



King County

ENVIRONMENTAL CHECKLIST

MCELHOE PEARSON RESTORATION PROJECT

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:*

McElhoe Pearson Restoration Project

2. *Name of Applicant:*

King County Department of Natural Resources and Parks
Water and Land Resources Division (WLRD)

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

Dan Eastman, Senior Ecologist
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201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
Phone: 206-263-6319
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4. *Date checklist prepared:*

April, 2012

5. *Agency requesting checklist:*

King County Department of Natural Resources and Parks
Water and Land Resources Division (WLRD)

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

The project will be constructed in August and September 2012. Planting will occur during the following winter and spring.

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

There are no specific future plans available, but several actions may be implemented in the future if monitoring determines that performance thresholds are not being met.

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

1. River and Wetland Assessment & Mitigation Report (King County Department of Natural Resources and Parks [KCDNRP], 2012)

2. Channel Sustainability Report (KCDNRP, 2012)

3. Draft Monitoring and Adaptive Management Plan (KCDNRP, 2012)

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 permits or other authorizations for other proposals are currently pending.

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

- Clean Water Act Section 404 Permit (U.S. Army Corps of Engineers)
- Endangered Species Act (ESA) Section 7 Consultation (National Oceanic and Atmospheric Administration Fisheries and United States Fish and Wildlife Service)
- National Historic Preservation Act Section 106 Review
- Washington State Executive Order 05-05 compliance
- National Pollutant Discharge Elimination System (NPDES) Permit for Construction (Washington State Department of Ecology)
- National Environmental Policy Act (NEPA) Compliance
- Coastal Zone Management Consistency
- Section 401 Water Quality Certification (Washington State Department of Ecology)
- Washington Department of Fish and Wildlife Hydraulic Project Approval
- King County Clearing and Grading Permit
- Shoreline Management Substantial Development Permit Exemption (Washington State Department of Ecology)
- King County Flood Hazard Certification
- Aquatic Use Permit (Washington State Department of Natural Resources)
- King County Parks Special Use Permit

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.)*

King County Department of Natural Resources and Parks (KCDNRP) proposes to improve floodplain habitat by breaching a section of an existing levee within a King County-owned parcel (**Figures 1-4**). This project will restore a surface water connection between the Snoqualmie River and a portion of its historic floodplain that has been isolated for over 50 years by a large flood protection levee. The isolated floodplain area currently contains a high quality wetland that is inaccessible to juvenile salmonids except during very large flood events (>60,000 CFS at Carnation). The proposed modifications will restore 500 feet of channel that will connect the Snoqualmie River to this existing feature. Upon reconnection, this area will provide approximately two acres of enhanced off-channel rearing and flood refuge habitat for juvenile salmon within the Ordinary High Water Mark (OHWM) of the Snoqualmie River. Removing this portion of the McElhoe Pearson Levee addresses one of the primary limiting habitat conditions (off-channel rearing and refuge habitat) in the highest priority reach along the Snoqualmie River as identified in the Snohomish River Basin Salmon Conservation Plan.

The project will perform the following actions (Figure 3):

- Breach a levee and excavate a 500-foot-long outlet channel that will connect the Snoqualmie River to an existing wetland, thus increasing off-channel rearing and flood refuge habitat for juvenile salmon;
- Excavate a small area (0.031 acres) within the existing wetland to provide deeper aquatic habitat for juvenile salmon during the periods of low flow;
- Excavate a small area (0.06 acres) adjacent to the wetland to expand the wetland area;
- Plant or maintain approximately one acre of the riparian area to establish native plants;
- Install three log clusters within the existing backwater area to improve rearing habitat;
- Install a 24-inch diameter x 65' long culvert to connect the upper & lower wetland areas;
- Install large rock along a critical section (~240') of the eastern slope of the 310th Ave NE to maintain stability of the road prism in that area; and
- Install a shallow gravel and rock berm along the western edge of 310th Ave NE to maintain the current level of flood protection to property and infrastructure.

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 project is located on the right (east) bank of the Snoqualmie River near River Mile 23. It is north of the City of Carnation in unincorporated King County in Sections 9 and 16 of Township 25 North, Range 7 East; Thomas Brothers' Map page 539, C6 (**Figure 1, Vicinity Map**). It is located within the 100-year floodplain of the Snoqualmie River and within the Snoqualmie Basin (WRIA 7). The two King County owned parcels (0925079032 and 1625079008) are located between the Snoqualmie River and 310th Ave NE/NE 60th Street. They are separated from the river by a flood control levee.

B. ENVIRONMENTAL ELEMENTS**1. Earth**

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

The project is located on the right bank of the Snoqualmie River, which is locally flat to gently sloping.

