.

5 **3.8 AMERICAN INDIAN TRADITIONAL RESOURCES**

6 **3.8.1 Existing Environment**

7 In accordance with Executive Order 13175 and DOD instructions, the Navy has implemented a
8 policy for government-to-government consultation with federally recognized American Indian
9 tribes, for actions with the potential to significantly affect protected tribal resources, tribal rights,
10 or Indian lands. This policy, included in Secretary of the Navy Instruction 11010.14A (Navy
11 2005) and Commander, Navy Region Northwest Instruction 11010.14 (Navy 2009), describes
12 the Navy's process and responsibilities during consultation. The Suquamish Tribe is the only
13 federally recognized American Indian tribe that has adjudicated tribal treaty rights in Sinclair
14 Inlet.

15 The Suquamish harvest a variety of fish throughout Sinclair Inlet which continues to be a
16 culturally and economically important area for the Tribe. However, the Suquamish Tribe does
17 not fish within the Waterfront Restricted Area and shellfish harvesting is prohibited throughout
18 Sinclair Inlet due to pollutant levels.

19 **3.8.2 Environmental Consequences**

20 **Proposed Action**

21 The Navy initiated Government-to-Government consultation with the Suquamish Tribe in July
22 2012 and concluded consultation in December 2012. Tribal concerns were identified and
23 addressed during these consultations. The Proposed Action would not alter access to, or use of,
24 tribal traditional resources. Access for fishing is currently not allowed inside the Waterfront
25 Restricted Area that surrounds Pier 6. This restriction would remain unchanged. The Proposed
26 Action would not appreciably impact the quantities of fish available for harvest by the
27 Suquamish Tribe in Sinclair Inlet, nor would it restrict access to existing traditional harvest areas
28 in Sinclair Inlet. As such, no significant impacts to American Indian traditional resources would
29 occur with implementation of the Proposed Action.

30 **No Action Alternative**

31 Under this alternative, no piles would be removed or driven, thus there would be no change to
32 American Indian traditional resources. As such, no significant impacts to American Indian
33 traditional resources would occur with implementation of the No Action Alternative.
34
35

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Table 3-5. Summary of Potential Environmental Consequences by Resource

| Section / Resource Area | Proposed Action | No Action Alternative |
|--------------------------------|---|--|
| Sediments | Some degree of localized changes in sediment composition would occur during construction. Impacts from sediment resuspension would be minor and localized in the area of pile removal and pile installation due to weak, stable tide currents in the project area, which would allow any disturbed sediments to resettle in the general area of pile removal/installation. Project-related construction activities would not create sediment contamination concentrations or physical changes that violate state standards. Therefore, there would be no significant impact to sediments. | Under this alternative, no piles would be removed or driven, thus there would be no change to sediments due to the No Action Alternative. |
| Water Quality | Direct discharges of waste would not occur. Construction-related turbidity impacts would be limited to short-term and localized changes associated with re-suspension of bottom sediments. These changes would be spatially limited to the construction site and areas immediately adjacent that may be impacted by re-suspended bottom sediments. Temporary impacts would not violate applicable state or federal water quality standards. BMPs and minimization measures will be implemented to prevent accidental losses or spills of construction debris. Therefore, no significant impacts to water quality are expected. | Under this alternative, no piles would be removed or driven, thus there would be no change to water quality due to the No Action Alternative. |
| Noise | Bremerton, Port Orchard, and Washington state exempt temporary construction noise from 7:00 a.m. to 10:00 p.m. (7:00 a.m. to 9:00 p.m. for Port Orchard) from exceeding maximum permissible environmental noise levels. Based on construction timing (not occurring between 9:00 p.m. and 7:00 a.m.), the limited duration of impact pile driving and the distance between the noise source and the receptors, noise levels are expected to attenuate to the residential thresholds, or be within the allowable exceedances of temporary daytime construction. Therefore, no significant impacts to the existing sound environment would result from the Proposed Action. | Under this alternative, no piles would be removed or driven, thus there would be no change to noise due to the No Action Alternative. |
| ESA-Listed Species | With implementation of the protection measures including limiting work to the in-water work windows, and implementing monitoring protocols for marine mammals and marbled murrelets, the Proposed Action would not result in significant impacts to ESA-listed species. | Under this alternative, no piles would be removed or driven, thus there would be no change to ESA-listed species due to the No Action Alternative. |

Table 3-5. Summary of Potential Environmental Consequences by Resource

| Section / Resource Area | Proposed Action | No Action Alternative |
|--|--|---|
| Essential Fish Habitat | The action would result in a short-term increase in underwater sound-pressure levels. The action would not result in physical alterations that could adversely affect water temperature or beach contours, would not remove large woody debris, or other natural beach complexity features, nor would it affect any vegetated shallows. Therefore, there would be no significant impacts to EFH. | Under this alternative, no piles would be removed or driven, thus there would be no change to EFH due to the No Action Alternative. |
| Marine Mammals | Construction activities may impact the behavior of individual marine mammals, but any impacts observed at the population, stock, or species level would be negligible. Shutdown zones and monitoring would reduce potential impacts. Therefore, there would be no significant impact to marine mammal populations. | Under this alternative, no piles would be removed or driven, thus there would be no impact to marine mammals resources due to the No Action Alternative. |
| Cultural Resources | The replacement of existing piles would have no impact to the historic districts or national landmark or affect any known NRHP-eligible archaeological sites. Construction activities would take place in previously disturbed areas along the industrial waterfront. In the unlikely event historic properties or cultural materials such as archaeological deposits or human remains are encountered during construction, ground disturbing activities in the vicinity of the find will immediately cease and the Navy will initiate consultation with the SHPO and affected tribes, as appropriate. The Navy has determined that the Proposed Action would have no adverse effect to cultural resources and therefore will result in no significant impact. | Under this alternative, no piles would be removed or driven, thus there would be no change to cultural resources due to the No Action Alternative. |
| American Indian Traditional Resources | The Proposed Action would not appreciably impact the quantities of fish available for harvest by the Suquamish Tribe in the Sinclair Inlet, nor would it restrict access to existing traditional harvest areas in the Sinclair Inlet. As such, no significant impacts to American Indian traditional resources would occur with implementation of the Proposed Action. | Under this alternative, no piles would be removed or driven, thus there would be no change to American Indian traditional resources due to the No Action Alternative. |

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4 CUMULATIVE IMPACTS

CEQ regulations implementing the procedural provisions of NEPA define cumulative impacts as:

“...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR 1508.7).

Each resource, ecosystem, and human community must be analyzed in terms of its ability to accommodate additional effects, based on its own time and space parameters. Therefore, cumulative effects analysis normally will encompass a ROI or geographic boundaries beyond the immediate area of the Proposed Action, and a time frame including past actions and foreseeable future actions, to capture these additional effects.

For the Proposed Action to have a cumulatively significant impact to an environmental resource, two conditions must be met. First, the combined effects of all identified past, present, and reasonably foreseeable projects, activities, and processes on a resource, including the effects of the Proposed Action, must be significant. Second, the Proposed Action must make an appreciable contribution to that significant cumulative impact. In order to analyze cumulative effects, a cumulative effects region must be identified for which effects of the Proposed Action and other past, present, and reasonably foreseeable actions would occur.

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

This analysis depends on the availability of data and the relevance of effects of past, present, and future actions. Although certain data (e.g., extent of forest cover) may be available for extensive periods in the past (i.e., decades), other data (e.g., water quality) may be available for much shorter periods. Because specific information and data on past projects and action are usually scarce, the analysis of past effects is often qualitative (CEQ 1997).

Table 4-1 provides the past, present, and reasonably foreseeable future actions within the ROI that have had, continue to have, or would be expected to have some impact to the natural and human environment. The projects in this list are limited to those implemented in the last 5 years or those with ongoing contributions to environmental effects. Projects with measureable contributions to impacts within the ROI for a resource area were included in the cumulative analysis.

Table 4-1. Past, Present, and Reasonably Foreseeable Future Projects at NAVBASE Kitsap Bremerton and the ROI

| <i>Project</i> | <i>Project Description</i> | <i>Project Timeframe</i> | | |
|--|--|--------------------------|----------------|---------------|
| | | <i>Past</i> | <i>Present</i> | <i>Future</i> |
| Installation Establishment & Maintenance | Since 1890, the Navy has filled-in several acres of nearshore to create NAVBASE Kitsap Bremerton with its current 13 piers and moorings, 6 drydocks, and miles of armored shoreline. Infrastructure maintenance in support of the installation includes shoreline armoring, stormwater/sewer replacement, paving, and other activities. | X | X | X |
| Mission Support Facilities | Mission support facilities include activities or projects such as the addition of power booms, installation of emergency power generation capability, and other activities to support facilities, piers, or operations. | X | X | X |
| Pier D Construction | In 2003, construction of Pier D was completed. The new concrete pile supported pier (210,000 ft ²) was constructed to support homeported aircraft carriers at NAVBASE Kitsap Bremerton. | X | | |
| Pier D Mitigation | As mitigation for construction of Pier D, the Navy created a new beach and restored intertidal habitat (Charleston Beach); installed a fish ladder on Heinz Creek; and, removed creosote treated pilings along the north shore of Sinclair Inlet. | X | | |
| Dredging | Dredging for navigational and CERCLA purposes included over 368,000 cubic yards of material from berthing areas at Piers 3, B and D and from the inner channel south of the installation in Sinclair Inlet. Disposal of this soil occurred in upland locations and at the Elliott Bay Puget Sound Dredged Disposal sites. | X | | |
| Waterfront Restricted Area and Security Barriers | This project includes construction of a floating security barrier for the eastern half of NAVBASE Kitsap Bremerton. Proposed movement of the barrier may extend it from Pier 7 to the eastern edge of the installation | X | | X |
| Piers 5 & 6 Pile Replacement | In 2011, 70 creosote treated timber piles at Piers 5 and 6 were replaced with new concrete piles. | X | | |
| Manette Bridge Replacement | In 2011, Washington Departments of Transportation completed the replacement of the Manette Bridge, crossing the nearby Washington Narrows. This included the demolition of existing in-water structures and the construction of a new in-water foundation for the bridge. | X | | |
| Pier B Construction | In 2012, the Navy completed construction of the aircraft carrier Maintenance Wharf (Pier B) at NAVBASE Kitsap at Bremerton. The new concrete pile supported pier (165,000 ft ²) was constructed to support vessel overhaul and maintenance. | X | | |
| Pier B Mitigation | As mitigation for construction of Pier B, Pier 8 on the east side of the installations was demolished. Additional mitigation funding was set aside for the restoration of 0.8 acres of intertidal habitat, as well as restoration efforts on Chico Creek including fish passage improvement and the purchase/preservation of two properties. | X | X | X |

Table 4-1. Past, Present, and Reasonably Foreseeable Future Projects at NAVBASE Kitsap Bremerton and the ROI

| <i>Project</i> | <i>Project Description</i> | <i>Project Timeframe</i> | | |
|--|---|--------------------------|----------------|---------------|
| | | <i>Past</i> | <i>Present</i> | <i>Future</i> |
| Port Orchard Boat Launch | In 2013, the City of Port Orchard installed a new floating pier with steel piles at the public boat launch in Port Orchard. | X | | |
| Bremerton Ferry Terminal Maintenance | In 2013, Washington Department of Transportation plans to remove 112 creosote treated piles and install 20 steel piles in support of the Bremerton Ferry Terminal. | | | X |
| Pile Repair and Replacement Program | Under the Pile Repair and Replacement Program, the Navy plans to repair or replace structurally unsound piles at various Navy installations in the Puget Sound area over a five-year period beginning October 2013. At NAVBASE Kitsap Bremerton, 43 missing or broken 24-inch diameter steel fender piles at Pier 4 would be replaced in 2015 and 380 24-inch pre-stressed concrete piles at Pier 5 would be replaced in 2016, as well as emergent repair projects at other piers and wharfs over the five year project. | | | X |
| Northwest Training and Range Complex (NWTRC) and Northwest Training and Testing (NWTT) | The Navy's Proposed Action is to conduct training and testing activities primarily within existing range complexes, operating areas, testing ranges and select Navy pier side locations in the Pacific Northwest. The Proposed Action includes pier side sonar testing conducted as part of overhaul, modernization, maintenance and repair activities at Puget Sound Naval Shipyard in Bremerton, NAVBASE Kitsap Bangor and Naval Station Everett. The NWTT EIS/OEIS will reassess the environmental analyses of Navy at-sea training and testing activities contained in the EISs/OEISs for NWTRC and Keyport Range and various environmental planning documents, and consolidate these analyses into a single environmental planning document. | X | X | X |

1 4.2 ASSESSMENT OF CUMULATIVE IMPACTS BY RESOURCE

2 4.2.1 Sediment

3 The ROI for examining cumulative impacts to sediment quality is Sinclair Inlet. Past, present,
4 and future actions involving in-water construction near NAVBASE Kitsap Bremerton have
5 caused and continue to cause short-term disturbances to sediments. Previous sediment
6 contamination has occurred from historic Navy operations resulting in high levels of
7 polychlorinated biphenyl and metals (USEPA, 2000). A Record of Decision (ROD) is in place
8 for managing these sediments which are not expected to worsen or spread due to ongoing
9 installation operations (USEPA, 2000). Disturbed sediment from pile driving or vessel
10 movements can create plumes of turbid water that carry fine-grained material down current from
11 the disturbed area. This disturbance has increased as the installation has grown as many of the in-
12 water projects including the construction of piers marinas, boat ramps, and Navy piers and the
13 filling of intertidal areas to create more land have resulted in an increased use of boats in the
14 nearshore area. Vessels that operate in these areas have the potential to disturb sediments from
15 their propeller wash. The cumulative impact of sediment movement from in-water construction

1 or propeller wash has been inconsequential compared to the movement of sediment by tides and
2 currents. Preconstruction and post-construction sediment sampling of similar projects at
3 NAVBASE Kitsap Bremerton have demonstrated that pile driving does not adversely impact the
4 Navy's sediment cleanup actions under the 2000 ROD. In combination with the past, present,
5 and foreseeable future projects, implementing the Proposed Action would not t have a significant
6 cumulative impact to sediments.

7 **4.2.2 Water Quality**

8 Water quality in Puget Sound has been and is being impacted by past and present in-water
9 actions and would potentially be impacted by future actions. Specific actions include: 1)
10 incidental spills; 2) sediment disturbance and turbidity; 3) toxin leakage attributable to use over
11 time of materials such as treated wood pilings; 4) stormwater runoff; and 5) nutrient and
12 pollutant loading from septic systems or development.

13 Most of the future actions would have no impact or variable (sometimes minimal) short-term
14 impact, and some future actions would be designed to minimize such impacts. For example, pile
15 repair and maintenance at the Bremerton Ferry Terminal and NAVBASE Kitsap Bremerton's
16 Piers 4 and 5 would use concrete or steel piles, which, unlike creosote-treated piles used in the
17 past, would not have the potential for leaching toxic compounds into the water. Additionally new
18 piers (e.g. the new Pier B at NAVBASE Kitsap Bremerton) will be designed to include current
19 stormwater control and treatments systems thereby reducing input of impacted stormwater runoff
20 into Sinclair Inlet.

21 Past Navy projects including Pier 5 and 6 have helped make incremental improvements to water
22 quality in Sinclair Inlet by removing 70 creosote piles and replacing them with concrete piles.
23 Ongoing Navy mitigation projects, such as Pier D mitigation and Pier B mitigation have also
24 improved water quality in Sinclair Inlet through beach creation and removal of Pier 8.

25 Implementation of the Proposed Action would not be expected to add appreciably to cumulative
26 water quality impacts because spills would be avoided through adherences to BMPs and
27 minimization measures; sediment disturbance would be minimal and localized; creosote-treated
28 piles would not be used; no stormwater runoff would be generated; and no nutrients or pollutants
29 would be discharged.

30 Therefore, in combination with the past, present, and foreseeable future projects, implementing
31 the Proposed Action would not have a significant cumulative impact to water quality.

