



King County

## ENVIRONMENTAL CHECKLIST

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### Maury Island Fill Removal Restoration Project

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#### *Purpose of the Checklist:*

The State Environmental Policy Act (SEPA), Chapter 43.21 RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

#### *Instructions for Applicants:*

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write “**do not know**” or “**does not apply.**” Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be a significant adverse impact.

#### *Use of Checklist for Nonproject Proposals:*

Complete this checklist for nonproject proposals, even though questions may be answered “**does not apply.**” In addition, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (PART D).

For nonproject actions, the references in the checklist to the words “**project,**” “**applicant,**” and “**property or site**” should be read as “**proposal,**” “**proposer,**” and “**affected geographic area,**” respectively.

**A. BACKGROUND**

1. *Name of the proposed project, if applicable:*

Maury Island Natural Area Fill Removal Project

2. *Name of Applicant:*

King County Department of Natural Resources and Parks  
Water and Land Resources Division

3. *Address and phone number of applicant and contact person:*

Deborah Pessoa, Project Manager  
King County Water and Land Resources Division  
201 South Jackson Street, Suite 600  
Seattle, WA 98104-3855  
Phone: 206-477-5643  
Fax: 206-296-0192  
Deborah.Pessoa@kingcounty.gov

4. *Date checklist prepared:*

May, 2015

5. *Agency requesting checklist:*

King County Department of Natural Resources and Parks  
Water and Land Resources Division

6. *Proposed timing or schedule (include phasing, if applicable):*

Project construction will occur in August/September 2015.

7. *Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.*

No

8. *List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.*

Cultural Resources Investigations for the Maury Island Fill Removal Project, prepared by King County, June 2014;

The Vashon Island Archaeology Project, prepared by Amanda Taylor for King County Road Services Division, NADB 135119, 2007.

Critical Areas Report, Maury Island Fill Removal Project. King County Water and Land Resources Division; July, 2014.

Maury Island Natural Area Fill Removal Project, Maury Island, King County, Washington, Cultural Resources Assessment. ESA. September 2014.

9. *Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.*

No

10. *List any government approvals or permits that will be needed for your proposal, if known.*

- King County Clearing and Grading Permit (King County DPER);
- King County Parks Special Use Permit (King County Parks);
- Hydraulic Project Approval (Washington Dept. of Fish and Wildlife);
- Washington State Shorelines Substantial Development Exemption (King County DPER);

11. *Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on the project description.)*

The Maury Island Fill Removal Project is located at the Maury Island Natural Area on the southeast shoreline of Maury Island. It is the site of the former Glacier gravel mine as well as other mines. This project will remove up to 239 cubic yards of concrete and other debris from a dock site in the intertidal zone. The goal is to restore beach-forming processes to a 60 by 25 foot area on the shoreline. The concrete structure will be removed using tracked heavy equipment brought to the site from the south.

Beach-forming processes will be restored and beach spawning fish habitat will be improved at the site by removing approximately 111 cubic yards of concrete from a former dock and approximately 128 cubic yards of material that may have been placed inside a portion of the dock. If the material found within the dock is native beach material it will be left in place. Beach wood found in the open portion of the dock will be left on the beach.

12. *Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity plan, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.*

The proposed project is located on the southeast shoreline of Maury Island in Central Puget Sound, east of the town of Dockton in Maury Island Natural Area (see Figure 1). The 250 acre property is owned by King County and is managed as “Ecological Land.” The project site is in the NW quarter of Section 28, Township 22N, Range 03E; Thomas Bros. page 713 at H4.

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

- a. *General description of the site (underline one): flat, rolling, hilly, steep slopes, mountainous, other.*

The site is a narrow flat terrace and a moderately sloping beach, backed by a tall steep slope.

- b. *What is the steepest slope on the site (approximate percent slope)?*

Portions of the slope landward of the terrace are approximately 1.5 to 1 (about 70%).

- c. *What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.*

A mix of sand and gravel is found on the shoreline and the beach itself is formed of sand, gravel and cobble.

