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:
   Lones Levee Setback 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, Project Manager
   King County Water and Land Resources Division
   201 South Jackson Street, Suite 600
   Seattle, WA 98104-3855
   Phone: 206-477-4684
   Fax: 206-296-0192
   Dan.eastman@kingcounty.gov

4. Date checklist prepared:
   July, 2019

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):
   Project construction will begin in the spring of 2020, 2021 or 2022 (funding dependent), and will be
   completed by the fall of the year of construction. Planting will occur in the winter following construction.

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.
   1. Archeological Monitoring and Inadvertent Discovery Protocol for the Lones Levee Restoration

   2. Lones Stream and Wetland Biology Report. Prepared by Mason Bowles, P.W.S. King County
      Water and Land Resources Division, 2019.

      Resources Consultants.


6. Lones Turley Reach Feasibility Study, King County Water and Land Resources Division, 2018.

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
   - National Pollutant Discharge Elimination System (NPDES) Permit for Construction (Washington State Department of Ecology)
   - 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 Grading and Clearing Permit
   - Shoreline Management Substantial Development Permit Exemption (Washington State Department of Ecology/King County)
   - King County Flood Hazard Certification
   - King County Parks Partnership Permit (King County Parks Division)
   - Aquatic Use Permit or exemption (Washington State Department of Natural Resources)
   - Procedures for Considering Public Safety When Placing Large Wood in King County Rivers, Public Rule LUD 12-1, King County Ordinance 16581

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site.

   **Purpose**

   The Lones Levee project has been identified as a high priority habitat restoration project in the Middle Green River Levee Setback Study (King County, 2013), Middle Green River Restoration Blueprint (King County, 2006), and the WRIA 9 Salmon Habitat Plan (King County, 2002). The removal of the original flood facility and construction of a new setback revetment will reconnect off-channel habitat and increase channel migration, flow splitting, wood recruitment and other natural processes critical to the formation of high-quality, diverse salmon habitat. The result is expected to be an increase in productivity, abundance, and diversity of Green River Chinook salmon and steelhead stocks.

   Immediately after construction we expect to recover (see Appendix A, Figure 5: Project Benefits):
• ~2 acres of aquatic and wetland habitat within the footprint of the existing levee fill prism and through expansion of an existing floodplain side channel; and

• ~10 acres of high quality, previously isolated, off-channel salmon habitat immediately landward of the levee that will be hydraulically connected year-round to the Green river.

As the reach responds to levee removal, there will be at least 23 additional acres of river and floodplain area where habitat-forming processes will be restored after 60 years of limited habitat formation due to the constraining effect of the levee.

The removal of this deteriorating flood facility and construction of a modern, setback flood facility will also increase protection of existing property and farmland from channel migration and overbank flooding. The current levee has been damaged throughout much of its length and will result in erosion and flooding of private property, structures and farmland if it fails. The construction of a new berm at the downstream end of the site will further reduce current levels of flooding on the adjacent two properties during large flood events. Mainstem river floodwater surface elevations will also be lower upstream of the site as a result of the levee removal. This is expected to reduce the frequency of inundation of upstream farmland and potentially reduce flooding and sediment accumulation in Burns Creek.

Project Description

Existing Flood Facility Removal

The King County Water and Land Resources Division proposes to remove the Lones Levee, a 60-year-old, 1,600-foot-long flood facility. The angular rock from the levee will be used to construct a portion of a new setback flood control revetment. Removal of the angular rock will expose the underlying native alluvium, which will be redistributed throughout the site. A portion of this native alluvium will be unconsolidated and left in place or pushed into the river to augment gravel supply to the river. The remainder will be placed in upland areas throughout the site and will be planted with native trees and shrubs. The process of levee removal will also require removal of several hundred mature trees that will be placed throughout adjacent river and floodplain areas to be recruited gradually to the river to promote river and floodplain habitat-forming processes.