32 **4.2.3 Noise**

33 The ROI for evaluating cumulative impacts for airborne noise includes Sinclair Inlet and the
34 adjacent upland areas including the industrial waterfront and areas within the Cities of
35 Bremerton and Port Orchard. NAVBASE Kitsap Bremerton has been an industrial ship repair
36 facility for 100 years. While surrounded by suburban to urban residential land uses, noise from
37 the shipyard has likely been fairly constant since the installation's creation. Completed past
38 actions listed in Table 4-1 would not contribute cumulatively to the noise environment within the
39 ROI. The current and reasonably foreseeable future projects would contribute to the noise
40 environment primarily during construction, and secondarily during operations.

1 Construction noise would come primarily from pile driving activities, as well as supporting
2 equipment (e.g., cranes, truck traffic). This noise is expected to be similar to background noise
3 from the shipyard which includes operational noise from cranes, trains, large vessels, and ship
4 maintenance and repair activities. Airborne noise tends to extend over limited distances, while
5 underwater noise travels for longer distances. Future projects such as the repair of pilings at Piers
6 4 and 5, and the replacement of piles at the Bremerton Ferry Terminal will have similar noise
7 impacts. The range of noise impacts during construction of these projects to sensitive receptors
8 would not exceed the 70 dBA. Piers 5 and 6 construction would likely be limited to the hours
9 between 07:00 a.m. and 09:00 p.m. and would be exempt from applicable state and city noise
10 regulations. After construction, operations at these facilities would be similar to existing
11 operations, and no significant change to current airborne and underwater sound is anticipated.

12 Overall, proposed construction activities included in the Proposed Action, combined with known
13 present and future projects would be short term, would be limited to daytime hours, and would
14 be exempt from WAC 173-60-040 noise limits. Due to the limited duration of construction
15 activities and anticipated consistency with current operations, the Proposed Action in
16 combination with known past, present, and future actions would not have a significant adverse
17 noise impact.

18 **4.2.4 ESA-listed Species and EFH**

19 Past actions have adversely impacted ESA-listed populations of fish, marine mammals, and
20 avian species in Sinclair Inlet and tributaries through loss of foraging and refuge habitat in
21 shallow areas, reduced function of migratory corridors, loss and degradation of spawning habitat
22 in streams, interfering with migration, adverse impacts to forage fish habitat and spawning,
23 contamination of water and sediments, and removal of old growth forest habitat. Ongoing fish
24 harvest has resulted in adverse impacts to salmonid abundance and the impact has been greatest
25 on native stocks. Practically all chum salmon, most Chinook, and all sockeye salmon spawning
26 in Sinclair Inlet and in the Puget Sound stream systems are derived from naturalized hatchery
27 stock. Populations of pink salmon, coho salmon, bull trout, and steelhead are also in decline. The
28 net result is that several Puget Sound salmonid species have been listed under the ESA. Similar
29 impacts have occurred to ESA-listed marine mammals including killer whales and humpback
30 whales whose populations have dropped significantly due to hunting. Marbled murrelet nesting
31 habitat has been lost throughout the Puget Sound area as the removal of old growth forests has
32 pushed the breeding population in Washington to small areas on the Olympic Peninsula.

33 The State of the Sound Report (PSAT 2007) describes several trends that may be indicative of
34 cumulative impacts to the growth and development of salmonids and marine mammals. There is
35 an increasing trend for toxics to be concentrated in the tissues of salmon and marine mammals.
36 Both salmon and killer whales have been found to have PCB levels much higher than species
37 outside of the Puget Sound. Wild salmon stocks have declined from 93 to 81 healthy stocks from
38 1992 to 2002, and during that same period seven stocks have become extinct.

39 Existing Navy structures have affected salmonid and forage fish habitat, and have potentially
40 impeded and continue to impede juvenile salmon migration to some degree. The placement of in-
41 water structures by the Navy and from non-Navy actions has changed and would continue to
42 change fish habitat in and around these structures. In-water structures can impact fish in several
43 ways, including:

- 1 • Increasing the presence of predators that prey on juvenile fish;
- 2 • Posing a barrier to fish movement, particularly juvenile fish;
- 3 • Causing direct loss of marine vegetation such as eelgrass, which is important
- 4 habitat for forage fish and other species; and
- 5 • Creating shade that reduces the productivity of aquatic vegetation and benthic
- 6 organisms, which are preyed on by fish.

7 Currently, efforts are being made to reverse the decline of fish populations by regulating
8 development and restoring fish habitat. Numerous salmon preservation and restoration groups
9 have proposed and constructed habitat restoration projects in Puget Sound. Efforts to reduce
10 construction impacts to salmonids and other fish have resulted in a schedule of in-water work
11 periods that all projects must adhere to if authorized by state (WDFW) or federal regulatory
12 (USACE) authorities. The in-water work windows help minimize adverse impacts to fish.

13 Current and future waterfront projects at NAVBASE Kitsap Bremerton would be designed and
14 implemented to minimize impacts to salmonids and other fish habitat and migration. The
15 protective measures taken to minimize impacts during construction activities, and the design
16 elements that reduce long-term impacts to nearby habitats is expected to reduce impacts to fish
17 populations. In addition, many regional habitat restoration projects would benefit all fish species.

18 The Navy's construction of Piers B and D included several projects that are ongoing to mitigate
19 for impacts to salmonids. This included demolition of Pier 8 at Bremerton, creation of Charleston
20 Beach, installation of a fish ladder on Heinz Creek, restoration of 0.8 acres of inter-tidal habitat,
21 and restoration funding for Chico Creek.

22 Since the Proposed Action would not impact upland bird habitat, it will not make any
23 contribution to cumulative adverse impacts to marbled murrelet nesting. Cumulative impacts to
24 marbled murrelets have the greatest potential to occur during simultaneous pile driving activities.
25 However, it is very unlikely that pile driving activities associated with planned pile replacement
26 work at Piers 4 or 5 would occur simultaneously with pile driving activities associated with the
27 Proposed Action. Other projects listed on Table 4-1 would not overlap temporally with the
28 Proposed Action. With implementation of avoidance and minimization measures including
29 marbled murrelet monitoring and pile-driving shutdown zones, cumulative impacts to ESA-listed
30 marbled murrelets from the Proposed Action and past, present, and reasonably foreseeable future
31 actions would not be significant.

32 Due to the temporary and localized extent of the Proposed Action, including measures to avoid
33 and minimize impacts to ESA-listed species; it would not make an appreciable contribution to
34 cumulative adverse impacts.

35 **4.2.5 Marine Mammals**

36 Past and present Navy and non-Navy actions, including marinas, residential docks, boat ramps,
37 and piers have resulted in increased human presence, underwater and airborne noise, boat
38 movement, and other activities, and have likely impacted some water-dependent wildlife (e.g.,
39 marine mammals) in the area. Increased anthropogenic noise in the marine environment has the

1 potential to cause behavioral reactions in marine mammals including avoidance of certain areas.
2 However, the abundance and coexistence of marine mammals with existing anthropogenic
3 activities suggests that cumulative effects have not been significant. The MMPA regulatory
4 process ensures that each project that could affect marine mammals is assessed in light of the
5 status of the species and other actions affecting it in the same region.
6

7 Future Navy and non-Navy waterfront projects may have similar impacts to past and present
8 actions including increased anthropogenic sound (both airborne and underwater), increased
9 human presence, increased boat movements and other associated activities. These actions could
10 result in behavioral impacts to local populations of marine mammals, such as temporary
11 avoidance of habitat, decreased time spent foraging, increased or decreased time spent hauled out
12 (depending on the activity), and other minor behavioral impacts. All impacts would likely be
13 short-term and temporary in nature and unlikely to affect the overall fitness of the animals.
14 Additionally, the NAVBASE Kitsap Bremerton projects including Security Barrier movement
15 and Piers 4 and 5 pile repairs, are within an existing, heavily developed installation waterfront.
16 These areas already have industrial uses with higher than normal activity and noise levels. Thus,
17 there is little loss of habitat for marine mammals, and the marine mammals in the area may be
18 habituated to these higher levels of ongoing activity and less impacted by ongoing waterfront
19 development.
20

21 The primary impact of in-water construction projects, including the Proposed Action, to marine
22 mammals is behavioral disturbance from underwater sound due to pile driving. Any marine
23 mammals that are behaviorally disturbed may change their normal behavior patterns (i.e.,
24 swimming speed, foraging habits, etc.) or be temporarily displaced from the area of construction.
25 Any exposures would likely have only a minor effect and temporary impact on individuals.
26 The Northwest Training and Range Complex program has several procedures and mitigation
27 measures in place and will evaluate other mitigation measures to reduce impacts to marine
28 mammals. The current procedures of monitoring, safety zones and level of sonar transmissions,
29 and working with NMFS and local resources groups reduce the cumulative effects of the various
30 exercise and training activities covered under this program.
31

32 Two species of pinnipeds, California sea lions and harbor seals, are abundant in Sinclair Inlet
33 and at the NAVBASE Kitsap Bremerton waterfront in particular. The seals would likely be
34 foraging in Sinclair Inlet as no haul outs exist on the installation, however California sea lions
35 are known to use the floating waterfront security barrier as a haul out. Airborne noise from
36 construction is not anticipated to have significant impacts to hauled-out pinnipeds because sea
37 lions have grown accustomed to frequent 70 to 90 dBA noise levels associated with existing
38 shipyard operations. Pile driving is the loudest construction noise source anticipated within the
39 ROI, and no pile driving is anticipated within 50 ft of the waterfront security barrier. Over 50 ft
40 away from pile driving activities, sound attenuates to below 94 dBA, a level to which the seals
41 have shown to be accustomed (WSDOT 2012).
42

43 Cumulative impacts to marine mammals have the greatest potential to occur during simultaneous
44 pile driving exposure events from the Proposed Action and other present and future projects in
45 the vicinity. However, it is very unlikely that pile driving activities associated with planned pile
46 replacement work at Piers 4 or 5 would occur simultaneously with pile driving activities

1 associated with the Proposed Action. Other projects listed on Table 4-1 would not overlap
2 temporally with the Proposed Action. With implementation of avoidance and minimization
3 measures including marine mammal monitoring and pile-driving shutdown zones, cumulative
4 impacts to marine mammals would not be significant.

5 **4.2.6 Cultural Resources**

6 The ROI for evaluating impacts to cultural resources is defined as NAVBASE Kitsap Bremerton,
7 but specifically to the Puget Sound Navy Shipyard NHL. Cultural resources are unique as well as
8 finite in nature, so that an adverse effect to a single historic property affects the complement of
9 historic properties within the area. Continued construction projects and modifications to Navy
10 facilities have the potential to adversely affect historic properties.

11 While no archeological sites have been identified, the shipyard itself is a NHL with four NRHP
12 historic districts located further upland from Pier 6. Future pile replacement projects including
13 pile replacement at Piers 4 and 5 are not expected to impact these historic districts, but would be
14 consulted on with the SHPO to ensure no adverse effects. Thus, the Proposed Action would not
15 contribute to cumulative adverse impacts to cultural resources. Therefore, in combination with
16 the past, present, and foreseeable future projects, implementing the Proposed Action would not
17 have a significant cumulative impact to cultural resources.

18 **4.2.7 American Indian Traditional Resources**

19 Regionally, tribes have expressed concern over loss of access to traditional foraging areas along
20 the coastline of Puget Sound, especially as a result of the incremental habitat loss from
21 construction of new piers, bulkheads, and docks. The Proposed Action would not have an
22 appreciable contribution to impacts to quantities of fish available for harvest by the Suquamish
23 Tribe, nor would it restrict access to existing traditional harvest areas, since the tribe does not
24 currently harvest inside the Waterfront Restricted Area that surrounds Pier 6. Pile repairs at Piers
25 4 and 5 would have similar effects to the Proposed Action and would not be expected to have an
26 appreciable contribution to cumulative impacts to tribal resources.

27 The Navy will continue to consult with the Suquamish Tribe regarding future Navy activities and
28 projects that may have the potential to significantly affect the tribal treaty rights and resources.

29 Therefore, in combination with the past, present, and foreseeable future projects, implementing
30 the Proposed Action would not have a significant cumulative impact to American Indian
31 traditional resources.

32

33

1 **5 OTHER CONSIDERATIONS REQUIRED BY NEPA**

2 In accordance with 40 CFR Section 1502.16(c), analysis of environmental consequences shall
 3 include discussion of possible conflicts between the Proposed Action and the objectives of
 4 Federal, regional, State and local land use plans, policies, and controls. Table 5-1 identifies the
 5 principal federal and state laws and regulations that are applicable to the Proposed Action, and
 6 describes briefly how compliance with these laws and regulations would be accomplished.

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

| Federal, State, Local, and Regional Land Use Plans, Policies, and Controls | Status of Compliance |
|--|---|
| National Environmental Policy Act (NEPA) (42 USC §4321 <i>et seq.</i>); CEQ NEPA implementing regulations (40 CFR 1500-1508; Navy procedures for Implementing NEPA ((32 CFR Part 775 and OPNAVINST 5090.1C CH-1, Chapter 5) | Preparation of this EA has been conducted in compliance with NEPA and in accordance with CEQ regulations and the Navy's NEPA procedures. |
| Clean Air Act (42 USC §7401 <i>et seq.</i>) | The EPA has established NAAQS for seven pollutants. NAVBASE Kitsap Bremerton is located in Kitsap County which is an attainment area. A formal conformity determination is not required. Emissions for the Proposed Action would come from mobile sources: one pile driver and associated support vehicles and would be well below applicable thresholds. As a result, the project would comply with the requirements of the Clean Air Act, as amended. |
| Clean Water Act (Sections 401 and 404, 33 USC 1251 <i>et seq.</i>) | The Proposed Action is not expected to require a Section 404 Permit or Section 401 Water Quality Certification because the Action does not involve discharge of fill materials into water of the U.S. However, should Section 404 and 401 permits be required, the Navy would obtain these permits prior to construction. All chemicals, liquid products, petroleum products, and other wastes present at the construction site would be covered, contained, and protected. |
| Rivers and Harbors Act (33 U.S.C. 401 <i>et seq.</i>) | A permit under Section 10 of the Rivers and Harbors Act is required for the removal and replacement of pilings in navigable waters. The Proposed Action is expected to qualify for a USACE Nationwide Permit (#3 Maintenance). The Navy would obtain a Nationwide Permit from the USACE prior to construction. The Navy would comply with any conditions applied to the project during the coordination process between the Navy and the USACE. |
| Coastal Zone Management Act (16 USC 1451 <i>et seq.</i>) | Washington is a coastal state and has an approved CZMA program. CZMA requires federal development activities such as the Proposed Action to be consistent to the maximum extent practicable with the enforceable policies of the Washington Coastal Zone Management program and to consider the potential effect on coastal resources. The Proposed Action is expected to qualify for a USACE Nationwide Permit (#3 Maintenance), which has been certified as consistent with Coastal Zone Management Act. No further action is required by the Navy. |