- d. *Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.*

The site is an east-facing shoreline located in central Puget Sound, which is naturally subject to erosion from wind driven wave action. Puget Sound in this location is a shipping lane between Tacoma and ports to the north and waves created by ships do impact the shoreline as well. The existing concrete structure protects the shoreline in the immediate area from such forces. The shoreline adjacent to the structure is well vegetated with trees, shrubs and weedy plants and appears to be stable. .

- e. *Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate the source of fill.*

Approximately 111 cubic yards of concrete used to construct the dock will be removed from the site to restore the natural shoreline. Material found inside the lidded portion

of the structure will be left in place if it is found to be natural shoreline material. If it is non-native material, it will be removed from the site.

- f. *Could erosion occur as a result of clearing, construction, or use? If so, generally describe.*

Removal of the existing concrete structure that separates the upland from the adjacent beach will expose the site to wave action and other natural erosional forces. Since this shoreline of central Puget Sound is not protected, some erosion (and deposition) will likely occur over time. This level of erosion is consistent with natural processes that form appropriate and productive shoreline habitat. No other erosion is evident on the nearby shoreline.

- g. *About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?*

None of the site will be covered with impervious surface after project construction.

- h. *Proposed measures to reduce or control erosion, or other impacts to the earth, if any:*

Temporary Erosion and Sediment Control (TESC) BMPs will be utilized as appropriate during construction. TESC supervision by a certified erosion and sediment control lead (CESCL) will minimize the potential for erosion during construction.

## 2. Air

- a. *What types of emissions to the air would result from the proposal (for example, dust, automobile, odors, industrial wood smoke, greenhouse gases) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.*

The project has the potential to generate construction related dust. Dust control will be performed on an as-needed basis by watering and covering material. All loads of debris leaving the site will also be covered.

The proposed project, once construction is complete, will emit no gasses with the potential to negatively affect climate change.

Construction of the proposed project will use various vehicles and pieces of equipment that emit gasses with the potential to affect climate. These gasses include carbon dioxide (CO<sub>2</sub>), methane and nitrous oxide, as well as others in much smaller amounts. The global warming potential (GWP) of these compounds is measured in “carbon dioxide equivalents,” or CO<sub>2</sub>e, which converts the GWP of various gasses into their equivalent in CO<sub>2</sub>. The amount of CO<sub>2</sub>e that may be emitted as a result of constructing the proposed project has been estimated by computing the amount and types of fuel to be consumed by vehicles and equipment during construction. Fuel consumed is then converted into CO<sub>2</sub>e emitted using formulae developed by the Energy Information Administration (EIA) of the U.S. Department of Energy.

Using these formulae and estimates, construction of the proposed project will likely result in the discharge of approximately 4.21 tons of CO<sub>2</sub>e to the atmosphere.

- b. *Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.*

No.

- c. *Proposed measures to reduce or control emissions or other impacts to the air, if any:*

Engines will not idle unnecessarily and will be kept in proper working order with all filters and other emission control devices functional.

### 3. Water

- a. *Surface:*

- 1) *Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe the type and provide names. If appropriate, state what stream or river it flows into.*

Yes. The site is on the shoreline of Central Puget Sound.

- 2) *Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.*

Yes. Most of the project site and work proposed is within the tidal influence of Puget Sound and all of the work is within 200 feet of Puget Sound. Tracked equipment will drive north on the upper beach for approximately 1,500 feet to access the dock. The project will remove up to 239 cubic yards of concrete and other material from the intertidal area of Puget Sound (Figure 2) and will minimally reconfigure the shoreline of Puget Sound within the project area.

The dock is keyed into approximately 170 square feet of the upland adjacent to the beach. Removal of the dock will restore approximately 20 linear feet of unarmored shoreline.

- 3) *Estimate the amount of fill and dredge material that could be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.*

Approximately 239 cubic yards concrete and material found within the dock will be removed from the intertidal area of Puget Sound as part of this project. Project activities will occur within a construction footprint of 8,109 square feet lying between elevations 0 feet NAVD and 18 feet NAVD (NOAA Technical Memorandum OAR PMEL-122, Tidal Datum Distributions in Puget Sound, Washington, Based on a Tidal Model, November 2002).