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

The steepest slopes on site are within the road prism and are approximately 50%.

- 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.*

The Natural Resources Conservation Service (NRCS) soils survey maps the project area as Map Unit 170, Oridia silt loams. This soil series consists of very deep, poorly drained soils formed in recent alluvium on floodplains. Slopes are 0 to 2 percent. The soil profile is generally characterized as silt loam from 0-19 inches, and very fine sandy loam from 19-60 inches. A mixture of sandy/gravel river outwash deposited by the river was also observed on site.

The portion of the levee being removed is composed of a combination of large angular rock, medium to large angular cobbles and dense gravelly fill material. The levee has been repaired in places with 6" minus quarry spalls. The landside slope and top of the levee was also spread with 2" minus armor rock to replace materials washed away during past floods. Imported fine grained fill was observed at the east toe of the road slope.

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

The proposed project is in an area that has been periodically reshaped as the channel of the Snoqualmie River migrated across its floodplain. Construction of the levee in 1960 restricted this process. However, both the levee and the surrounding areas are still subject to erosive forces of the adjacent river, especially during high-water events. Patches of the levee have been repaired due to flood damage. In the 1930's there was a large landslide along the west valley wall in the project vicinity.

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

Fill areas (Figure 4)

1. Construct the 310th Ave NE gravel embankment (~350 cy) with material from the levee breach onsite. Purpose is to maintain flood protection to infrastructure and property.
2. Construct the 310th Ave NE rock embankment (~1,185 cy) with large rock from offsite. Purpose is to maintain flood protection to infrastructure and property.
3. Construct the 310th Ave NE shoulder berm (~240 cy) with material from levee breach. Purpose is to maintain flood protection to infrastructure and property.
4. Strategically place the onsite spoils (quantity TBD) to increase channel sustainability.
5. Place three log clusters comprised of horizontal logs with rootwads, vertical logs without rootwads, and large ballast rock (~5 cy) to improve salmon rearing habitat.

Excavation areas

1. Floodplain channel excavation (~815 cy) will reconnect the wetland with the river and expand the wetland, thereby improving salmon rearing habitat.
2. Levee removal (~945 cy) will reconnect the wetland with the river.

3. Placement of culvert beneath King County access road (~16 cy) will connect two wetland areas.
4. Wetland excavation (~225 yards) will expand aquatic habitat for salmonids during summer.

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

The purpose and intent of the proposed project is to reconnect the Snoqualmie River to its former side channel and allow natural processes to be reestablished in the project area. Restoration of these processes will create new aquatic habitat and improve existing habitat through natural erosion and deposition. Although significant erosion is not expected landward of the existing levee, the banks of the excavated outlet channel are expected to experience modest erosion within the first few years as they respond to new hydraulic conditions.

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

None.

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

Erosion and sedimentation will be minimized during construction by employing all necessary and appropriate Best Management Practices (BMPs), such as installing silt fences, straw wattles, straw, and/or other similar measures in the construction areas, and by performing the work during the summer months when precipitation is less likely and the river level is lower. Disturbed areas will be stabilized with mulch or revegetated with native vegetation for long-term stabilization where appropriate. Clearing along the streambanks and floodplains will also be limited where possible to preserve existing native vegetation.

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 completed project will produce no emissions.

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 (CO₂), 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 CO₂e, which converts the GWP of various gasses into their equivalent in CO₂. The amount of CO₂e that may be emitted as a result of constructing the proposed project has been estimated by computing the amount of fuel to be consumed by equipment used to construct the project, both during construction and in transit from King County’s Roads Maintenance Headquarters Shops in Renton, where most crews and equipment

originate. Fuel consumed is then converted into CO₂e 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 2.91 tons of CO₂e to the atmosphere.

However, these emissions will be offset by planting of trees and shrubs that are also an essential component of the proposed project. Trees and shrubs sequester CO₂ during their growth and thus help to offset emissions of CO₂ to the atmosphere. The EIA has also developed formulae for estimating the rate of carbon sequestration by various types of trees (deciduous or coniferous, fast-, medium-, or slow-growing) at various life stages and these formulae have been used to estimate the carbon sequestration potential of the proposed project.

Approximately 875 trees will be planted following construction of the proposed project. At rates calculated using the above method, these plantings should sequester the 2.91 tons of CO₂e emitted during construction of the proposed project in less than 3 years.

The Greenhouse Gas (GHG) Emissions Worksheet is attached at the end of this checklist

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

Off-site emissions will not have a direct affect on the proposed project. However, continued emissions of CO₂ and other GHGs worldwide may eventually affect the flow regimes of rivers and streams west of the Cascade Mountains. Predicted effects include higher flows in the winter wet season and lower flows in the spring and summer. These changes may alter conditions at the site, but should not negatively affect the functions and values of the completed project.