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

| Federal, State, Local, and Regional Land Use Plans, Policies, and Controls | Status of Compliance |
|--|---|
| National Historic Preservation Act (Section 106, 16 USC 470 <i>et seq.</i>) | The NHPA requires federal agencies to identify, evaluate, inventory, and protect NRHP resources (or resources that are potentially eligible for listing in the NRHP on properties that they control (16 USC 470h-2). In accordance with Section 106 of the NHPA, the Navy determined that the Proposed Action would have no adverse effect on historic properties. The SHPO concurred with the Navy's finding. In the unlikely event historic properties or cultural materials such as archaeological deposits or human remains are encountered during construction, ground disturbing activities in the vicinity of the find will immediately cease and the Navy will initiate consultation with the SHPO and affected tribes, as appropriate. |
| Endangered Species Act (16 USC 1531 <i>et seq.</i>) | In accordance with ESA Section 7 requirements, the Navy prepared a Biological Assessment and consulted informally with USFWS and NMFS regarding potential effects to ESA-listed species and critical habitat. The Navy received Letters of Concurrence from NMFS and USFWS, concluding informal consultation (appendix A). For listed marine mammal species, NMFS would issue an incidental take statement after issuance of an IHA. |
| Marine Mammal Protection Act (16 USC 1361 <i>et seq.</i>) | Based on potential impacts to marine mammals, the Navy prepared an IHA application to request take for level "B" harassment. The IHA application was submitted to NMFS, which will issue the IHA after public review of the Draft IHA. |
| Magnuson-Stevens Fishery Conservation and Management Act MSA (16 USC 1801-1882) | The Navy prepared an EFH Assessment and submitted it to NMFS with the BA. The Navy received a Letter of Concurrence from NMFS concluding informal consultation. |
| Migratory Bird Treaty Act (16 USC 703-712) | The Proposed Action is not likely to adversely affect migratory bird populations and would be in compliance with the MBTA. |
| Bald and Golden Eagle Protection Act (16 USC 668-668d) | No bald or golden eagle nests occur on NAVBASE Kitsap Bremerton. |
| Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations | No disproportionately high or adverse impacts to minority and low-income populations would be expected from the Proposed Action. |
| EO 13045, Protection of Children from Environmental Health Risks and Safety Risks. | Pier 6 is within the Waterfront Restricted Area, which restricts access for children. The removal and replacement of piles at Pier 6 would not cause environmental health risks and safety risks, such as products and substances that children could come in contact with or ingest, that may disproportionately affect children. |
| Consultation and Coordination with Indian Tribal Governments (EO 13175) | As required under Secretary of the Navy Instruction 11010.14A, <i>Department of the Navy Policy for Consultation with Federally Recognized Tribes</i> ; DoD Instruction 4710.02, <i>DoD Interactions with Federally Recognized Tribes</i> ; and DoD Policy, <i>American Indian and Alaska Native Policy Alaska Implementation Guidance</i> , the Navy initiated consultation with the Suquamish Tribe regarding potential impacts to Tribal U&A fishing grounds and stations in July 2012. Consultations with the Tribe were concluded in December 2012. |

1 **5.1 Irreversible or Irretrievable Commitment of Natural or Depletable Resources**
2 **(40 CFR Section 1502.16)**

3 Resources that are irreversibly or irretrievably committed to a project are those that are used on a
4 long-term or permanent basis. This includes the use of non-renewable resources such as metal
5 and fuel, and natural or cultural resources. These resources are irretrievable in that they would be
6 used for this project when they could have been used for other purposes. Human labor is also
7 considered an irretrievable resource.

8 Implementation of the Proposed Action would involve human labor, the consumption of fuel, oil,
9 and lubricants for construction vehicles and loss of natural resources (to make the construction
10 materials).

11 **5.2 Relationship between Local Short-Term Use of the Human Environment and**
12 **Maintenance and Enhancement of Long-Term Natural Resource**
13 **Productivity (40 CFR Section 1502.16)**

14 NEPA requires an analysis of the relationship between a project's short-term impacts on the
15 environment and the effects that these impacts may have on the maintenance and enhancement of
16 the long-term productivity of the affected environment. Impacts that narrow the range of
17 beneficial uses of the environment are of particular concern. This refers to the possibility that
18 choosing one development site reduces future flexibility in pursuing other options, or that using a
19 parcel of land or other resources often eliminates the possibility of other uses at that site.

20 In the short-term, effects to the human environment with implementation of the Proposed Action
21 would primarily relate to the construction activity itself. Air quality and noise would be impacted
22 in the short-term. In the long-term, there would be beneficial impacts to the environment by
23 removing the structurally unsound creosote piles.

24 **5.3 Means to Mitigate and/or Monitor Adverse Environmental Impacts (40 CFR**
25 **Section 1502.16(h))**

26 The Proposed Action would not result in any significant adverse environmental impacts with
27 implementation of the following mitigation measures and monitoring techniques to avoid,
28 minimize and/or mitigate impacts. Performance and enforcement mechanisms are described in
29 Table 5-2.

- 30 • In-water work will be conducted between June 15 and March 1 to avoid the juvenile
31 salmon migration period in Sinclair Inlet.
- 32 • When impact driving new concrete piles at the end of the pier, the Navy will provide a
33 qualified person familiar with marbled murrelets to monitor pile driving at the end of the
34 pier. Pile driving will be suspended if a marbled murrelet is spotted within the specified
35 radius.
- 36 • To minimize impacts to foraging marbled murrelets during their nesting season, impact
37 pile driving would occur between 2 hours after sunrise and end 2 hours before sunset
38 June 15 through September 30. This timing restriction applies only to impact pile driving
39 activity conducted on the south end of the pier and on the southeast side of the pier as
40 detailed in Appendix A. The in-water work window would be adjusted between October
41 1 and March 1, with work occurring from sunrise to sunset.

- 1 • The Navy has applied for an IHA under the MMPA. The IHA application includes
- 2 additional mitigation measures, including a shutdown area that will be implemented
- 3 during pile removal and installation. Consultation with NMFS on the IHA is ongoing.
- 4 • Piles that break during construction will be cut at mudline to avoid disturbing
- 5 contaminated sediment.
- 6 • Removed piles will be cut into four ft lengths and placed in a dumpster for disposal at a
- 7 certified landfill.
- 8 • All work will be accomplished so that no debris or deleterious material enters the water.
- 9 Other BMPs discussed in Chapter 2.4.

10
11 **Table 5-2 Performance and Enforcement Mechanisms**

| Mitigation Measure | Timing and Method(s) | Responsible Party(ies) | Performance and Enforcement |
|---|---|------------------------------|---|
| Develop and implement EPP | EPP to be completed prior to start of construction and implemented throughout construction. | Navy construction contractor | Navy oversight of construction contractor. |
| In-water work timing restrictions to avoid the juvenile salmon migration period | In-water work will be conducted between June 15 and March 1 | Navy construction contractor | Navy oversight of construction contractor. |
| Marbled murrelet monitoring during pile driving | Implemented during pile driving | Navy construction contractor | Navy will submit monitoring plan to USFWS for approval and implement approved plan. |
| Marine mammal monitoring during pile driving | Implemented during pile driving | Navy construction contractor | Navy will submit monitoring plan to NMFS for approval and implement approved plan. |
| Broken piles cut at mudline | Implemented during pile removal | Navy construction contractor | Navy oversight of construction contractor. |
| Proper disposal of removed piles | Implemented during pile removal | Navy construction contractor | Navy oversight of construction contractor. |
| Prevent debris or deleterious material from entering water | Implemented during pile removal | Navy construction contractor | Navy oversight of construction contractor. |

12
13 The Navy's construction contractor will develop an EPP to be implemented throughout the
14 duration of in-water work. The EPP will be completed prior to the commencement of any
15 construction activities. The EPP will identify construction planning elements and recognize spill
16 sources at the site. The EPP will outline BMPs, responsive actions in the event of a spill or
17 release, measures to comply conditions in the BA and IHA, and notification and reporting
18 procedures. The EPP will also outline contractor management elements such as personnel
19 responsibilities, project site security, site inspections, and training for implementing the
20 requirements agreed to in the ESA and IHA consultations.

1 **5.4 Any Probable Adverse Environmental Effects That Cannot Be Avoided and**
2 **Are Not Amenable To Mitigation**

3 This EA has determined that the Proposed Action would not result in any significant impacts;
4 therefore, there are no probable adverse environmental effects that cannot be avoided or are not
5 amenable to mitigation.

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32

1 **7 LIST OF PREPARERS**

2

3 In accordance with OPNAVINST 5090.1C, CH-1, this section lists the names and qualifications
4 (expertise/experience, professional disciplines) of the persons who were primarily responsible
5 for preparing the EA.

6

7 **NAVFAC NORTHWEST**

8

9 Eric Beckley

10 Biologist

11

12 Michael Hardiman

13 Environmental Engineer

14

15 Gregory Leicht

16 Environmental Engineer

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18 Eric Mollerstuen

19 Environmental Protection Specialist

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21 Sharon Rainsberry

22 Fish Biologist

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Appendix A
Endangered Species Act Consultations

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Northwest Region
 7600 Sand Point Way N.E., Bldg. 1
 Seattle, Washington 98115

Refer to NMFS No:
 NWR-2012-9501

December 20, 2012

Captain P. Dawson
 Commanding Officer
 Naval Base Kitsap
 120 South Dewey St
 Bremerton, WA 98314-5020

Attn: Eric Mollerstuen

Re: Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Pier 6 Fender System Repairs, Bremerton, Kitsap County, Washington (Lat: 47.559669, Long: -122.530278, 6th Field HUC 171100190705).

Dear Captain Dawson:

On December 11, 2012, the National Marine Fisheries Service (NMFS) received your request for a written concurrence the proposed action is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.¹

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Act (MSA), including conservation measures and any determination that you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.²

This letter is in compliance with section 515 of the Treasury and General Government Appropriations Act of 2001 (Data Quality Act) (44 U.S.C. 3504 (d) (1) and 3516), and underwent pre-dissemination review using standards for utility, integrity and objectivity.

¹ Memorandum from D. Robert Lohn, Regional Administrator, to ESA consultation biologists (guidance on informal consultation and preparation of letters of concurrence) (January 30, 2006).

² Memorandum from William T. Hogarth, Acting Administrator for Fisheries, to Regional Administrators (national finding for use of Endangered Species Act section 7 consultation process to complete essential fish habitat consultations) (February 28, 2001).



Consultation History

The United States Navy (Navy) gave a Biological Evaluation (BE) to the NMFS for the project referenced above on October 10, 2012. The Navy requested informal consultation and concurrence with the determinations of “may affect, not like to adversely affect” for Puget Sound Chinook salmon, PS steelhead, PS/Georgia Basin (GB) bocaccio, PS/GB yellow rockfish, PS/GB canary rockfish, Steller sea lions, and Southern Resident Killer Whales. The project location includes no designated critical habitat for any ESA listed species.

Consultation was initiated on December 11, 2012. A complete record of this consultation is on file at the Washington State Habitat Office in Lacey, Washington.

Description of the Proposed Action and the Action Area

The Navy is proposing to remove and replace the existing fender piles and associated hardware associated with Pier 6 at Bremerton. This will remove approximately 380 creosote treated piles and 20 steel pipe fender piles, and will replace them with 216 fender and corner and 84 pre-stressed concrete piles. The existing creosote treated piles will be removed with a vibratory hammer, while the replacement piles will be installed with an impact hammer. If any of the existing piles cannot be removed, they will be cut at least 2 feet below the mud line. The project will also remove the existing chocks, wales, access ladders, and steel rope guards and replace them with galvanized steel.

All work will be conducted during 2 consecutive work windows to avoid the presence of salmonids (June 15 to March 1). No forage fish spawning areas or submerged aquatic vegetation will be impacted by the project.

Action Area

The action area includes all marine waters within the project line of sight, to include areas of increased noise disturbance from operations. The project site is located at Bremerton, Kitsap County, Washington (Lat: 47.559669, Long: -122.530278, 6th Field HUC 171100190705).

ENDANGERED SPECIES ACT

Effects Determinations

For purposes of the ESA, “effects of the action” means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is NLAA listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial.³ Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant

³ U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences. March, 1998. Final. p. 3-12.

effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Listed species of fish are unlikely to occur in the action area when the proposed action is occurring. Salmonids are less likely to occur in the area due to project timing (June 15 to March 1), and rockfish are unlikely to occur in the action area because of the maximum depth of the project (50 feet) and there is no submerged aquatic vegetation that would provide suitable habitat for rearing juvenile rockfish. For listed fish, including salmonids and rockfish, the potential for effects include elevated sound energy levels and small increases in turbidity of short duration from pile installation and removal. However, NMFS has no known documented incidents of take occurring from pile driving of concrete piles, and any increase in turbidity is expected to be localized and of short duration.

Marine mammals are unlikely to occur in the action area. The project includes a trained observer that will shut down pile driving operations in the event that marine mammals are observed within the 33 foot radius of pile driving. Peak sound volumes are expected to be 192 decibels and are less than the injury threshold for marine mammals. The project also does not include any vibratory pile driving which could interfere with the normal behavior of marine mammals.

The project will lead to long term improvements in water quality due to the removal and disposal of the 380 creosote treated piles and other treated material, and will create no additional impairments to habitat function in the project area.

Conclusion

Based on the above analysis, NMFS concludes that all potential effects of the proposed action are insignificant or discountable, and are not likely to adversely affect the subject ESA listed species or critical habitat.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Federal agency, or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect on the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Federal and other consulting agencies operating under Federal authority are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect essential fish habitat (EFH). For purposes of the MSA, EFH means

“those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”, and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and “adverse effect” means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (section 305(b)(4)(A)). This consultation is based, in part, on information provided by the Federal agency and descriptions of EFH for Pacific salmon contained in the Fishery Management Plans developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce.

Effects of the Action

NMFS determined that the proposed action would adversely affect EFH by decreasing water quality and suitability through increased sound energy levels. The project will also cause short term, localized increases in turbidity. Over the long term, the project is expected to increase water quality through the removal of 380 creosote treated piling. The action area includes approximately 3700 acres of intertidal and subtidal marine nearshore habitat, based on expected spread of sound-pressure levels. The project area includes habitat which has been designated as EFH for various life stages of coastal pelagic species, Pacific coast groundfish, and Pacific salmon.

Essential Fish Habitat Conservation Recommendations

Because the conservation measures that the Navy included as part of the proposed action to address ESA/EFH concerns are adequate to avoid, minimize, or otherwise offset potential adverse effects to EFH, conservation recommendations pursuant to the MSA (section 305(b)(4)(A)) are not necessary. Since the NMFS is not provided conservation recommendations at this time, no 30 day response is from the Navy is required (MSA section 305(b)(4)(B)).

Statutory Response Requirement

Within 30 days after receiving this recommendation, you must provide NMFS with a detailed written response, per 50 CFR 600.920(k)(1). If your response is inconsistent with the EFH conservation recommendation, you must explain why the recommendation will not be followed, including the scientific justification for any disagreements over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects.

In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

Supplemental Consultation

The Navy must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations, 50 CFR 600.920(l).

This concludes consultation under the ESA and MSA. If you have questions concerning these consultations, please contact Zach Hughes of the Washington State Habitat Office at 360-753-6052, or by e-mail at zach.hughes@noaa.gov.

Sincerely,



 William W. Stelle, Jr.
Regional Administrator



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503



APR - 5 2013

In Reply Refer To:
01EWF00-2013-1-0089

Captain P. M. Dawson, Captain
U. S. Navy, Naval Base Kitsap
ATTN: Environmental Director (Mollerstuen)
120 South Dewey St.
Bremerton, Washington 98314-5020

Dear Captain Dawson:

Subject: Naval Base Kitsap Bremerton Pier 6 Fender System Repairs

This letter is in response to your request for informal consultation for the Pier 6 Fender System Repairs at Naval Base Kitsap Bremerton located in Sinclair Inlet in Kitsap County, Washington. The Department of the Navy (Navy) proposes to remove creosote-treated piles at Pier 6 and replace them with concrete piles. You requested the U.S. Fish and Wildlife Service (Service) concurrence with your “may affect, not likely to adversely affect” for the marbled murrelet (*Brachyramphus marmoratus*) and bull trout (*Salvelinus confluentus*). No marbled murrelet or bull trout critical habitat occurs within the affected area. Your letter and the Biological Evaluation (BE), dated December 7, 2012, were received on December 11, 2012. We requested additional information regarding the proposed action via email on February 21, March 7, and March 13, 2013, and received responses via email on February 21, March 12, and March 14, 2013. This informal consultation has been completed in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

The Navy proposes to remove up to 380 creosote-treated piles and 20 steel pipe piles using vibratory extraction at Pier 6 in Sinclair Inlet. Deteriorated creosote-treated timber chocks, wales, steel access ladder, and steel rope guards will also be removed and replaced with galvanized steel and plastic elements. The piles will be replaced with up to 318 24-inch diameter pre-stressed concrete piles to be installed with an impact hammer. Additionally, a cathodic protection system will also be installed. The proposed action will occur in two phases over two consecutive in-water work periods (June 15 to March 1). Work is anticipated to begin in 2013. Of the proposed 318 piles, up to 77 of these piles may be installed in areas that may affect marbled murrelets (Figures 1 and 2).