- 4) *Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.*

No. However, the finished project will change the shoreline due to the removal of fill that presently obstructs natural processes in that area.

- 5) *Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.*

Yes, the entire project is within the 100-year floodplain of Puget Sound

- 6) *Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.*

The project should not involve any discharges of waste materials to surface waters. However, it is possible that, during removal of up to 239 cubic yards of debris from the beach of Puget Sound, parts of the concrete structure could crumble and be left on the beach. The contractor will be required to follow all appropriate Best Management Practices. They include placing plastic tarps on the ground to capture falling concrete.

b. *Ground:*

- 1) *Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities, if known.*

No.

- 2) *Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.*

None.

c. *Water Runoff (including storm water):*

- 1) *Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.*

The project will generate no stormwater runoff in excess of present conditions.

- 2) *Could waste materials enter ground or surface waters? If so, generally describe.*

No. All debris will be removed from the beach and appropriate BMPs will be used to ensure the surface and groundwater is protected. Crews will be equipped with spill response kits and will follow Best Management Practices.

- d. *Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:*

All Best Management Practices will be followed during the fill removal to minimize impacts to surface and groundwater. The finished project will enhance the natural shoreline at the site. When not in use, the heavy equipment will be stored on an disturbed upland area of the former mine, possibly used for vehicle parking in the past.

#### 4. Plants

- a. *Check or underline types of vegetation found on the site:*

- Deciduous trees: Madrone, domestic apple, other  
 Evergreen trees:  
 Shrubs: Poison Oak  
 Grass  
 Pasture  
 Crop or grain  
 Wet soil plants  
 Water plants:  
 Other types of vegetation

Much of the site is covered in grasses, poison oak, non-native blackberry and Scots broom. Madrone and a cultivated fruit tree are also found on the site.

- b. *What kind and amount of vegetation will be removed or altered?*

Access to the site is challenging, but can be achieved with removal of no more than three trees (two small madrone and a small non-native fruit tree).

- c. *List threatened or endangered species known to be on or near the site.*

None.

- d. *Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:*

The disturbed shoreline will be revegetated using appropriate native, salt-tolerant species adapted to site conditions.

#### 5. Animals

- a. *Check or underline any birds or animals that have been observed on or near the site, or are known to be on or near the site:*

- Birds: hawk, heron, eagle, songbirds, other  
 Mammals: deer, raccoons, coyotes  
 Fish: salmon, herring, shellfish, other

Other species of note that may utilize the site include sand lance, surf smelt and other beach-spawning forage fish.

- b. *List any threatened or endangered species known to be on or near the site.*

ESA-listed Chinook salmon, steelhead trout and bull trout likely use the nearshore areas during certain stages in their life cycles. Stellar sea lions and killer whales are known to regularly inhabit Central Puget Sound. Several ESA-listed species of rockfish also inhabit the deeper areas of Puget Sound.

Pacific herring, a state candidate species of concern, are documented to spawn in the nearshore areas adjacent to the project site.

- c. *Is the site part of a migration route? If so, explain.*

Many anadromous salmonids, including Chinook and coho salmon, cruise the shorelines of Puget Sound after migrating out of their natal rivers and streams and before migrating to the open ocean. These species and others are expected to migrate past the project site. Pacific herring, surf smelt and sand lance may also use the nearshore areas at the project site.

The project site is also on the Pacific Flyway and may serve as a resting area for migrating birds.

- d. *Proposed measures to preserve or enhance wildlife, if any:*

The purpose of this project is to enhance habitat quality of the site. Removing the obstruction on the beach will increase the site's value to both marine and terrestrial wildlife by allowing natural beach processes to occur. Removal of the dock will restore natural sediment recruitment and transport processes along this segment of the beach, thereby improving spawning habitat for beach-spawning fish such as herring, and sand lance, which are prey fish for salmon.

Natural drift wood is found inside a portion of the structure. Prior to demolition, the wood will be removed and be redistributed on the beach where it will provide shoreline structure and habitat for wildlife.

## 6. Energy and Natural Resources

- a. *What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.*

The finished project will require no energy.