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

Construction will be performed in accordance with the regulations of the Puget Sound Clean Air Agency. Clearing of vegetation will be minimized. Disturbed areas will be replanted with native vegetation where appropriate. All dump trucks and heavy equipment will run on B20 biodiesel.

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 project site is located adjacent to the Snoqualmie River, a portion of which is within an existing riverine wetland.

- 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. The proposed project is located on the channel margin of the Snoqualmie River and within a historical channel of the river. The project would remove a portion of levee from this area and would connect a backwater channel of the Snoqualmie River to a former active channel (now impounded wetland) that was isolated by construction of the levee. Excavation will occur within the wetland and the low floodplain area adjacent to the Snoqualmie River. Road stabilization work will also occur on the east and west slopes of 310th Ave NE.

- 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.*

Excavation within wetland or Ordinary High Water Mark (OHWM)

(Figure 4).

Three small logjams will be installed in the backwater area within the OHWM of the Snoqualmie River. A total of 12 large logs will be buried in excavated trenches (30 yards) to promote stability.

There will also be a small amount of excavation (<10 cubic yards) within the OHWM where the excavated outlet channel enters the OHWM of the Snoqualmie River.

Wetland excavation (~80 yards) will be completed in the deepest portion of the Lower Wetland.

Fill within wetland or OHWM (Figure 3).

The east slope of 310th Ave NE will be stabilized with large (two-man or larger) angular rock salvaged from levee removal sites in the Carnation area.

Approximately 600-800 cubic yards of material will be placed waterward of the wetland boundary the East Wetland.

Wetland hummocks within the Lower Wetland will be constructed with spoils from the wetland excavation to increase topographic complexity and provide areas where trees requiring less soil saturation (e.g. Douglas fir) can be established within the wetland. Approximately 80 cubic yards of native wetland soils will be excavated from the adjacent emergent area of the wetland and placed into these small hummocks.

The only fill imported to construct logjams will be 9 boulders (6 yards) placed on top of the 9 large logs as ballast or within the logjams to prevent scour. Only 6 of these boulders will be placed waterward of the OHWM (2 yards).

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

The proposed project will be constructed during low-flow conditions on the Snoqualmie River. Under these conditions, surface water from the Snoqualmie River does not reach the work area, so no diversion of the Snoqualmie River will be necessary. However, if water is present during construction, in-water work areas will be isolated with a weighted silt fence.

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

Yes, the entire project is located within the 100-year floodplain of the Snoqualmie River. See Figure 1.

- 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.*

No waste material will be discharged to surface or groundwater.

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. This project will not withdraw from or discharge to groundwater.

- 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.*

No waste material will be generated or discharged.

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 completed project will not generate any additional runoff.

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

The project will not generate any waste material. However, a small volume of sediment could enter the Snoqualmie River during construction of the logjams.

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

Erosion and sedimentation will be minimized during construction by installing silt fences, straw wattles, straw, and/or other similar measures in the floodplain areas, and by performing the work during the summer months when precipitation is less likely. The project will implement all appropriate sediment and erosion control measures during construction. Disturbed areas will be stabilized with mulch or revegetated with native vegetation where appropriate. Clearing along the road slopes and project impact areas will also be limited where possible to preserve existing native vegetation.

4. Plants

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

- Deciduous trees: alder, maple, aspen, other
 Evergreen trees: fir, cedar, pine, other
 Shrubs
 Grass
 Pasture
 Crop or grain
 Wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
 Water plants: water lily, eelgrass, milfoil, other
 Other types of vegetation: non-native

Wetland emergents include reed canary grass, soft rush (*Juncus effusus*), buttercup (*Ranunculus sp*) and sedges (*Carex sp.*). The scrub-shrub layer is dominated by red twig dogwood (*Cornus sericea*) and Douglas spirea (*Spirea douglasii*). The forested canopy is dominated by black cottonwood (*Populus balsamifera*) and Pacific willow (*Salix lucida*).

Other species observed on the upland edges include black cottonwood, red alder, big leaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii*), Western red cedar (*Thuja plicata*), snowberry (*Symphoricarpos albus*), oceanspray (*Holodiscus discolor*), and Nootka rose (*Rosa nootkana*).

Invasive species such as reed canary grass, yellow flag iris (*Iris pseudacorus*), bittersweet nightshade (*Solanum dulcamara*), purple loosestrife (*Lythrum salicaria*), and sulfur cinquefoil (*Potentilla recta*) were observed or reported to be in the wetland. Japanese knotweed (*Polygonum cuspidatum*) and Himalayan blackberry (*Rubus armeniacus*) are prevalent west of the levee.