Captain P.M. Dawson

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Figure 2. Approximate marbled murrelet survey area outlined in blue (area of survey is approximate and is smaller than shown in figure).

The Navy proposes to implement the following measures during installation of these 77 piles to minimize the effects of the proposed action on marbled murrelets.

- 1) During the marbled murrelet breeding season (April 1 through September 30), in-water work will not begin until 2 hours after sunrise and will end 2 hours before sunset.
- 2) The Navy will survey to protocol for marbled murrelets during impact pile driving within the area identified in Figures 1 and 2 (77 piles) to a distance of 42 meters from each pile.
- 3) The Navy will provide a marbled murrelet monitoring plan to the Service within 60 days prior to the start of in-water work for review and approval. No in-water work will occur until the Service has approved the plan.
- 4) The Navy will limit the installation of piles within the area identified in Figures 1 and 2 to the following:
 - Summer (April 1 to September 30) - 75 days of total of pile driving up to 90 min/day
 - AND
 - Winter (October 1 to March 30) - 30 days of total pile driving up to 90 min/day

Captain P.M. Dawson

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Based on the information provided in the cover letter, BE, personal communications, and other documents, we have concluded that effects of the proposed action to the marbled murrelet and bull trout would be insignificant. Therefore, for the reasons identified below, we concur with your “may affect, not likely to adversely affect” determination for the bull trout and marbled murrelets.

Effects of the Proposed Action

The proposed action may result in negative effects to marbled murrelets and bull trout during the installation and removal of piles. Marbled murrelets and bull trout that are in the area during construction of the proposed project may be affected as a result of a) exposure to elevated in-air (marbled murrelets only) and underwater sound pressure levels; b) exposure to contaminants; and c) reduced forage availability.

Effects to Marbled Murrelet

There is limited information on the presence of marbled murrelets in Sinclair Inlet. Monitoring of marbled murrelets occurs during the summer months (May 15 to July 31 each year) as part of the Northwest Forest Plan Marbled Murrelet Effectiveness Monitoring Program (Raphael et al. 2007) and in December of each year as part of the Puget Sound Ambient Monitoring Program conducted by the Washington Department of Fish and Wildlife. Summer surveys are not conducted in proximity to the proposed action. Winter aerial surveys were conducted adjacent to the project area. Additionally, Washington Department of Fish and Wildlife is currently conducting winter marbled murrelet surveys for the Navy. The first year of this survey effort resulted in no detections of marbled murrelets in marine waters within the area associated with the Bremerton Naval ship yard (Cindi Kunz, U.S. Navy, Bangor, in litt. March 7, 2013). Based on the available information, we anticipate that marbled murrelets may occur within Sinclair Inlet, though in limited numbers. Additionally, due to the current activity and configuration of the site, we do not anticipate that marbled murrelets are likely to occur between the piers. Therefore, direct effects to marbled murrelets are limited to those areas associated with Figures 1 and 2.

Effects from Underwater Sound Pressures

We developed a model to estimate the probability of exposure of a marbled murrelet to sound pressures that could result in physical injury (e.g., 202 dB SEL or higher). Using the available information on marbled murrelet densities during the time of year the project will be implemented, average dive times and foraging bouts, and incorporating the effectiveness of the survey protocols, we determined that the probability of exposure to the injury threshold would be below 0.1. Therefore, we do not anticipate marbled murrelets to be exposed to underwater sound pressure levels that would result in injury due to the proposed action. This approach has been used by the Service in previous analyses on underwater sound (U.S. Fish and Wildlife Service 2008, p. 99).

Captain P.M. Dawson

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Effect of In-Air Sound from Pile Removal and Installation

Marbled murrelets may be exposed to in-air sound levels during vibratory pile removal and impact pile driving that could result in masking of communication between foraging pairs. Masking could result in reduced fitness as they delay foraging while they attempt to locate the other individual.

Background in-air sound levels have not been recorded at Naval Base Bremerton. The BE (p. 9) estimates that the industrial shipyard airborne sound levels range from 60 dBA to 90 dBA; no distance is provided for these anticipated sound levels. The Test Pile BA assumed that the in-air sound pressure levels will be 95 dBA re: 20 μ Pa at 50 ft for vibratory pile driving (NAVFAC 2010, p. 101). Data available from Laughlin (in litt. 2010, p. 2) indicate that in-air sound pressures from vibratory pile driving of 30-inch diameter steel piles ranges from approximately 85 dBA Lmax to 96 dBA Lmax standardized to 50 ft.

No estimates for sound pressure levels associated with pile removal are provided for the proposed project. However, we anticipate that the sound levels generated during pile removal will be less than for installation. Marbled murrelets may be exposed to sound levels associated with pile removal for limited periods of time. However, we do not anticipate that this will result in measureable effects to their behavior. Therefore, we anticipate that effects to marbled murrelets due to pile removal will be insignificant.

Using information available from the Test Pile program at Bangor Naval Base, the distance of masking associated with the impact installation of 24-inch diameter steel piles was calculated to be 42 m (Michael Slater, U.S. Navy, Bangor, Washington, in litt. March 1, 2013). Based on the calculated probability of exposure within 42 m of the pile with monitoring, we do not anticipate marbled murrelets to be exposed to in-air sound pressure levels from impact pile driving that would result in masking of communication.

In summary, with implementation of marbled murrelet monitoring to protocol, we anticipate that it is highly unlikely that marbled murrelets will be exposed to underwater or in-air sound pressures during impact pile driving that would injure them or measurably affect their normal behavior. Therefore, effects due to exposure to high sound levels from impact pile driving are considered discountable. No marbled murrelet monitoring is required during pile removal, and although marbled murrelets may be exposed to in-air sound levels above ambient, we anticipate the effects will be insignificant.

Effects from Exposure to Contaminants and Sediments

The proposed action may result in an increased risk of contaminants due to fuel and oil leaks from the use of boats and barges and the removal of creosote-treated piles. Additionally, if contaminants are present in the sediments where the piles are installed and removed, marbled murrelets may be exposed directly through contact or indirectly through ingestion of prey.

Although there is a potential of fuel and oil leaks from the surface water vessels, the risk of leaks or spills is extremely low. We do not anticipate marbled murrelets to be exposed to measurable

Captain P.M. Dawson

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levels of elevated turbidity and exposure to suspended sediments during pile installation and removal. Although contaminants are known to occur within the project area, we do not anticipate marbled murrelets to be exposed to concentrations that may result in measureable effects this species.

Therefore, the risk of marbled murrelet exposure to contaminants and sediment (ingestion or contact) at concentrations that would measurably affect this species is considered insignificant.

Effects to Bull Trout

Potential for Exposure

There are no core populations in close proximity to the proposed action. Additionally, there are no records of bull trout in the freshwater systems on the Kitsap Peninsula and limited observations within the adjacent marine environment. As it is extremely unlikely that bull trout occur within the action area, we consider the direct effects of the proposed action (e.g., exposure to turbidity, contaminants, increased sound pressures) to bull trout to be discountable.

Effects to Marbled Murrelet and Bull Trout Prey Resources

Indirect effects to marbled murrelets and bull trout may occur due to impacts to forage fish that occur within the action area. Surf smelt (*Hypomesus pretiosus*), sand lance (*Ammodytes hexapterus*), and Pacific herring (*Clupea pallasii*) individuals are likely present within the area of the proposed action. Most of the shoreline in Sinclair Inlet is armored and the Bremerton Naval shipyard is an industrial waterfront with little or no suitable spawning habitat for marine forage fish. The proposed action will not affect forage fish spawning habitat.

In-water construction is restricted to June 15 to March 1. This will reduce, but not eliminate, potential negative effects to marbled murrelet and bull trout prey. We know of no instances where impact installation of concrete piles has resulted in trauma or physical injury of fish or other organisms. Therefore, we anticipate that forage fish may be disturbed by the proposed in-water work, but no injury will result. Forage fish may also be exposed to contaminants during pile installation and removal. Although contaminants are known to occur within the project area, we do not anticipate that they will expose forage fish to concentrations that may measurably affect these individuals. We do not anticipate that effects to forage fish will be of such a magnitude to measurably affect marbled murrelet or bull trout. Therefore, we anticipate that the effects to marbled murrelet or bull trout via their prey will be insignificant.

Conservation Recommendation

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Captain P.M. Dawson

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1. The Navy should conduct hydroacoustic monitoring and obtain acoustic data (i.e., sound spectrogram) associated with the impact installation and removal of concrete piles. We recommend that you coordinate sound data collection methodology and study design with our office. This data would provide more specific information regarding the sounds associated with Navy projects, the potential effects to federally listed species, and development of appropriate minimization measures.

The Service requests notification of the implementation of any conservation recommendations.

If you have any comments or questions regarding this concurrence or our joint responsibilities under the Endangered Species Act, please contact Nancy Brennan-Dubbs at (360) 753-5835 or Martha Jensen at (360) 753-9000.

Sincerely,



for Ken S. Berg, Manager
Washington Fish and Wildlife Office

Captain P.M. Dawson

8

LITERATURE CITED

- Kunz, C. 2013. U.S. Navy, Naval Base Kitsap Bangor, Washington. RE: Preliminary data from Bremerton. Email message to: Nancy Brennan-Dubbs, U.S. Fish and Wildlife Service, Lacey, Washington. March 7, 2013. 11:57 a.m.
- Laughlin, J. 2010. Memo to Sharon Rainsberry: Airborne Noise Measurements (A-weighted and un-weighted) during Vibratory Pile Installation – Technical Memorandum. Washington State Department of Transportation. June 21, 2010.
- NAVFAC. 2010b. Biological assessment for the test pile program, Navy Base Kitsap Bangor waterfront Naval Base Kitsap Bangor. Prepared by Naval Facilities Engineering Command Northwest, Silverdale, WA. August 2010. 144 pp. + appendices.
- Raphael, M.G., J. Baldwin, G.A. Falxa, M.H. Huff, M.M. Lance, S. Miller, S.F. Pearson, C.J. Ralph, C. Strong, and C. Thompson. 2007. Regional population monitoring of the marbled murrelet: field and analytical methods. U.S. Department of Agriculture Forest Service, PNW-GTR-716, Portland, Oregon, May 2007. 70 pp.
- Slater, M. 2013. U.S. Navy, Bangor, Washington. RE: 24 inch impact pile driving, MaMu masking calculations. Email message to: Cindi Kunz, U.S. Navy, Naval Base Kitsap Bangor, Washington. March 1, 2013.
- USFWS. 2008. Biological opinion for United States Navy explosive ordnance disposal training operations, Puget Sound: Whidbey Island, Island County, Washington. Western Washington Fish and Wildlife Office, Lacey, Washington, November 7, 2008. 213 pp.

From: [Mollerstuen, Eric W, CIV PSNS/IMF, Code 106.32](#)
To: [Hardiman, Michael O CIV NAVFAC NW, PRB41](#); [Beckley, Eric R CIV NAVFAC NW, PRB41](#)
Subject: FW: Phonecon for Pier 6 ESA Consultation [NAVBASE Kitsap Bremerton]
Date: Wednesday, March 13, 2013 12:45:28

FYI:

-----Original Message-----

From: BrennanDubbs, Nancy [mailto:nancy_brennandubbs@fws.gov]
Sent: Wednesday, March 13, 2013 11:48
To: Mollerstuen, Eric W, CIV PSNS/IMF, Code 106.32
Subject: Re: Phonecon for Pier 6 ESA Consultation [NAVBASE Kitsap Bremerton]

Eric, just heard from Emily. We will be using the info that Mike Slater came up with for the 24 inch steel pile.

Thanks for the responses below.

I will be working on my letter to the Navy - hope to get it to my manager next week for signature.
Nancy

Nancy Brennan-Dubbs
Fish and Wildlife Biologist
Consultation and Conservation Planning Division
US Fish and Wildlife Service
510 Desmond Dr. SE Suite 102
Lacey, Washington 98503
360-753-5835
nancy_brennandubbs@fws.gov

On Tue, Mar 12, 2013 at 2:37 PM, Mollerstuen, Eric W, CIV PSNS/IMF, Code 106.32
<eric.mollerstuen@navy.mil> wrote:

Hello Nancy,

We have included the 2 hr provision in previous BA's and it exclusion from this project's BA was an oversight on our part. We concur on the following:

"During the marbled murrelet breeding season (April 1 through September 30), in-water work will not begin until 2 hours after sunrise and will end 2 hours before sunset."

Also, I believe you are still waiting on confirmation on the following 3 points:

1. We concur that for impact driving of the 77 piles to be installed where there is potential marbled murrelet exposure, the Navy will adhere to the following timing restrictions.

Summer (April 1 - September 30): 75 days total of pile driving for 90 min/day
AND
Winter (October 1 - March 30): 30 days of total pile driving for 90 min/day

2. We commit to marbled murrelet monitoring within 42 m of these 77 piles. Monitor will be stationed on the pier where they can view the entire 42 m radius monitoring zone around the pile being driven.

3. We will provide a marbled murrelet monitoring plan to your office 60 calendar days prior to the start of in-water work.

Were you able to get confirmation from Emily yet? Thanks and let me know if you have any questions.

V/r,
Eric Mollerstuen
Puget Sound Naval Shipyard and Intermediate Maintenance Facility
Environmental, Code 106.32
(360) 476-9384

-----Original Message-----

From: BrennanDubbs, Nancy [mailto:nancy_brennandubbs@fws.gov]
Sent: Thursday, March 07, 2013 13:32
To: Hardiman, Michael O CIV NAVFAC NW, PRB41
Cc: Mollerstuen, Eric W, CIV PSNS/IMF, Code 106.32; Kunz, Cindi A CIV NAVFAC NW, OP3E22
Subject: Re: Phonecon for Pier 6 ESA Consultation [NAVBASE Kitsap Bremerton]

Mike and Eric, in reviewing the BA, I noted that it does not include a standard measure we use to minimize effects to marbled murrelets during the breeding season. Would you please include the following as part of your proposed action. Sorry for this oversight, I thought it was already part of the action. Sincerely, Nancy

During the marbled murrelet breeding season (April 1 through September 30), in-water work will not begin until 2 hours after sunrise and will end 2 hours before sunset.

Nancy Brennan-Dubbs
Fish and Wildlife Biologist
Consultation and Conservation Planning Division
US Fish and Wildlife Service
510 Desmond Dr. SE Suite 102
Lacey, Washington 98503
360-753-5835
nancy_brennandubbs@fws.gov

On Thu, Mar 7, 2013 at 9:32 AM, BrennanDubbs, Nancy <nancy_brennandubbs@fws.gov> wrote:

Mike and Eric, I am still waiting for Emily to confirm the use of the 42 m for the proposed action.

I am working on drafting a letter regarding this action, but still need the following from the Navy. The following is based on 42 m vs 66 m for the impact installation of 24 inch piles. Please note that due to the small area of ensonification, the number of days of pile driving has been increased. If we use the 66 m distance, the number of piles that could be driving would be as stated in my Feb 21 email. Once I hear from Emily with confirmation on the distance to use for the concrete piles and receive the information from you below, I will be able to finalize the letter.

Sincerely, Nancy

1. Confirmation that no more than 77 piles would be impact driven within the area of potential marbled murrelet exposure as and not exceed the following.

Summer (April 1 - September 30)

75 days total of pile driving for 90 min/day

AND

Winter (October 1 - March 30)

30 days of total pile driving for 90 min/day

2. Marbled murrelet monitoring to protocol would occur within the 42 m radius of these piles

3. A marbled murrelet monitoring plan will be provided to the Service for review and approval prior to any in-water work occurring at the site. The plan will be provided to the USFWS for review and approval a minimum of 60 days prior to any in-water work occurring to allow for potential modifications to the proposal.