- b. *Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.*

No.

- c. *What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:*

Not applicable.

## 7. Environmental Health

- a. *Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.*

No toxic chemicals or hazardous waste will be used or generated by this project. Elevated levels of arsenic and lead are present in the soils on site, but these are consistent with background levels found throughout Maury Island and are assumed to originate from the former Asarco copper smelter in Tacoma (<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1532>). Areas that are regularly inundated by tides, including most of the work area, likely contain much lower levels of arsenic in the sediments.

Construction equipment could leak diesel gas, oil, or hydraulic fluid onto the site. Best Management Practices as described below will be followed to prevent such leaks or releases of hazardous materials.

- 1) *Describe special emergency services that might be required.*

None.

- 2) *Proposed measures to reduce or control environmental health hazards, if any:*

All machinery will be inspected for leaks prior to entering the site. An emergency spill kit will be kept on the site at all times to respond to the potential loss of diesel gas, oil, or hydraulic fluid from construction machinery.

All construction equipment will be refueled at a designated fueling area. All equipment will be inspected on a daily basis to determine if there are leaking seals or gaskets that require replacement. Best Management Practices (BMPs) such as fuel containment and a spill response plan will be used during construction to reduce and control environmental health hazards. When feasible, biodegradable hydraulic fluid will be used.

When not in use, heavy equipment will be stored off of the beach in a disturbed upland area adjacent to the gravel access road. It is possibly a former parking area for the gravel mine.

- b. Noise:

- 1) *What types of noise exist in the area that may affect your project (for example, traffic, equipment, operation, other)?*

None.

- 2) *What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example, traffic construction, equipment operation, other)? Indicate what hours noise would come from the site.*

Removal of the dock will likely be accomplished using a tracked excavator and skid steer to break up the concrete and place it in a tracked carrier. Breaking up of the concrete will create noise. This work is expected to last three to five days and will be limited to hours between 7:00am and 7:00pm, Monday through Saturday.

- 3) *Proposed measures to reduce or control noise impacts, if any:*

Use of heavy equipment to construct the project will be limited to the hours between 7:00am to 7:00pm, Monday through Saturday.

## 8. Land and Shoreline Use

- a. *What is the current use of the site and adjacent properties?*

The site is currently owned by King County and is managed as “Ecological Land” for its ecological functions. It is used for passive recreation such as hiking and bird watching. Residential areas are found north and south of the Natural Area.

- b. *Has the site been used for agriculture? If so, describe.*

No.

- c. *Describe any structures on the site.*

There is one concrete dock structure on the site.

- d. *Will any structures be demolished? If so, what?*

The concrete dock will be demolished.

- e. *What is the current zoning classification of the site?*

The site is zoned M-SO, Mineral-Special District Overlay.

- f. *What is the current comprehensive plan designation of the site?*

RA (Rural Area)

- g. *If applicable, what is the current shoreline master program designation of the site?*

Rural.

- h. *Has any part of the site been classified as an “environmentally sensitive” area? If so, specify.*

Yes. The site is a shoreline of Puget Sound.

- i. *Approximately how many people would reside or work in the completed project?*

None.

- j. *Approximately how many people would the completed project displace?*

None.

- k. *Proposed measures to avoid or reduce displacement impacts, if any:*

Not applicable.

- l. *Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:*

The property is owned by King County and managed for its ecological values. This proposal would enhance those ecological values.

## 9. Housing

- a. *Approximately how many units would be provided, if any? Indicate whether high-, middle-, or low-income housing.*

None.

- b. *Approximately how many units, if any, would be eliminated? Indicate whether high-, middle-, or low-income housing.*

None.

- c. *Proposed measures to reduce or control housing impacts, if any:*

Not applicable.

## 10. Aesthetics

- a. *What is the tallest height of any proposed structure(s), not including antennas? What is the principal exterior building material(s) proposed?*

None

- b. *What views in the immediate vicinity would be altered or obstructed?*

None.

- c. *Proposed measures to reduce or control aesthetic impacts, if any:*

The project will enhance the aesthetics of the site by planting native species appropriate for the specific environment and eliminating an unnatural feature on the beach.