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

Although the outlet channel alignment with the least disturbance was chosen, the following number and size of trees will likely need to be cleared to construct the outlet channel (0.40 acres clearing):

- Up to 15, 6"-12" diameter red alder and black cottonwood trees;
- Up to 20, <6" diameter red alder and black cottonwood trees; and

- Numerous shrubs species including salmonberry, red twig dogwood, snowberry and sword fern

Approximately 0.75 acres of clearing and grubbing will be necessary to construct the roadside berm and road stabilization measures. Existing vegetation in most of these areas consists of either non-native blackberries or native shrubs, with few trees within the clearing limits. Roughly 0.30 acres of blackberries will be removed along the east and west slopes of 310th Ave NE during the road stabilization portion of the project. Nearly a dozen black cottonwood trees (10-12" dbh) may need to be felled in one area for the roadside stabilization measures, though we will attempt to work around them where possible.

Emergent wetland plants, such as reed canary grass and sedges, as well as two aquatic wetland species (smartweed and bur-reed) may be disturbed while connecting the wetland areas to the channels through the levee and excavating within the wetland area.

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

There are no threatened or endangered plant species known to exist on the site. The Washington Department of Natural Resources' (DNR) Natural Heritage Information System notes an occurrence of toothed wood fern (*Dryopteris carthusiana*) near Horseshoe Lake, a short distance from the project area. Toothed wood fern is listed by the State as a "Review 1" species. However, according to the fact sheet for this species distributed by DNR, the toothed wood fern occurs in Washington only in sphagnum swamps. Since there are no sphagnum swamps in the proposed project area, the presence of the toothed wood fern is highly unlikely.

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

High visibility flagging or fencing will be installed to protect existing native trees and shrubs. Once construction is completed, disturbed areas will be revegetated with native plants where appropriate. Approximately one acre of the project site within the buffers of the wetland and outlet channel will be planted and maintained after the project to restore native riparian plant communities to areas currently dominated by invasive, non-native plants.

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, bear, elk, beaver, other
- Fish: bass, salmon, trout, herring, shellfish, other

The reach of the Snoqualmie River adjacent to the project site is used by Chinook, coho and pink salmon and steelhead for spawning and rearing. The wetland area

behind the levee has a variety of vegetation and structure, including forested, shrub and emergent layers. The wetland, combined with the forested river margin, is likely home to a variety of terrestrial wildlife such as coyotes, deer and smaller mammals such as river otter, muskrat, and various rodents. There is evidence of recent beaver activity within the “Lower Wetland and the Backwater Area” (Figure 2).

Numerous snags (dead trees) in the project vicinity provide excellent habitat for raptors such as bald eagles, osprey and hawks. Waterfowl such as ducks and geese likely use the wetlands, the Snoqualmie River and backwater channel within the project area. The project site is located along the Pacific Flyway.

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

Chinook salmon and steelhead trout use the adjacent reaches of the Snoqualmie River for spawning and rearing. Bull trout have also been documented to use the Snoqualmie for foraging and migration.

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

The Snoqualmie River is used by several species of anadromous salmon (Chinook, coho and pink) and trout (steelhead and sea-run cutthroat) and bull trout. The project site is located along the Pacific Flyway and is likely used by migratory songbirds and waterfowl.

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

The purpose and intent of the proposed project is to restore off-channel habitat to this reach of the Snoqualmie River. The lack of off-channel habitat has consistently been identified as a limiting factor in the health of Chinook and coho salmon runs and specifically in this reach of the Snoqualmie River immediately downstream of the Tolt River confluence. Providing access for fish to a former channel that has been isolated from the mainstem by the levee is a significant benefit to those species. In addition, disturbed areas, including areas currently dominated by non-native plants, will be revegetated with native plant species, where appropriate.

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 completed 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.*

There is a very small risk of a hydraulic fluid or other fuel spilling or leaking from heavy equipment use.

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

None

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

Excavators and other heavy equipment working within the project area will use a vegetable-based hydraulic fluid. Maintenance and refueling of equipment will be completed in designated areas set up to prevent release of oil, gas, or other pollutants into the stream. Appropriate containment and spill response materials will be present on the site to ensure crews are well prepared to deal with any accidental spills.

- b. Noise:

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

The project site is rural and away from any high traffic roads or other development that create unnatural levels of noise.

- 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.*

Heavy equipment operation will increase noise levels during construction. Construction noise from heavy equipment will be temporary and will occur between the hours of 7 a.m. and 7 p.m. on weekdays and between 9 a.m. and 5 p.m. on Saturdays. The completed project will not change existing noise levels.