Nancy Brennan-Dubbs
Fish and Wildlife Biologist
Consultation and Conservation Planning Division
US Fish and Wildlife Service
510 Desmond Dr. SE Suite 102
Lacey, Washington 98503
360-753-5835
nancy_brennandubbs@fws.gov

On Tue, Feb 26, 2013 at 11:18 AM, BrennanDubbs, Nancy <nancy_brennandubbs@fws.gov> wrote:

Mike, I left a message for Cindi today regarding the status of the calculations. Yes, I still need them to confirm my assessment.

Additionally, I need the Navy to confirm that they will modify the proposed action to meet the pile driving conditions I provided earlier (number of days/hours per day/season). Also, I need a marbled murrelet monitoring plan from the Navy. If the Navy is unable to provide the plan in the near future, I need a commitment from the Navy that it will be provided to the USFWS for review and approval prior to any in-water work occurring at the site. The plan should be provided to the USFWS for review and approval a minimum of 60 days prior to any in-water work occurring to allow for potential modifications to the proposal.

Additionally, will the Navy conduct any in-air sound measurements for concrete piles? This information would be very helpful for work the Navy proposes in the future at this and other sites. I recommend that you speak to Mike Slater and Emily Teachout of my office (360-753-9583) regarding the information needed.

Sincerely, Nancy

Nancy Brennan-Dubbs
Fish and Wildlife Biologist
Consultation and Conservation Planning Division
US Fish and Wildlife Service



DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/01085
7 Dec 12

Steven Landino
Director, Washington State Habitat Office
National Marine Fisheries Service
510 Desmond Drive SE, Suite 102
Lacey, WA 98503

Dear Mr. Landino:

SUBJECT: SECTION 7 INFORMAL CONSULTATION FOR PIER 6 FENDER
SYSTEM REPAIRS, NAVAL BASE KITSAP BREMERTON,
WASHINGTON

The Department of the Navy (Navy) proposes to repair the Pier 6 fender system at Naval Base Kitsap Bremerton. The existing Pier 6 fender system is deteriorated and insufficient for berthing large Navy vessels such as aircraft carriers without risk of damaging the pier's structural integrity. The proposed project would remove approximately 380 creosote treated timber fender piles from Sinclair Inlet and replace them with pre-stressed concrete piles.

This letter is to request initiation of informal consultation under the Endangered Species Act. The enclosed biological evaluation (BE) contains the Navy's determination of effect for listed species that may be present in the action area. The BE also contains analysis of effects to Essential Fish Habitat as required by the Magnuson-Stevens Fishery Conservation Management Act. If you have any questions, please contact Mr. Eric Mollerstuen. He can be reached at (360) 476-9384 or eric.mollerstuen@navy.mil.

Sincerely,

F. M. DAWSON
Captain, U.S. Navy
Commanding Officer

Enclosure: 1. Biological Evaluation

Copy to:
PSNS & IMF

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DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/01086
7 Dec 12

Ken S. Berg
Manager, Washington Fish and Wildlife Office
U.S. Fish and Wildlife Service
510 Desmond Drive SE, Suite 102
Lacey, WA 98503

Dear Mr. Berg:

SUBJECT: SECTION 7 INFORMAL CONSULTATION FOR PIER 6 FENDER
SYSTEM REPAIRS, NAVAL BASE KITSAP BREMERTON,
WASHINGTON

The Department of the Navy (Navy) proposes to repair the Pier 6 fender system at Naval Base Kitsap Bremerton. The existing Pier 6 fender system is deteriorated and insufficient for berthing large Navy vessels such as aircraft carriers without risk of damaging the pier's structural integrity. The proposed project would remove approximately 380 creosote treated timber fender piles from Sinclair Inlet and replace them with pre-stressed concrete piles.

This letter is to request initiation of informal consultation under the Endangered Species Act. The enclosed biological evaluation (BE) contains the Navy's determination of effect for listed species that may be present in the action area. The BE also contains analysis of effects to Essential Fish Habitat as required by the Magnuson-Stevens Fishery Conservation Management Act. If you have any questions, please contact Mr. Eric Mollerstuen. He can be reached at (360) 476-9384 or eric.mollerstuen@navy.mil.

Sincerely,

P. M. DAWSON
Captain, U.S. Navy
Commanding Officer

Enclosure: 1. Biological Evaluation

Copy to:
PSNS & IMF

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BIOLOGICAL EVALUATION
PIER 6 FENDER SYSTEM REPAIRS
NAVAL BASE KITSAP BREMERTON
KITSAP COUNTY, WASHINGTON

1. INTRODUCTION

The Department of the Navy (Navy) proposes to repair the Pier 6 fender system at Naval Base (NAVBASE) Kitsap Bremerton. Proposed work is essential to ensure a critical ship maintenance asset is not jeopardized as continued deterioration leaves the pier vulnerable to vessel impacts. Updated species lists were accessed from the websites of the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). Federally listed species that may occur in the action area are summarized in Table 1. This biological evaluation was prepared to address potential impacts on listed species resulting from the proposed project as required under Section 7(c) of the Endangered Species Act (ESA).

1.1 PROJECT DESCRIPTION

The proposed project replaces deteriorated creosote treated timber fender and reaction piles, steel pipe fender piles, creosote treated timber chocks, wales, steel access ladders, and steel rope guards at Pier 6. Renovation installs new pre-stressed concrete reaction, fender, and corner dolphin piles, galvanized steel wale system, rope guards and ladders. This proposed repair project is planned for two phases over two consecutive in-water work periods. The first phase would focus on the east side of the pier with the west side being completed in phase two.

The proposed project includes:

- Removal of approximately 380 creosote treated timber fender and corner dolphin piles by vibratory extraction.
- Removal of approximately 20 steel pipe fender piles by vibratory extraction.
- Removal of deteriorated creosote timber chocks, wales, steel access ladder, and steel rope guards.
- Installation of approximately 216 pre-stressed concrete fender and corner dolphin piles with an impact hammer.
- Installation of approximately 84 pre-stressed concrete reaction piles with an impact hammer.

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- Installation of galvanized steel wale system, rope guards, and access ladders.
- Installation of high density plastic rubbing strips.
- Installation of a cathodic protection system.

1.2 PROJECT LOCATION AND ACTION AREA

The project location and action area is centered at Pier 6 on NAVBASE Kitsap Bremerton [Figure 1]. NAVBASE Kitsap Bremerton is primarily an industrial facility located within the City of Bremerton along approximately two miles of the northern Sinclair Inlet shoreline. The shoreline at the project location is characterized by piers, dry docks, and quay walls that have developed since the facility was established in 1891. Pier 6 is a concrete pier located at the east end of the facility, and is 1320 ft in length by 100 ft in width. Pier 6 is located in water depths ranging from 29 ft mean lower low water (MLLW) at its head near the quay wall to 50 ft MLLW at its end.

2. SPECIES AND CRITICAL HABITAT

Ten ESA listed species have the potential to occur within the action area. No critical habitat for any species has been designated within the action area. Table 1 lists the species that may be present in the vicinity of Pier 6 at NAVBASE Kitsap Bremerton.

Table 1 Occurrence of Federally Listed Species in the Action Area.

| <i>Species</i> | <i>Regulatory Agency/Status</i> | <i>Critical Habitat</i> |
|--|---------------------------------|--|
| Puget Sound Chinook ESU Salmon (<i>Oncorhynchus tshawytscha</i>) | NMFS/Threatened | Designated; Not designated on NW Navy installations |
| Puget Sound Steelhead DPS (<i>O. mykiss</i>) | NMFS/Threatened | <i>Under development</i> |
| Southern Resident Killer Whale (<i>Orcinus orca</i>) | NMFS/Endangered | Designated; Not designated in Sinclair Inlet and NW Navy installations |

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| Steller Sea Lion Eastern DPS (<i>Eumetopias jubatus</i>) | NMFS/Threatened | Designated; Not designated in Washington State |
| Humpback Whale (<i>Megaptera novaeangliae</i>) | NMFS/Endangered | <i>Under development</i> |
| Georgia Basin/Puget Sound Bocaccio DPS (<i>Sebastes paucispinis</i>) | NMFS/Endangered | <i>Under development</i> |
| Georgia Basin/Puget Sound Yelloweye Rockfish DPS (<i>S. ruberrimus</i>) | NMFS/Threatened | <i>Under development</i> |
| Georgia Basin/Puget Sound Canary Rockfish DPS (<i>S. pinniger</i>) | NMFS/Threatened | <i>Under development</i> |
| Coastal/Puget Sound Bull Trout (<i>Salvelinus confluentus</i>) | USFWS/Threatened | Designated; Not designated on NW Navy installations |
| Marbled Murrelet (<i>Brachyramphus marmoratus</i>) | USFWS/Threatened | Designated, not designated in project area |

2.2 EFFECT DETERMINATION

The effect of this proposed project within the action area would be temporary noise increases in the vicinity of Pier 6 due to the vibratory removal of piles and the impact driving of new pre-stressed concrete piles. Additionally, pile removal and installation activities may result in minor localized turbidity of the surface waters around the piles. No eelgrass beds will be impacted by the proposed project as there are no eelgrass beds within Sinclair Inlet and all pile replacement will occur in water depths of 29 - 50 feet MLLW. Resulting long-term positive effects will be the removal of approximately 380 creosote treated timber pilings from the marine waters of Sinclair Inlet. The proposed project will have no effect on designated critical habitat as no critical habitat has been designated within the action area.

Puget Sound Chinook ESU Salmon

Although Sinclair Inlet streams do not support native runs of Chinook salmon, and there are no historical records of such runs in the project area, Chinook from other runs may occur in the area during migration. The Washington Department of Fish and

Wildlife (WDFW) performed a two-year capture and release study in 2001 and 2002 to increase understanding of the use of nearshore habitat and food resources by juvenile salmonids in Sinclair Inlet. Hatchery origin juvenile Chinook comprised a majority of salmonids captured in the study. Because not all hatchery juvenile Chinook salmon were distinctly marked in 2001 and 2002, the number of hatchery-produced fish obtained in the samples was thought to be underestimated (Fresh et al. 2006).

Best management practices will be followed for all pile driving. The proposed in-water work would occur during the recommended work window for the project area (June 15 to March 1). This will minimize the effects of noise and other disturbances to juvenile salmon. The project may affect, but is not likely to adversely affect, Puget Sound Chinook salmon.

Puget Sound Steelhead DPS

Steelhead are found in very small numbers in Sinclair Inlet. Of the 73,615 fish caught during the 2001-2002 Sinclair Inlet juvenile salmonid outmigration study performed by WDFW, only four were Steelhead (Fresh et al. 2006).

Effects will be the same as those for Chinook. The project may affect, but is not likely to adversely affect, Puget Sound Steelhead.

Southern Resident Killer Whale

Southern Resident killer whales occasionally move into rarely visited areas and inlets, probably in response to locally abundant food sources. In 1997, southern residents moved into Dyes Inlet near Bremerton and spent nearly a month feeding on a salmon run (Wiles 2004).

Killer whales may experience disturbance from construction noise and activity, however, it is unlikely that they will be present in the action area. The project may affect, but is not likely to adversely affect, Southern Resident killer whales.

Steller Sea Lion Eastern DPS

There are currently no Steller sea lion haul-out sites within Sinclair Inlet and no rookeries within Washington State. This, combined with the fact that fish abundance is only available seasonally within Sinclair Inlet, makes Steller sea lion residence in the area highly unlikely (Jefferies et al. 2000).

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In general, Steller sea lions do not migrate but often disperse widely during the nonbreeding season (Loughlin 2002). Steller sea lions are not expected to occur within the action area due to high noise levels from the industrial shipyard as discussed below. An ongoing marine mammal survey within Puget Sound by Washington Department of Fish and Wildlife (WDFW) reported a lone Steller sea lion hauled out on the Navy's floating fence off of NAVBASE Kitsap Bremerton during November 2012 (Lance, M. 2012). Depending on the section, the floating fence occurs approximately 300 to 500 ft from Pier 6.

NAVBASE Kitsap Bremerton is located in an urban setting with marine industrial uses characterized by high airborne and underwater noises. The primary concentration of these noise sources is along the shore and piers. Noise is generated by Navy and non-Navy vessels including tugs, barges, aircraft carriers, submarines, ferry traffic, security boats, and recreational vessels operating in Sinclair Inlet. Depending on the noise-generating activity and distance from those activities, industrial shipyard airborne noise is expected to be between 60 and 90 dBA (WSDOT, 2008).

The high level of noise (underwater and airborne) combined with the high level of marine activity limits the attractiveness of NAVBASE Kitsap Bremerton for marine mammals. Under the Marine Mammal Protection Act, a shutdown zone shall apply to the end of the pier to prevent any potential injury to marine mammals. For this area, the most abundant marine mammals are California sea lions and harbor seals. For impact and vibratory pile installation and removal in this area, monitoring will be conducted within a 10 meter (or as agreed to in the IHA) shutdown zone surrounding each pile. The 10 meter shutdown can be easily monitored by a trained observer from pierside or stationed on the pile driving barge and will prevent injury to any Steller sea lions in the unlikely event they are in the area.

With implementation of the protection measures described above, including "go/no-go" monitoring protocol, the project may affect, but is not likely to adversely affect, Steller sea lions.

Humpback Whale

Humpback whales were common in inland Washington State waters in the early 1900s; however, there have only been a few sightings in this area since the whales were heavily hunted in the eastern

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North Pacific (Scheffer and Slipp 1948; Calambokidis and Steiger 1990; Pinnell and Sandilands 2004). Today, humpback whales occasionally occur in the Puget Sound Study Area but do not remain there for long periods (Everitt et al. 1980; Osborne and Ransom 1988). Calambokidis and Steiger (1990) recorded the movements of at least two humpback whales in southern Puget Sound in June and July 1988.

It is unlikely that humpback whales will be in the action area. This project will have no effect on humpback whales.

Georgia Basin/Puget Sound Bocaccio DPS

DeLacy et al. (1972) and Miller and Borton (1980) compiled all available data on Puget Sound fish species distributions and relative number of occurrences through the mid-1970s from literature, fish collections, unpublished log records, and other sources. Though bocaccio was recorded 110 times in these documents, most records were associated with sport catch from the 1970s in Tacoma Narrows and Appletree Cove (near Kingston). The University of Washington Museum Collection has two bocaccio specimens pulled from Port Orchard between the Kitsap Peninsula and Bainbridge Island off of Fletcher Bay. No records occur in Sinclair Inlet. Although there have been no confirmed observations of bocaccio in Puget Sound for approximately 7 years (74 FR 18516), Drake et al. (2008) concluded that it is likely that bocaccio occur in low abundances.

NMFS relied on scientific information outlined by the Biological Review Team (Drake et al. 2008) and Palsson et al. (2008) to outline the limiting factors for rockfish in Puget Sound waters. These stressors included commercial and sport fisheries, habitat disruption (including exotic species), derelict gear, climate changes, water quality (specifically dissolved oxygen), species interactions (including predation and competition), diseases, and genetic changes.

Minor, temporary, and localized effects on water quality (notably small increases in turbidity) may occur during pile driving; however, there would be no associated decrease in dissolved oxygen, or increase in water temperatures. The proposed project would not facilitate the introduction or increase the existing prevalence of non-indigenous species in the action area.

NAVBASE Kitsap Bremerton is currently partnered with the Washington Department of Fish and Wildlife to conduct Rockfish

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surveys along the Bremerton waterfront. The results from this survey will assist Navy biologists in identifying potential habitat, implementing conservation plans, and in any future ESA consultations.

The proposed project would not present an increase in the limiting factors for rockfish in Puget Sound. The project may affect, but is not likely to adversely affect, bocaccio.