**11. Light and Glare**

- a. *What type of light or glare will the proposal produce? During what time of day would it mainly occur?*

None.

- b. *Could light or glare from the finished project be a safety hazard or interfere with views?*

No.

- c. *What existing off-site sources of light or glare may affect your proposal?*

None.

- d. *Describe proposed measures to reduce or control light and glare impacts, if any.*

None.

**12. Recreation**

- a. *What designated and informal recreational opportunities are in the immediate vicinity?*

The site is within the Maury Island Natural Area and is open to the public for informal recreational opportunities such as hiking, bird watching, and picnicking.

- b. *Would the proposed project displace any existing recreational uses? If so, describe.*

No

- c. *Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:*

The ability to walk the beach will be improved because the concrete will no longer block the beach during high tide.

### 13. Historical and Cultural Preservation

- a. *Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.*

The Washington Department of Archaeology and Historical Preservation's (DAHP) WISAARD database and King County's cultural resources database show no places or objects listed on, or proposed for, national, state, or local preservation registers on or next to this site.

- b. *Generally describe any landmarks or evidence of historical, archaeological, scientific, or cultural importance known to be on or next to the site.*

There are no landmarks or evidence of historical, archaeological, scientific or cultural importance known to be on or next to the site.

- c. *Proposed measures to reduce or control impacts, if any:*

A final cultural resources report prepared for King County by ESA (September 2014), documented the dock and other aboveground historic structures. No ethnographic places were found within the project area; however several known place names are found on the SE shoreline of Maury Island. ESA archaeologists excavated shovel probes in the project area and found no cultural resources. ESA concluded that no further cultural resource work associated with the fill removal project is needed. The King County Historic Preservation Program will survey the vehicle route for artifacts prior to construction. An Unanticipated Discovery Plan will be developed and followed in the event artifacts are discovered.

### 14. Transportation

- a. *Identify public streets and highways serving the site and describe proposed access to the existing street system. Show on-site plans, if any.*

Access to the site is from SW 260<sup>th</sup> Street. The finished project will have no vehicle access, and parking is available on SW 260<sup>th</sup> Street.

- b. *Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?*

The site itself is not served by public transit. The nearest public bus stop is about 3,000 feet away on SW 264<sup>th</sup> Street at 99<sup>th</sup> Avenue SW.

- c. *How many parking spaces would the completed project have? How many would the project eliminate?*

Parking will not be created or eliminated as a result of this project.

- d. *Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).*

No.

- e. *Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.*

The project is located immediately adjacent to Central Puget Sound, but the completed project will not use or affect boat traffic or impact other forms of transportation.

- f. *How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.*

None.

- g. *Proposed measures to reduce or control transportation impacts, if any:*

None.

## 15. Public Services

- a. *Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.*

No.

- b. *Proposed measures to reduce or control direct impacts on public services, if any:*

None.

## 16. Utilities

- a. *Underline utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.*

None.

- b. *Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed.*

None.