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

Construction activities will comply with the provisions of the King County Noise Ordinance (Ordinance No. 3139). Equipment operation will be limited to the hours of 7 a.m. to 7 p.m. on Monday through Friday and 9 a.m. to 5 p.m. on Saturdays.

8. Land and Shoreline Use

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

The project site is mostly King County owned property used for passive recreation. East of 310th Ave NE is a working horse farm, rural residential and agricultural land. The majority of the project area is within an existing wetland complex or its buffers on the riverward side of 310th Ave NE. There will be no change in agricultural land uses as a result of this project. Areas affected by the proposed project actions are not viable for agricultural use due to the presence of the levees and wetlands.

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

No. While the project site is within the Agricultural Production District, areas affected by the proposed project actions are not viable for agricultural use due to the presence of the levees and wetlands. The properties east of 310th Avenue NE are agricultural land. Some proposed actions (reinforcement of the 310th Ave NE road prism) will occur on the east side of this roadway, but they will not affect agricultural uses of this land.

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

The only structure on the site between the Snoqualmie River and 310th Ave NE is the levee, the subject of this proposal. The levee runs north to south along the entire length (~1,700' long) of the two King County owned parcels. A 340' long cross-levee providing maintenance access to the McElhoe Pearson levee runs west to east and divides the two wetland areas (upper and lower) and King County parcels. A gravel driveway is located at the entrance. The surface of the levee is gravel, unvegetated and maintained for access. The levee surface is ~16' wide, elevated about 12-16' above grade, with moderate to steep slopes to the river and wetland cell areas. No other structures are present on the site.

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

The restoration project will remove approximately 80 feet of levee.

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

A-35 and RA-10.

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

East of 310th Ave NE is designated "Agriculture." The area between the Snoqualmie River and the levee is "King County Open Space"

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

Currently "Conservancy Shoreline."

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

The project site is classified as a “floodway” on the edge of the Snoqualmie River; the site also contains a Type S Aquatic Area under the King County Critical Areas Ordinance (CAO). The wetland artificially impounded by the levee would be regulated as a Category II wetland.

- 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 project is located on King County property and within the floodplain for the Snoqualmie River which severely limit its potential uses. The project proposes to partially restore natural riverine processes. This is consistent with the goals of the Critical Areas Ordinance and Shoreline Master programs that attempt to maintain and restore important ecological areas. The area east of 310th Ave NE will remain agricultural land and use will not change.

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?*

The levee will be breached in one location, with a reduction in existing height through that section. The roadside berm to the west side of 310th Ave NE stabilization will be one-foot higher than existing ground elevation on average, with one section that will be two feet higher. This berm will be covered with a combination of rock and grass. The rock stabilization on the east side of 310th Ave NE will be below existing grade and will be comprised of primarily large angular rock.

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

The Himalayan blackberries present along the road would be replaced with an earthen berm at the same height or lower than the blackberries. Several trees will be removed on the west side of the road.

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

Native riparian plantings will be installed, where appropriate, in areas disturbed by construction.

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 project site is located on King County property, which offers passive recreational opportunities for walking, fishing, birding and wildlife viewing. There are currently

informal trails to the river through the project site. The adjacent Snoqualmie River is also regularly used by recreational boaters.

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

No, the proposed design will maintain foot access to the Snoqualmie River through the project site.

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

The project will have minimal effect upon park users and recreational boaters. Informal trails providing access to the river will be maintained. Small logjams will be constructed in the backwater area and will thus pose no hazard to recreational boaters in the mainstem of the river.

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.*

There is a National Register of Historic Places (NRHP)-eligible precontact archaeological site located in proximity to – but outside of -- the project area. There are also two historic houses on lots adjacent to the McElhoe Pearson Levee project area, east of 310th Ave NE. The homes are outside of the project area. Numerous register-designated sites are in the City of Carnation to the southeast.

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

Numerous recorded precontact and historic resources are located within the general project vicinity. These include a documented Native American trail, recorded ethnographic place names, the principal village of the Snoqualmie, Native American burials, and a historic bridge and farm homes. The levee itself is also potentially historic, having been built in April of 1960. However, it is likely not NRHP-eligible due to its lack of distinction from other such structures of similar age and function. Stossel Bridge, which has been designated a King County Landmark, is located $\frac{3}{4}$ mile north of the proposed project at NE Carnation Farm Road over the Snoqualmie River.

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

The proposed project will mostly remove fill material placed during the construction of the levee in 1960 and later. Also, in the 1960's a gravel crushing operation was set up here and gravel and dredge material were stored behind the levee for use in road construction. It is likely these materials will be encountered before any native soil is reached. Excavation in the backwater channel to the Snoqualmie will remove more recent sediment/riverwash deposition accumulated since levee construction.