Georgia Basin/Puget Sound Yelloweye Rockfish DPS

Yelloweye rockfish are extremely rare in Puget Sound, Washington. DeLacy et al. (1972) and Miller and Borton (1980) discovered 113 documented yelloweye rockfish records from Puget Sound associated with sport catch. No records occur in Sinclair Inlet (Miller and Borton 1980). Kincaid (1919) reported yelloweye rockfish used to be relatively common in the deep waters of Puget Sound. Due to the moratorium on both sport and commercial fishing for yelloweye rockfish in Sinclair Inlet, the absence of associated recent catch records, and no recent scientific surveys of these waters, the prevalence of yelloweye rockfish in these waters remains unknown. Little is known about their habitat requirements or use in Puget Sound waters (Drake et al. 2008; Palsson et al. 2008).

The effects of the proposed project on yelloweye rockfish would be the same as those described for bocaccio above. The project may affect, but is not likely to adversely affect, yelloweye rockfish.

Georgia Basin/Puget Sound Canary Rockfish DPS

Canary rockfish were once considered fairly common in the greater Puget Sound area (Kincaid 1919); however, little is known about their habitat requirements in these waters (Drake et al. 2008; Palsson et al. 2008). DeLacy et al. (1972) and Miller and Borton (1980) documented 114 records of canary rockfish prior to the mid-1970s, with most records attributed to sport catch from the 1960s to 1970s in Tacoma Narrows, Hood Canal, San Juan Islands, Bellingham, and Appletree Cove. No records occur in Sinclair Inlet (Miller and Borton 1980). With the absence of associated catch records, and no recent scientific surveys of these waters, the prevalence of rockfish in these waters remains unknown. Drake et al. (2008) concluded that canary rockfish occur in low and decreasing abundances in Puget Sound.

The effects of the proposed project on canary rockfish would be the same as those described for bocaccio above. The project may affect, but is not likely to adversely affect, canary rockfish.

Coastal/Puget Sound Bull Trout

There are no core populations of bull trout that occur in any of the streams that empty into Sinclair Inlet or the entirety of East Kitsap. Bull trout typically prefer colder water temperatures, which are usually associated with snowmelt-fed streams. The lowland streams that drain into Sinclair Inlet are primarily fed by surface runoff and do not meet the optimal conditions necessary for spawning and rearing of bull trout. The two-year survey of salmonid use of Sinclair Inlet found no bull trout occurring in the area (Fresh et al. 2006).

Although streams within Sinclair Inlet are unlikely to support any core populations of bull trout, there is the potential for adult fish from other drainages within the Puget Sound (i.e. Green and Puyallup watersheds) to utilize the littoral zones for foraging. Typically, most anadromous bull trout remain within several miles of the mouth of their natal stream. However, relatively little research has been done on their saltwater migrations (University of Washington, 2002).

Effects will be the same as those for Chinook although there are no reports of bull trout within the action area. The project may affect, but is not likely to adversely affect, Coastal/Puget Sound bull trout.

Marbled Murrelet

Marbled murrelets nest and roost in mature and old growth forest areas of western Washington. The majority of Kitsap County, including NAVBASE Kitsap Bremerton and the area surrounding Sinclair Inlet, has been logged several times over the past 150 years and no longer contains old growth forest or large trees necessary for marbled murrelet nesting. The closest documented habitat is on the other side of the Hood Canal in the Olympic National Forest.

The project area and the surrounding shipyard generate loud noises throughout the day, from pulsed and non-pulsed sources. Noise is generated by Navy and non-Navy vessels including tugs, barges, aircraft carriers, submarines, ferry traffic, security boats, and recreational vessels operating in Sinclair Inlet. Other sources include ships maintenance, dry dock activity, and

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ship disassembly. Depending on the noise-generating activity and distance from those activities, industrial shipyard airborne noise is expected to be between 60 and 90 dBA.

The project area is in an industrial shipyard, miles from known nesting habitat and where high activity and noise levels limit any potential for foraging. While marbled murrelets can be seen in the South Puget Sound foraging, they have not been identified in the industrial waters surrounding NAVBASE Kitsap at Bremerton. While no marbled murrelets are expected to be in the project area, the following mitigation measures will ensure no impacts if foraging marbled murrelets are seen at end of the pier.

Per discussions between the Navy and USFWS that occurred on November 19, 2012, when impact driving new concrete piles near the end of the pier the Navy will either limit impact driving at to one hour per day, or after one hour, provide a qualified person familiar with marbled murrelets to monitor a 21 meter radius around the pile . The 21 meter radius was obtained from the USFW model and translates to the 202 dB sound exposure limit (SEL) considered to be the auditory injury threshold which is reported as the cumulative amount of exposure for a single pile driving event. The end the pier that will receive a higher level of protection measures for Marbled Murrelets is defined in Figure 5 and assumes that this section of the pier is adjacent to the most open fetch that foraging murrelets could be expected to approach the action area from. The remaining pier is considered to be encroached upon by adjacent piers, moored ships, industrial activity, and ferry services sufficiently that it provides a highly unlikely route of travel for foraging murrelets. Figure 5 also details the 21 meter monitoring area.

Pile driving will be not begin until a marbled murrelet observer stationed on the edge of the barge clears the area. The observer will immediately halt all pile driving if a marbled murrelet is seen within or approaching the area.

After the marbled murrelet observer gives word that the area is clear, a soft start will be used whereby the force of piling is gradually increased to alert animals in the vicinity to the commencement of the operations. The soft start will be used for all areas of the pier, including interior areas of the shipyard where a marbled murrelet observer is not required.

With implementation of the protection and monitoring measures described above, and the rarity that marbled murrelets would be

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present in the action area, the Proposed Action may affect, but is not likely to adversely affect marbled murrelets.

Table 2 Effects Determination

| <i>Listed Species</i> | <i>Effects Determination</i> |
|--|--|
| Puget Sound Chinook ESU Salmon | May affect, not likely to adversely affect |
| Puget Sound Steelhead DPS | May affect, not likely to adversely affect |
| Southern Resident Killer Whale | May affect, not likely to adversely affect |
| Steller Sea Lion Eastern DPS | May affect, not likely to adversely affect |
| Humpback Whale | No effect |
| Georgia Basin/Puget Sound Bocaccio DPS | May affect, not likely to adversely affect |
| Georgia Basin/Puget Sound Yelloweye Rockfish DPS | May affect, not likely to adversely affect |
| Georgia Basin/Puget Sound Canary Rockfish DPS | May affect, not likely to adversely affect |
| Coastal/Puget Sound Bull Trout | May affect, not likely to adversely affect |
| Marbled Murrelet | May affect, not likely to adversely affect |

3. ESSENTIAL FISH HABITAT ASSESSMENT

The action area includes habitats designated as essential fish habitat (EFH) for various life stages of 17 species of groundfish, five coastal pelagic species, and three species of Pacific salmon. The proposed project will not result in excessive levels of organic materials, inorganic nutrient, or heat. The action will not result in physical alterations that could adversely affect water temperature or beach contours. The action will not remove large woody debris, or other natural

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beach complexity features, nor will it affect any vegetated shallows. The proposed project will not affect EFH for Pacific salmon, groundfish, and coast pelagic species.

4. MITIGATION

Due to the potential presence of ESA threatened and endangered species in the action area, the following mitigation measures will be observed:

- In-water work will be conducted between June 15 and March 1 to avoid the juvenile salmon migration period in Sinclair Inlet.
- When impact driving new concrete piles at the end of the pier, the Navy will either;
 - Limit impact driving at the end of the pier (Figure 5) to one hour per day, or;
 - After one hour, provide a qualified person familiar with marbled murrelets to monitor a 21 meter radius around the pile at the end of the pier. Pile driving will be suspended if a marbled murrelet is spotted within the specified radius.
- The Navy is applying for an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act (MMPA). The IHA will include additional mitigation measures, including a shutdown area that the Navy will implement during pile removal and installation.
- Piles that break during construction will be cut at mudline to avoid disturbing contaminated sediment.
- Removed piles will be cut into four ft lengths and placed in a dumpster for disposal.
- All work will be accomplished so that no debris or deleterious material enters the water.

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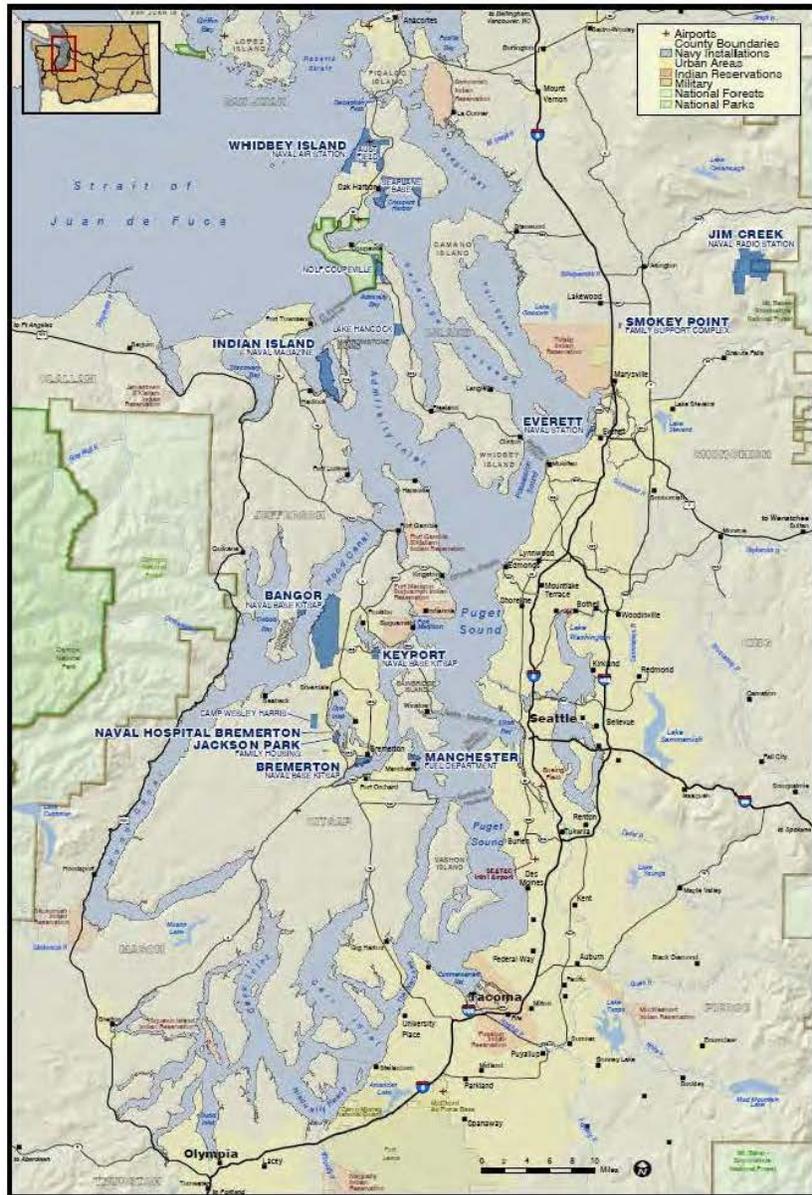


Figure 1 Location

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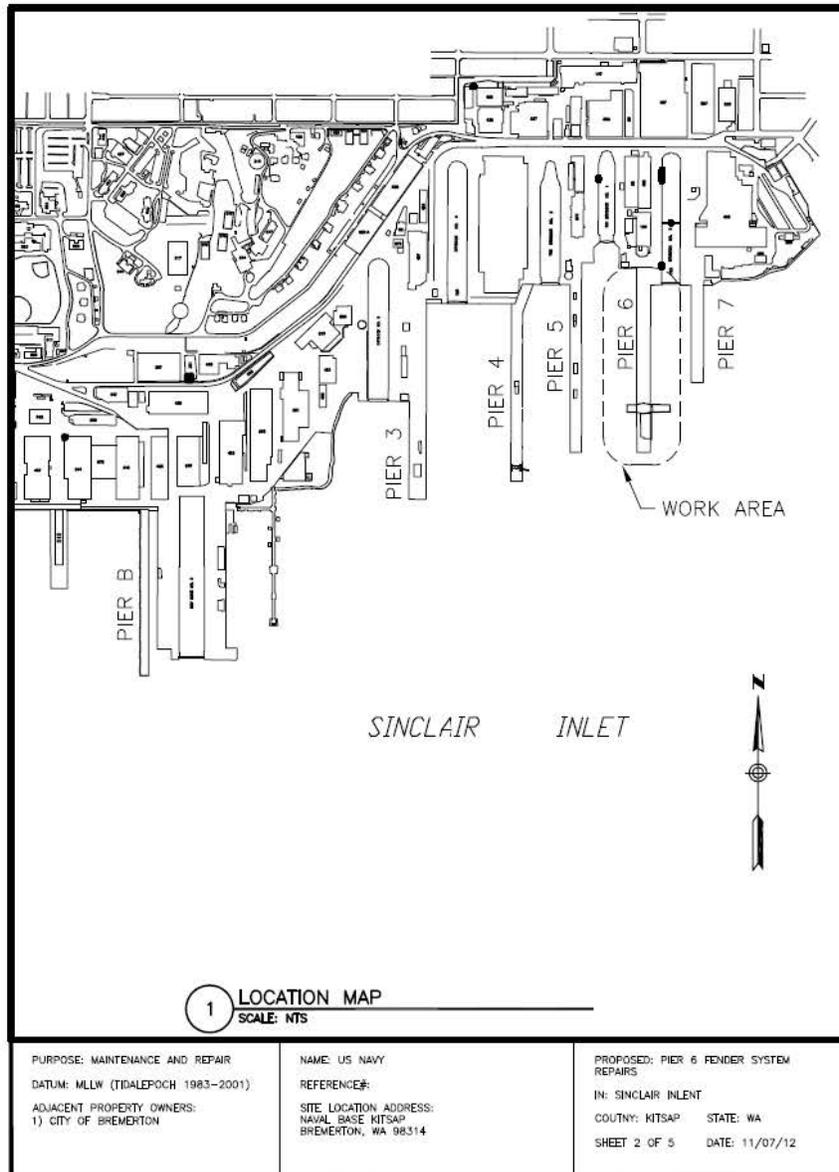


Figure 2 Pier 6 at NAVBASE Kitsap Bremerton

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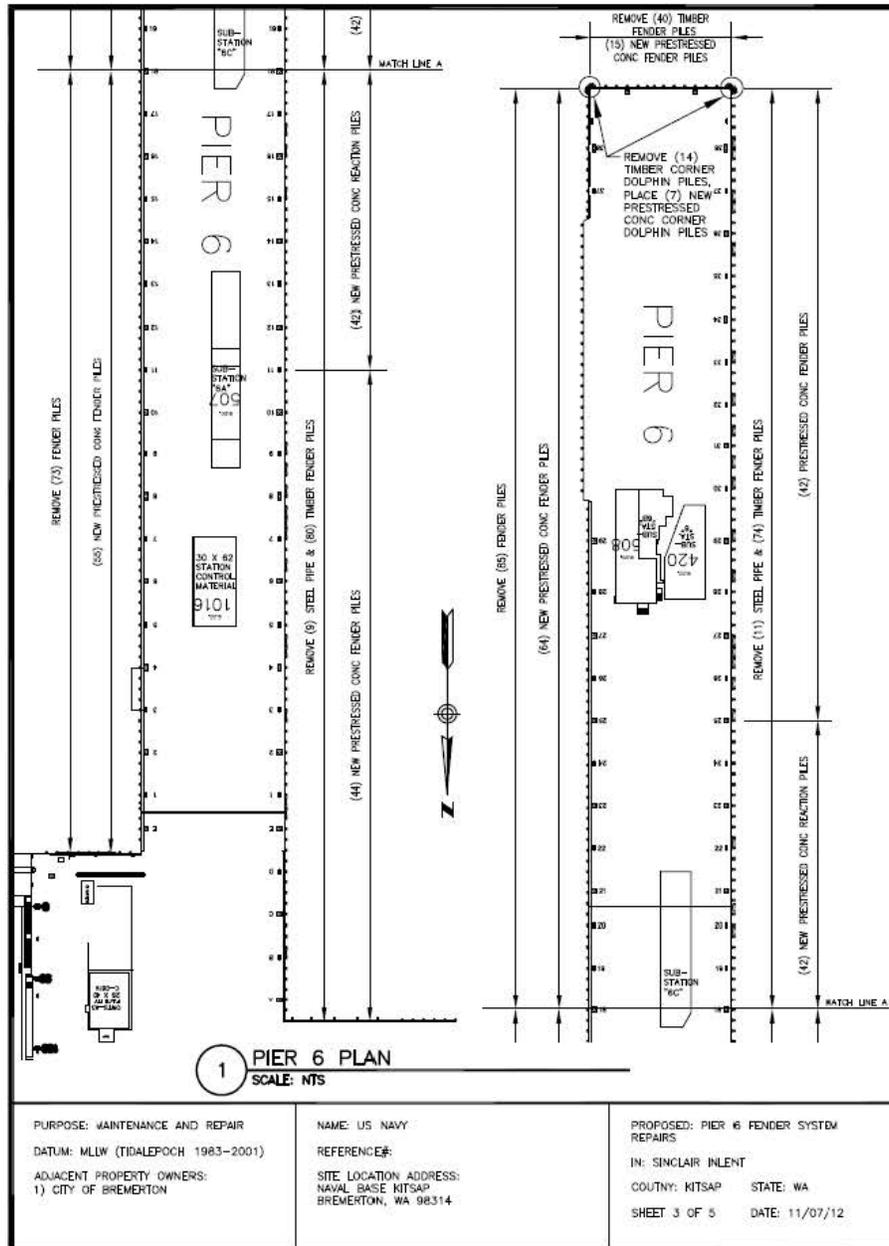