## C. SIGNATURE

*The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.*

Signature: Deborah Pessoa

Title: Senior Engineer

Date Submitted: 5/21/15

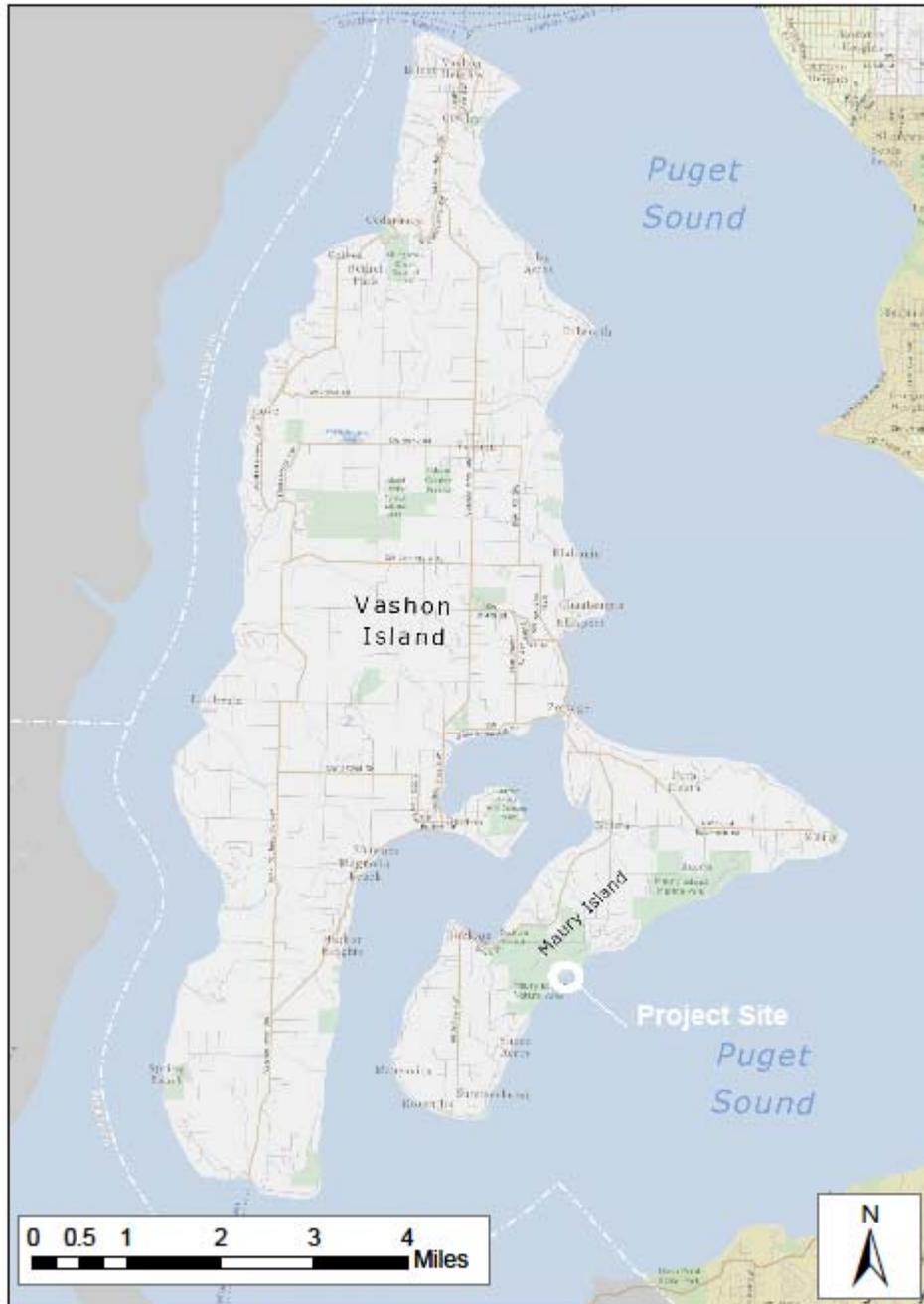


Figure 1: Project Vicinity Map  
Maury Island Natural Area Fill Removal Project



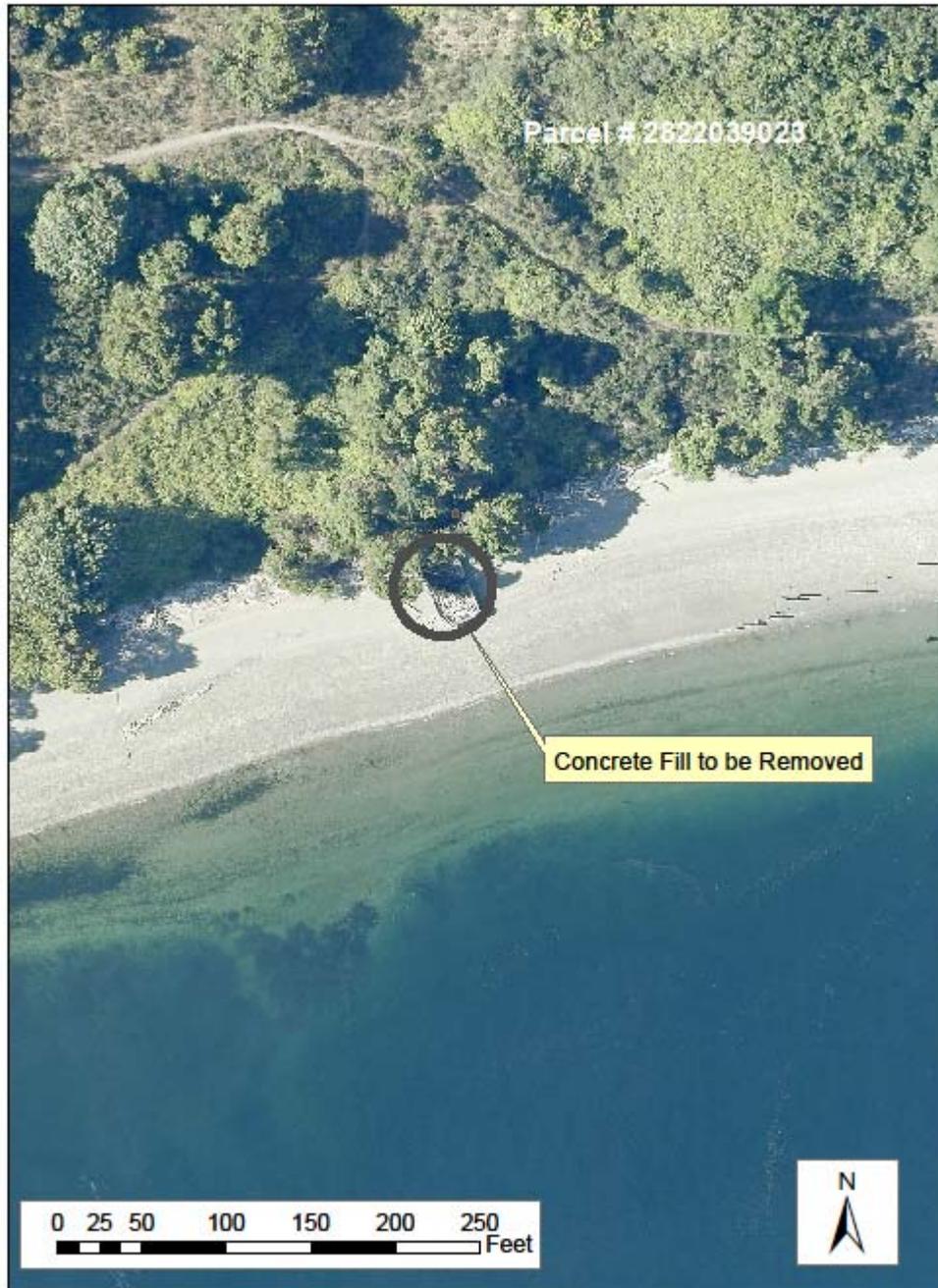


Figure 2: Project Site  
Maury Island Natural Area Fill Removal Project



Greenhouse Gas (GHG) Emissions Worksheet  
**Maury Island Fill Removal Project**

Note: The finished project will emit no GHGs aside from those occurring in the environment by natural processes. All emissions are therefore related to construction of the proposed project.

GHG and fuel use calculations assume that a tug pulling a barge to the site from the Seattle waterfront will consume 60 gallons of #2 deisel fuel per hour for a total of 5 hours, and that a track hoe will burn 6.3 gallons of deisel fuel per hour for 24 hours.

Estimated days of construction activity:

<u>Vehicle</u>	<u>hours/miles</u>	<u>Rate</u>	<u>fuel used</u>	<u>Em. Coef.</u>	<u>Emissions</u>	<u>Tons CO<sub>2</sub>e</u>
PC 120 Trackhoe	24	6.3	151.2	22.384	3384.46	1.69
Pickup	221	20.7	10.7	19.564	208.87	0.10
Dump Truck	1325	6.15	215.4	22.384	4822.57	2.41
<b>TOTAL:</b>					<b>8415.90</b>	<b>4.21</b>