If cultural or archaeological resources are uncovered or encountered during project construction, work will cease immediately and appropriate steps necessary to protect those resources will be taken prior to resuming construction. If resources are discovered, the Washington State Department of Archaeology and Historic Preservation, the King County Historic Preservation Program, and any affected tribal groups will be notified immediately, and an on-site inspection will be conducted by a state-certified archaeologist and other qualified resource professionals. A mitigation plan will be prepared prior to construction resuming at the site.

In addition, the possibility of uncovering materials of archaeological or historic significance and appropriate response procedures will be discussed during a pre-construction conference with construction crews prior to performing the work on-site.

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 will be through the gravel driveway located west of 310th Ave NE.

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

No. The nearest transit stop is approximately 1 mile southeast of the project site in the City of Carnation.

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

The proposed project will neither create nor eliminate any parking spaces.

- 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).*

The proposal will not require any improvements to surface of streets, but will require additional road stabilization along the east and west slopes of 310th Ave NE in the project area.

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

No.

- 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:*
Not applicable

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:*
Not applicable.

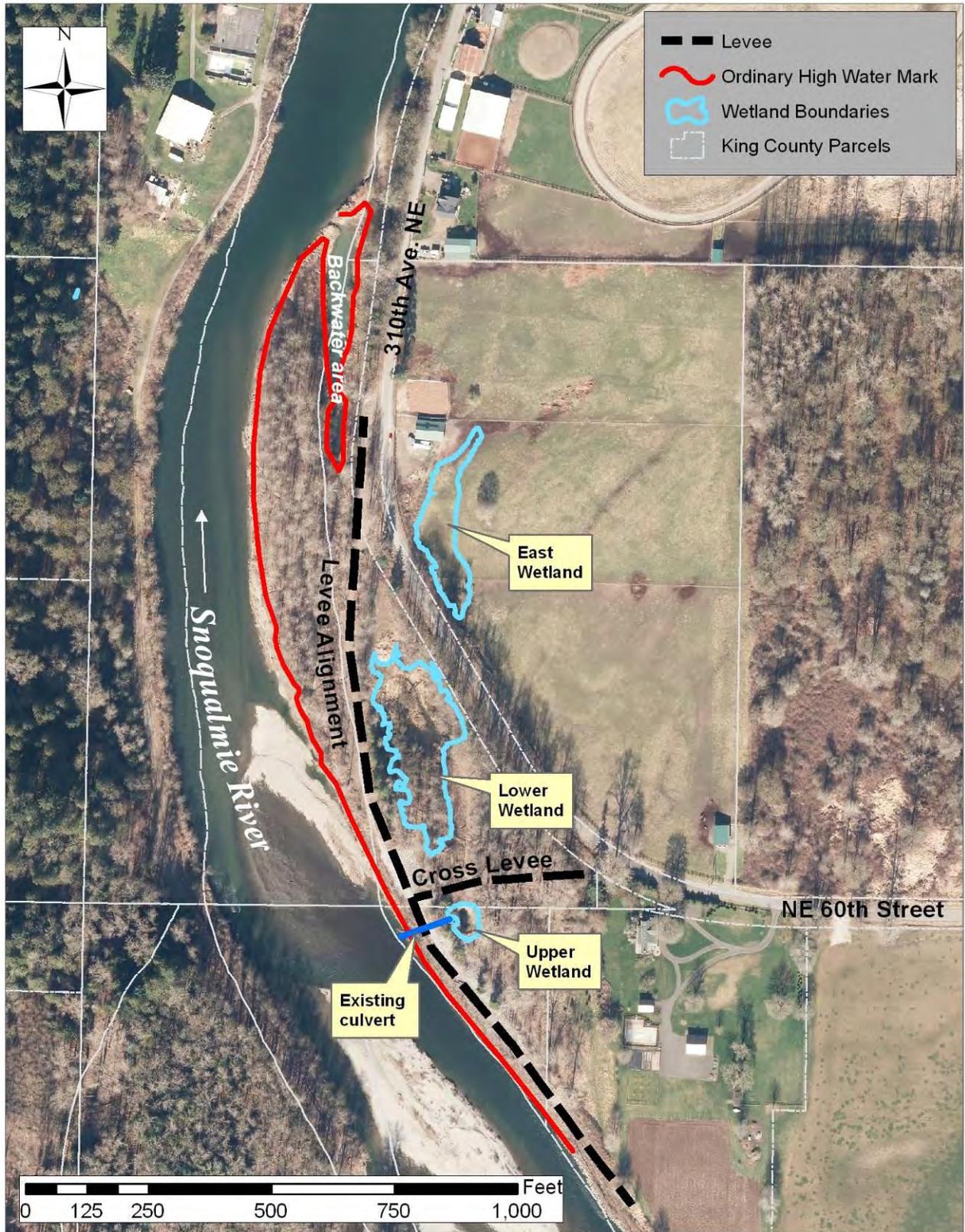
16. Utilities

- 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

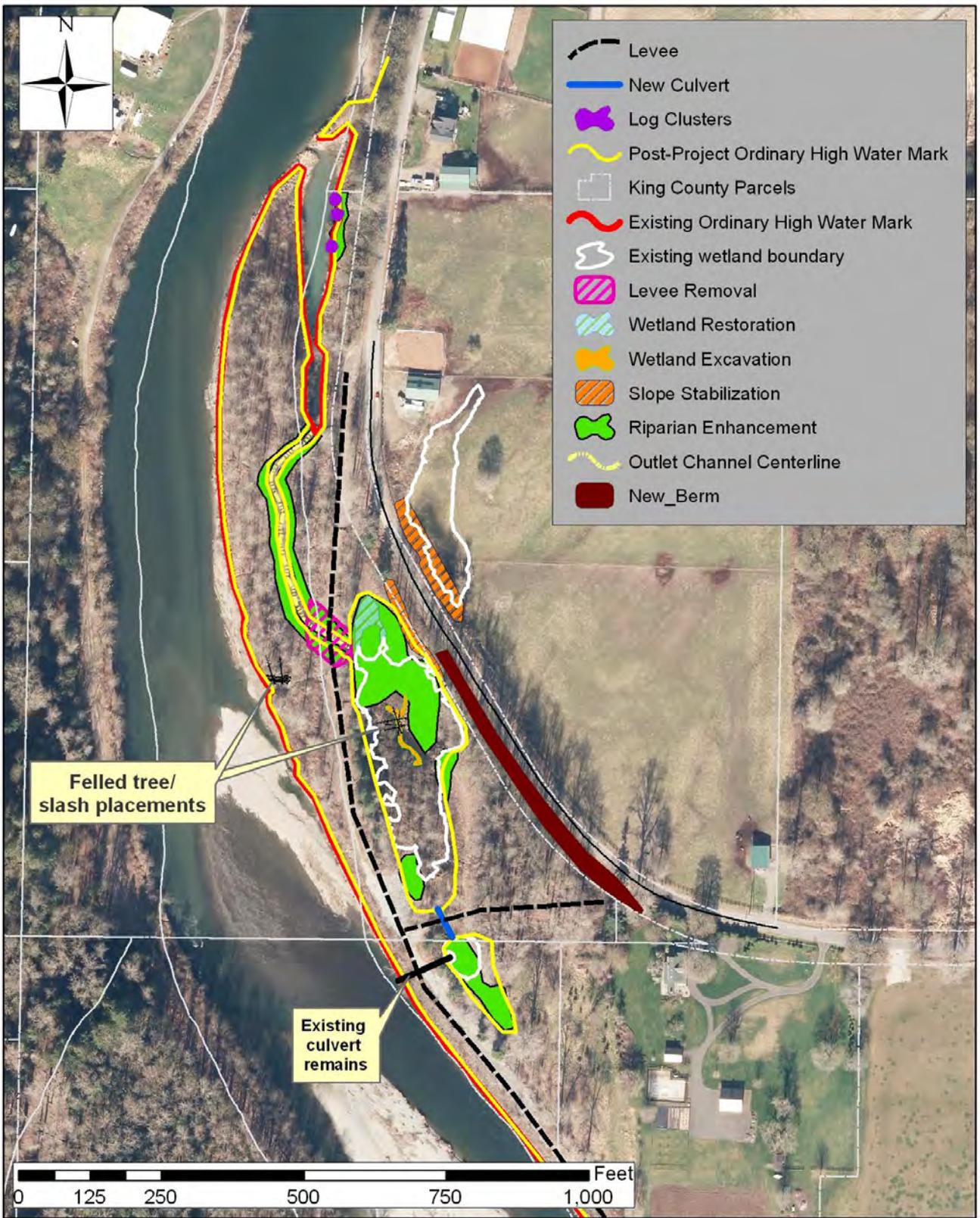
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____
Title: Ecologist
Date Submitted: 4/25/12