Figure 3 Fender Pile Locations

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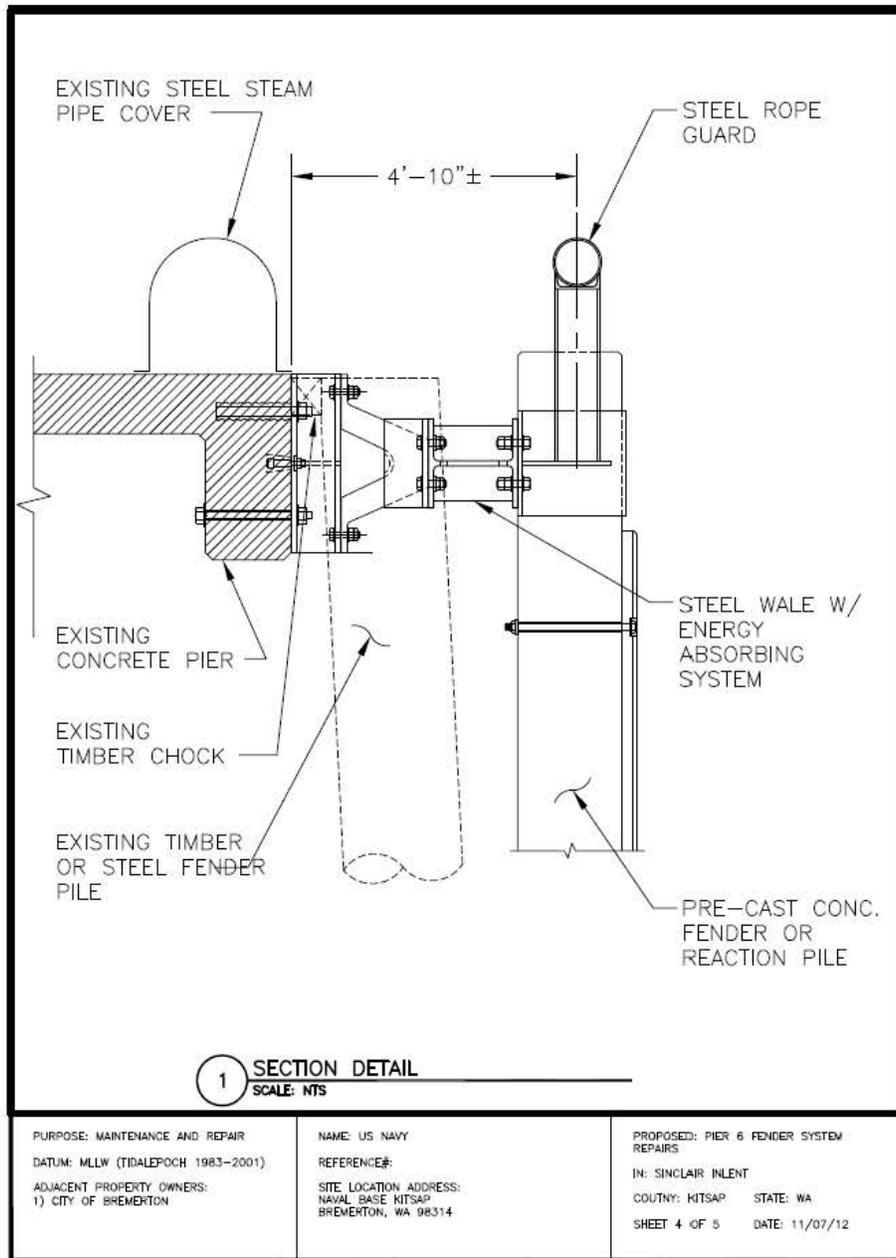


Figure 4 Typical Fender System Detail

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Figure 5 Marbled Murrelet Injury Threshold

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Appendix B
Incidental Harassment Authorization

(To be inserted at the completion of consultation)

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Appendix C Cultural Resources



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

February 19, 2013

Capt. P. M. Dawson
Commanding Officer
Naval Base Kitsap
120 South Dewey St.
Bremerton, WA 98314-5020

Attn: Eric Mollerstuen

In future correspondence please refer to:

Log: 021913-16-USN
Property: Naval Base Kitsap Bremerton / Puget Sound Naval Shipyard NHL
Re: Fender System Repair at Pier 6

Dear Capt. Dawson:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). The above referenced project has been reviewed on behalf of the State Historic Preservation Officer under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. My review is based upon documentation contained in your communication as well as a letter from our office dated May 17, 2010 regarding temporary fender pile replacement.

First, I agree with the Area of Potential Effect (APE) as described in your consultation letter. I also concur that the proposed fender pile replacement will have "NO ADVERSE EFFECT" on Pier 6, a contributing property to the Puget Sound Naval Shipyard National Historic Landmark District. If additional information on the project becomes available, or if any archaeological resources are uncovered during construction, please halt work in the area of discovery and contact the appropriate Native American Tribes and DAHP for further consultation.

Thank you for the opportunity to review and comment. If you have any questions, please contact me.

Sincerely,

A handwritten signature in blue ink that reads "Nicholas Vann".

Nicholas Vann
Historical Architect
(360) 586-3079
Nicholas.Vann@dahp.wa.gov

cc: Hank Florence, NPS





DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/00072
25 Jan 13

Dr. Allyson Brooks, PhD
Washington State Historic Preservation Officer
Department of Archaeology & Historic Preservation
P.O. Box 48343
Olympia, WA 98504-8343

Dear Dr. Brooks:

SUBJECT: FENDER SYSTEM REPAIR AT PIER 6, NAVAL BASE KITSAP
BREMERTON

Naval Base (NAVBASE) Kitsap is initiating consultation in accordance with Section 106 of the National Historic Preservation Act as amended and 36 Code of Regulations (CFR) Part 800 for a proposed undertaking at NAVBASE Kitsap Bremerton that repairs the Pier 6 fender system. The Area of Potential Effect (APE) for this undertaking is the footprint of Pier 6.

The principle purpose of the fender system is to prevent Navy vessels and the pier from being damaged during vessel mooring or berthing. The existing Pier 6 fender system is deteriorated and insufficient for berthing large Navy vessels such as aircraft carriers without risk of damaging the pier's structural integrity. The proposed undertaking replaces deteriorated creosote treated timber fender and reaction piles, steel pipe fender piles, creosote treated timber chocks, wales, steel access ladders, and steel rope guards at Pier 6. Renovation installs new pre-stressed concrete reaction, fender, and corner dolphin piles, galvanized steel wale system, rope guards and ladders. The proposed undertaking is essential to ensure a critical ship maintenance asset is not jeopardized as continued deterioration leaves the pier vulnerable to vessel impacts. This work is identical to prior projects that repaired the fender systems for Piers 3 and 7 at NAVBASE Kitsap Bremerton.

The proposed project includes:

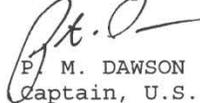
- Removal of approximately 380 creosote treated timber fender and corner dolphin piles.
- Removal of approximately 20 steel pipe fender piles.

- Removal of deteriorated creosote timber chocks, wales, steel access ladder, and steel rope guards.
- Installation of approximately 216 pre-stressed concrete fender and corner dolphin piles.
- Installation of approximately 84 pre-stressed concrete reaction piles.
- Installation of galvanized steel wale system, rope guards, and access ladders.
- Installation of high density plastic rubbing strips.
- Installation of a cathodic protection system.

Pier 6 is a contributing property to the Puget Sound Naval Shipyard National Historic Landmark (NHL) district and played an important role in the repair effort during World War II (WWII). Pier 6's most striking feature is the 250-ton hammerhead crane located near the end of the pier. This undertaking will repair the structural integrity of Pier 6 so that it can continue to be utilized for ship berthing and repair work.

NAVBASE Kitsap has determined that this undertaking will not adversely affect historic properties or those contributing to the NHL. We look forward to receiving your concurrence with our defining of the APE and finding of effect within 30 days of receipt of this letter. If you have any questions, please contact Mr. Eric Mollerstuen at telephone number (360) 476-9384 or email eric.mollerstuen@navy.mil.

Sincerely,



P. M. DAWSON
Captain, U.S. Navy
Commanding Officer

Enclosure (1) Map

Enclosure (2) Historic Property Inventory Forms

Enclosure (3) Photographs and Project Drawings

HISTORIC DISTRICTS & BUILDINGS NAVAL BASE KITSAP BREMERTON



PSNS
INVENTORY

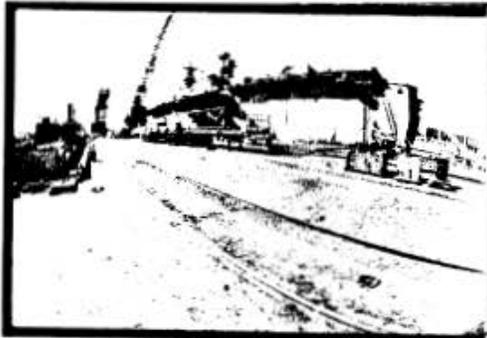
**HISTORIC SURVEY
PUGET SOUND
NAVAL SHIPYARD**

Facility
No.
716

NAME OF STRUCTURE PIER # 6
 Construction Date 1926
 Uses: Original Pier # 6 Alterations/Additions (Remod- 26,27,41,46,47,52,58,60,61, 65,67,71,75,76)
 WWII Pier # 6
 Present Pier # 6

DESIGNED BY NAVY YARD PUGET SOUND DATE 1925

DESCRIPTION: Condition Good Altered No Original Site Yes



Structure 716 is Pier # 6, measuring 1320 feet in length and 100 feet in width. Constructed in 1926, the pier is a concrete deck on pilings. The concrete deck is paved with asphalt paving. The major feature of the pier is crane number 28, a 250 ton stationary crane.

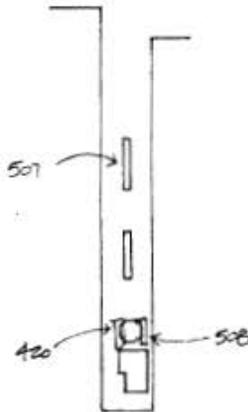
Occupying the pier are a number of buildings constructed of various materials.

Building 420 is a power plant with cast-in-place concrete walls.

Building 508 is a concrete and metal shed.

Building 839 is a large multi-story metal building constructed in 1968.

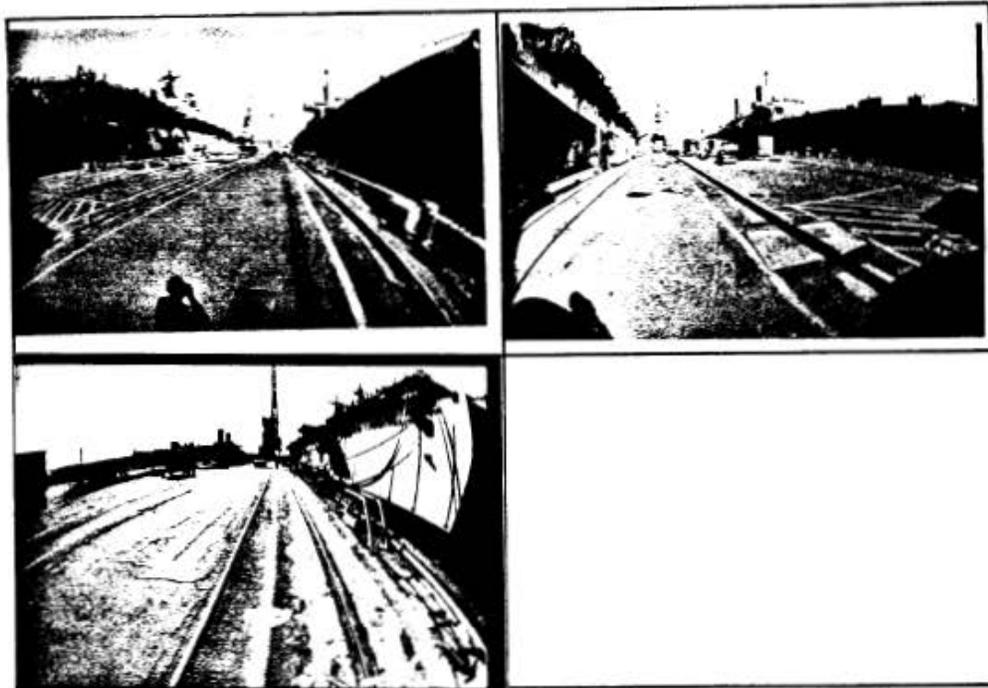
Building 507 is a concrete structure with applied walls of CMU and chain link fenced transformer areas. The building has a slightly pitched membrane roof.



SIGNIFICANCE: Period 1922-1949 Area of Significance Repair
1. x 2. 3. 4.

Pier #6 (Facility 716) was completed in 1926. It is located south of Facility 106 between Drydock #1 and #3. The pier is served by heavy crane rails, each side, and by railroad track, and, therefore, is an integral part of the repair facilities served by the crane and rail distribution system of the industrial yard. The 250 ton hammerhead crane (Facility 709), the symbol of Puget Sound Naval Shipyard, is located near the end of pier #6. The pier was designed by Navy Yard Puget Sound in 1925 under the direction of Public Works Officer Capt. W. H. Allen.

Although the photographic record of the use of any of the piers is limited, and the use of the hammerhead crane is also not documented, Pier #6 is one of the major repair and refitting piers
 (cont)



NEGATIVE
NO.

SP85-00992
Bldg. #716

VIEW
NORTH

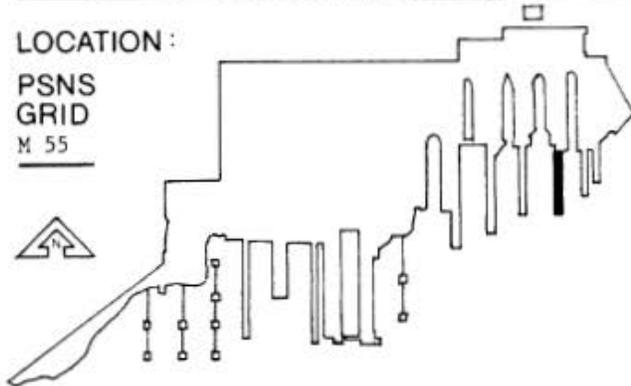
VIEW
NORTH

VIEW
SOUTH

| |
|------------------------|
| Facility No. 716 |
|------------------------|

LOCATION:

PSNS
GRID
M 55



| UTM Zone | Easting | Northing |
|----------|---------|----------|
| 10 | 527895 | 5267180 |

Quadrangle Bremerton West
scale 1:24,000

CONTINUATION of SIGNIFICANCE

of the yard. The photographic record indicates that the USS Tennessee (battleship) was moored at the pier in 1937, the USS California and USS New Mexico (battleships) were moored at the pier in the late 1930s, and the USS Saratoga (aircraft carrier) was moored at the pier in 1939. It is believed that the USS Pennsylvania (battleship) was moored at the pier in 1945. The pier is presumed to have played an important role in the repair of capital ships during WWII, and most likely was one of the most important facilities for dockside repair of the capital ships damaged in Pearl Harbor.

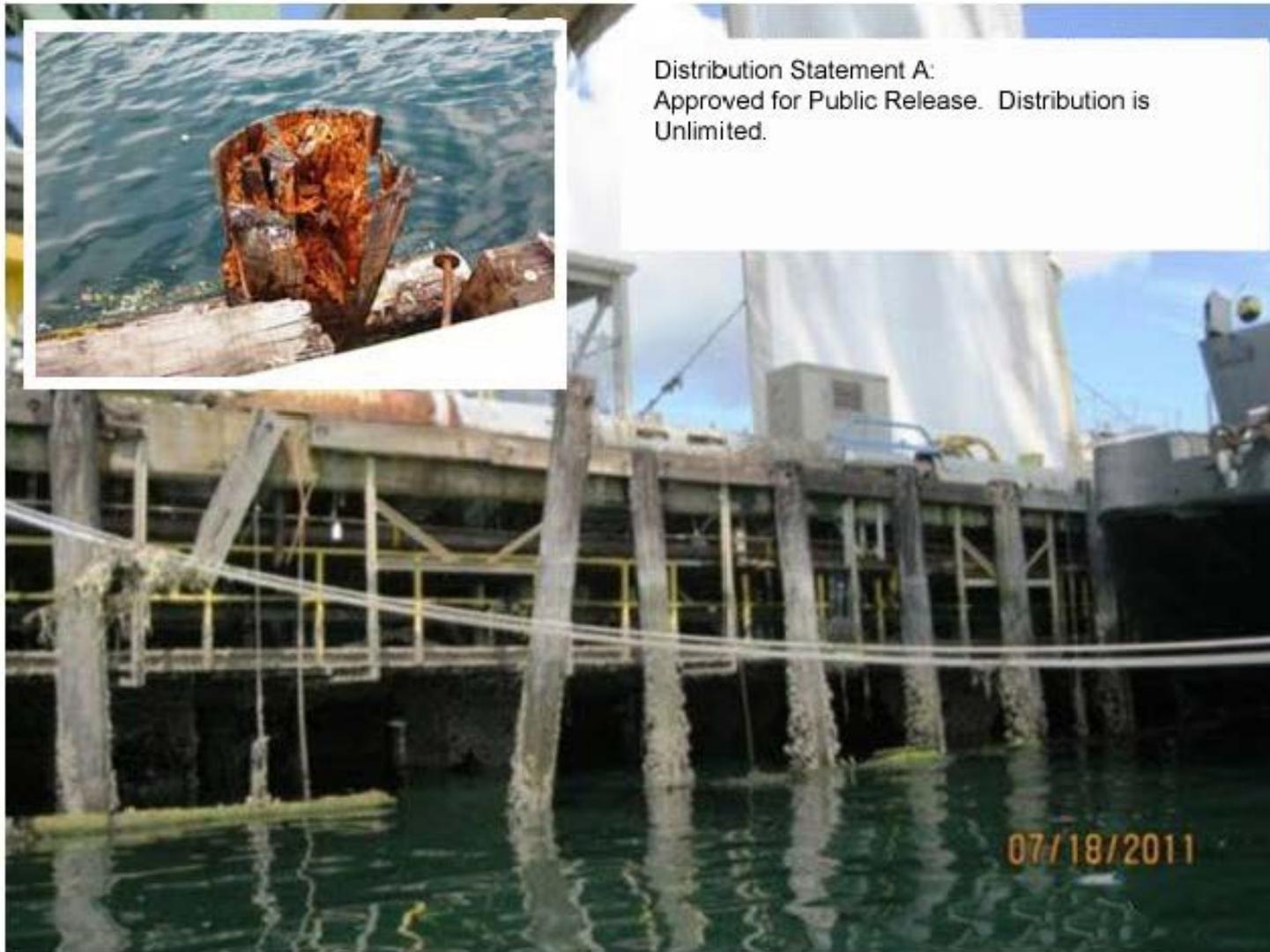
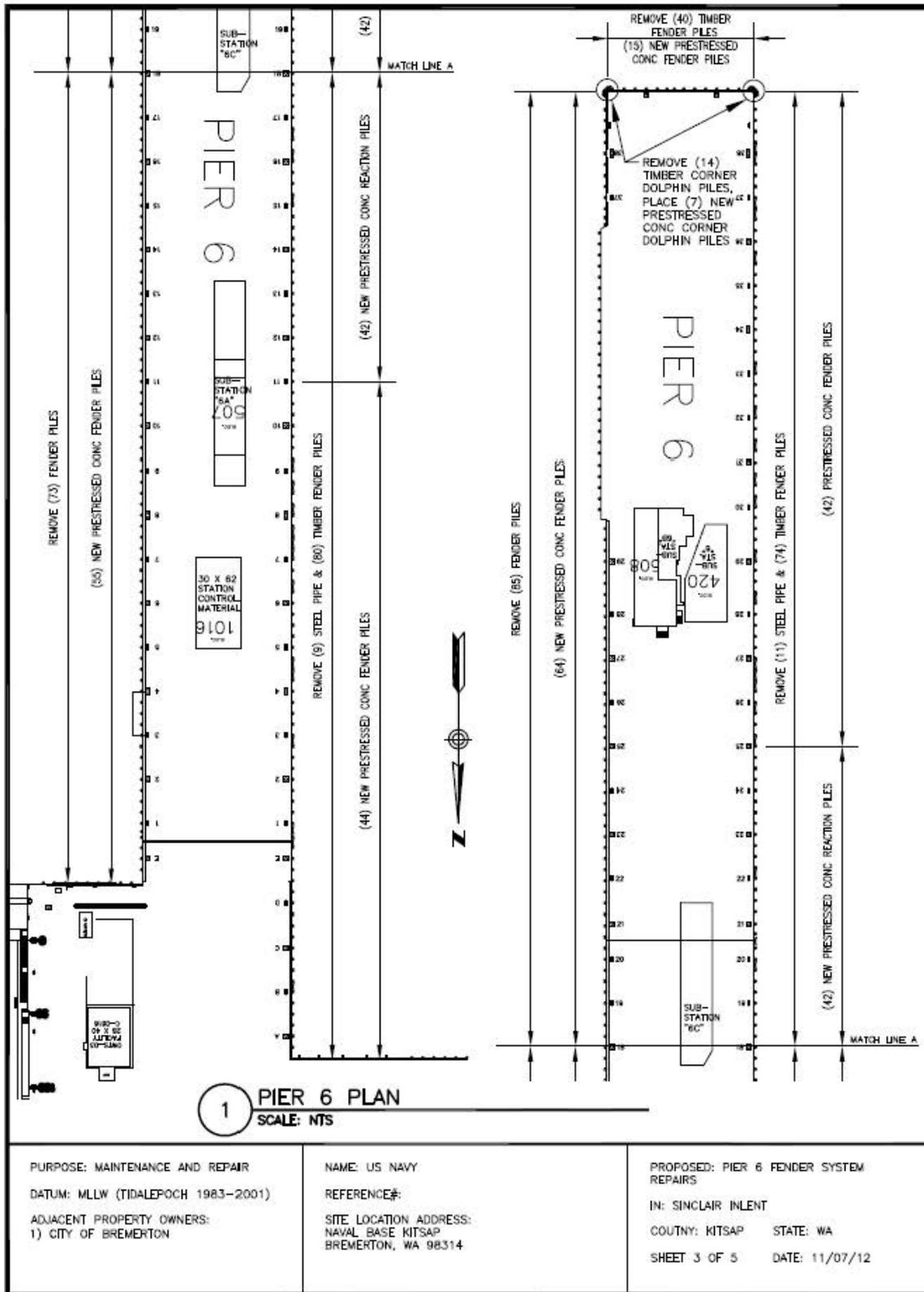
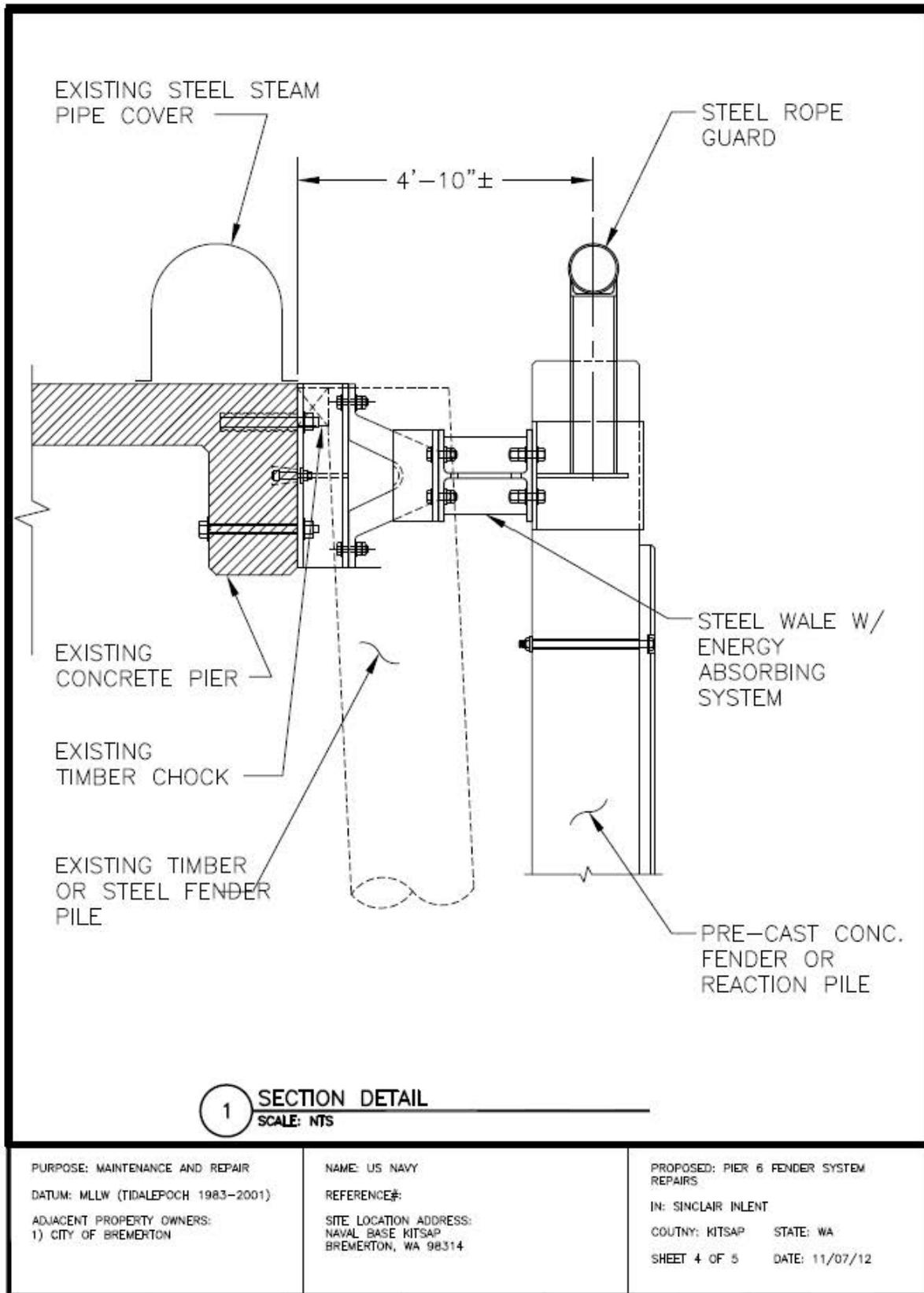


Figure 1 Detail of Deteriorated Fender Piles at Pier 6



1
2
3
4

Figure 2 Fender Pile Locations



1
2
3

Figure 3 Typical Fender System Detail

1
2
3
4
5
6
7

Appendix D
Government to Government Consultations



DEPARTMENT OF THE NAVY
 NAVAL BASE KITSAP
 120 SOUTH DEWEY ST
 BREMERTON, WA 98314-5020

5090
 Ser PRB4/0.1023
 20 NOV 12

The Honorable Leonard Forsman, Chairman
 The Suquamish Tribe
 P. O. Box 498
 Suquamish, WA 98392

Dear Chairman Forsman:

Thank you for meeting on October 31, 2012 to discuss several proposed projects at Naval Base Kitsap. I appreciate the time and energy the Tribe committed to the meeting and the valuable input you provided.

In our meeting the Navy presented information on the following projects: Pier B Mitigation, Jackson Park Public Private Venture, Electromagnetic Measurement Range, Service Pier Barge Moorage, Relocation of Floats to Delta Pier, Swimmer Net Test, Land Water Interface, Service Pier Extension, and Pile Repair and Replacement Program.

Enclosed are our notes of the meeting including responses to questions and comments. If you feel we've mischaracterized any issues or omitted any critical comments, please let me or my staff know.

Please do not hesitate to contact me or my staff if you have any questions on these or other topics. I can be reached at 360-627-4000 (work) 360-340-6543 (cell), or peter.m.dawson@navy.mil. My Environmental Director, Mr. Greg Leicht can be reached at 360-315-5411 (work), 360-649-1623 (cell), or gregory.leicht@navy.mil.

Sincerely,

P. M. DAWSON
 Captain, U.S. Navy
 Commanding Officer

- Enclosures:
1. Meeting Notes from Naval Base Kitsap - Suquamish Tribe Government-to-Government meeting on 31 October August 2012
 2. Presentation Slides from Naval Base Kitsap - Suquamish Tribe Government-to-Government meeting on 31 October 2012



DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
PRB4/00036
14 Jan 13

The Honorable Leonard Forsman, Chairman
The Suquamish Tribe
P. O. Box 498
Suquamish, WA 98392

Dear Chairman Forsman:

Thank you for meeting on December 14, 2012 to discuss several proposed projects at Naval Base Kitsap. I appreciate the time and energy the Tribe committed to the meeting and the valuable input you provided.

Our meeting was preceded by a dedication of the Elwood Point Interpretative Display. The Navy appreciates the history the Suquamish Tribe has for the Elwood Point area, and I personally appreciate the time you and tribal artisans spent making the display such a wonderful success.

In our meeting the Navy presented information on the following projects: Pier B Mitigation, Pier 6 Fender Pile Replacement and Culvert Replacement at Railroad Milepost 28.24. The Tribe presented information on the Dickerson Creek railroad culvert and marine mammals on the Bremerton Port Security Barriers.

Enclosed are our notes of the meeting including responses to questions and comments. If you feel we've mischaracterized any issues or omitted any critical comments, please let me or my staff know.

Please do not hesitate to contact me or my staff if you have any questions on these or other topics. I can be reached at (360)627-4000 (work), (360)340-6543 (cell), or peter.m.dawson@navy.mil. My Environmental Director, Mr. Greg Leicht, can be reached at (360)315-5411 (work), (360)649-1623 (cell), or gregory.leicht@navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "P. M. Dawson".

P. M. DAWSON
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Meeting Notes from Naval Base Kitsap - Suquamish Tribe Government-to-Government meeting on 14 December 2012
2. Presentation Slides from Naval Base Kitsap - Suquamish Tribe Government-to-Government meeting on 14 December 2012

1
2
3
4
5
6
7
8

Appendix E
Public Involvement

(To be inserted once public comments are received)