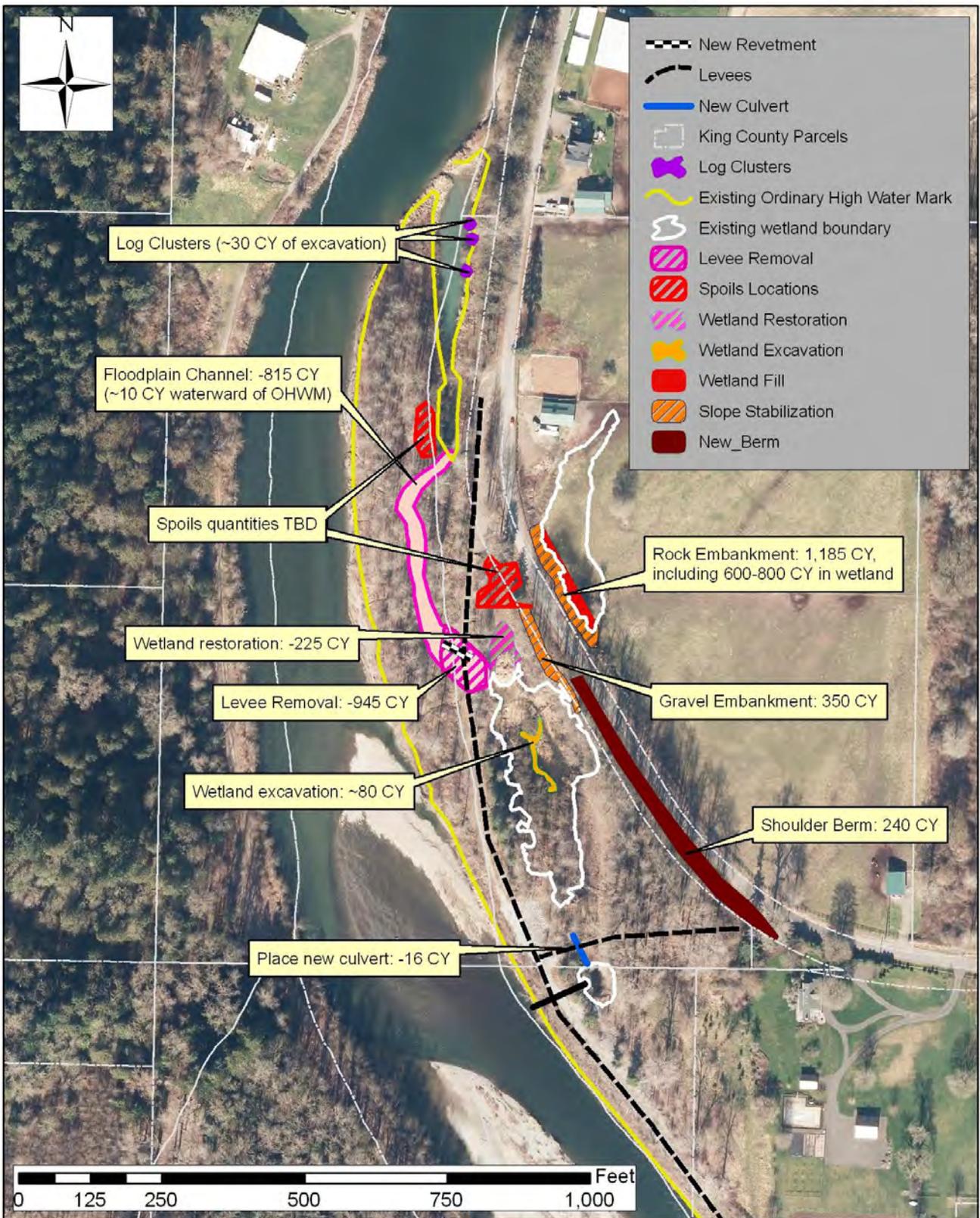
McElhoe Pearson Restoration Project
Figure 2: Existing Conditions





McElhoe Pearson Restoration Project
Figure 3: Proposed Actions





McElhoe Pearson Restoration Project
 Figure 4: Proposed Cut and Fill Actions



Greenhouse Gas (GHG) Emissions Worksheet

McElhoe Pearson Restoration 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.

Distance of project site from Renton Shops,
where most daily construction-related vehicle
trips will start and end: 30 miles

Estimated days of construction activity:

<u>Vehicle</u>	Miles/hours	Rate	fuel used	Em. Coef.	Emissions (lbs)	Tons CO ₂ e
Pickup	900	20.7	43.5	19.564	850.6	0.425
Pickup	900	20.7	43.5	19.564	850.6	0.425
dumptruck	1500	6.15	243.9	4.924	1201.1	0.601
PC 200 Trackhoe	84	6.3	529.2	4.924	2606.0	1.303
Heavy Equip Transport	120	1.9	63.2	4.924	311.0	0.156
TOTAL:					5819.4	2.910

Approximately 875 trees will be planted as part of this project. 700 will be fast-growing deciduous trees, and 175 will be slow-growing conifers. These plantings will sequester the 2.91 tons of CO₂e generated by construction of this project in less than three years.