New Set-Back Flood Facility Construction

A 1,200-foot-long setback facility will be constructed to provide erosion and flood protection for adjacent private farms and residences equal to or greater than that provided by the existing Lones facility. The new facilities will be located along the banks of the wetlands that have formed within the remnant river channel and in adjacent floodplain areas. Engineered log jams, composed of large angular rock and interlocking logs, will be constructed along the northwest portion of the remnant channel. A buried rock revetment will be constructed north of the remnant channel using angular rock salvaged from the old levee. A shallow berm will also be constructed at the downstream end of the new facility to increase the current level of protection from overbank flooding. A gravel road will be constructed in the upland adjacent to the new setback facility to provide permanent access for monitoring and maintenance.

Additional Adaptive Management Actions are included in anticipation of the need to augment and
adjust the design in response to flooding, erosion and sedimentation. These include:

- Adjusting engineered log jams by placing or relocating wood after large flood events in order to ensure their optimum performance and structural integrity; and

- Placing up to 200 CY of angular rock for adaptive management purposes after the immediate construction of the project to ensure the integrity and durability of constructed features.

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 site is located on the right bank of the Green River at River mile 37.5. The street address is 17225 SE Green Valley Rd, Auburn WA, 98092 (S25/T21N/R5E). The project site encompasses nine parcels (2521059081, 2521059007, 2521059018, 2521059075, 2521059085, 2521059016, 2521059084, 2521059020, and 2521059012). See Appendix A, Figure 1: Vicinity Map.

**B. ENVIRONMENTAL ELEMENTS**

1. **Earth**

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

   The site consists of a flat terrace with a commercial tree farm. To the east is a forested riparian strip adjacent to Burns Creek. To the south of the tree farm is an oxbow channel containing depressions with aquatic and wetland habitat. The south side of the oxbow is framed by the Lones levee, a 60-year-old, 1,600-foot-long flood facility comprised of a large (15-foot-tall x 80-foot-wide toe width) prism of river gravel with angular rock protecting its waterward side from erosion. (See Appendix A, Figure 2: Existing Condit).

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

   The steepest slopes on the site are the faces of the levee on the Green River which are 40% in places.

   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 site contains a mix of soils including Alderwood and Kitsap soils, Briscot silt loam, mixed alluvial land, Renton silt loam and Riverwash soils.
d. Are there surface indications or history of unstable soils in the immediate vicinity?

No surface indications of unstable soils have been observed in the immediate project area. There is an unstable slope on the left bank of the river approximately 1,000 feet downstream of the project area.

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

The purposes of placing fill and grading are to establish a new flood control facility that provides protection to adjacent property owners equal to the existing facility, remove barriers to fish habitat, and to benefit Endangered Species Act-Threatened Chinook salmon and steelhead trout by restoring the habitat-forming processes that create and sustain the river and floodplain ecosystems. Specifically, the project is expected to increase the rate of channel migration and associated geomorphic changes, and to increase the frequency and duration of overbank flows into the public lands. Consequently, wood and sediment will form complex habitat features and logjams and will promote formation of backwater and side channel habitat to provide rearing habitat for young salmon. See Appendix A, Figure 2.

Angular Rock

A total of 1,115 cubic yards (CY) of angular rock will be imported and placed as fill in upland areas of the setback levee.

Native Alluvium (cobble, gravel, sand and silt mix)

Approximately 26,850 cubic yards CY of native alluvium will be excavated from the levee, with 15,450 CY spread within the project area on the right (north) bank of the Green River and 11,400 CY spread on uplands on the adjacent King County property and planted with native trees and shrubs. There will be no export of native alluvium from the project area.

Imported Boulders

Approximately 91 CY of large boulders will be imported to ballast engineered log jams.

Crushed rock

Approximately 675 CY of crushed rock will be imported to construct the gravel maintenance road.

Topsoil

Approximately 3,181 CY of topsoil will be salvaged from the site and used to provide suitable conditions to support planted native trees and shrubs.

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

Substantial erosion and deposition are expected and are desirable outcomes of the proposed project. The purpose of the project is to restore habitat-forming processes, including the erosion and deposition of alluvial sediments and organic debris.
g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

A gravel maintenance road will be added to the site. This will occupy 0.8 acres and will occupy 2% of the project area.

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

Erosion through channel migration will be limited by the setback flood protection facility being constructed along the northern perimeter of the site.

Although minor erosion during and after construction is expected, the following practices will be used to assure that water quality is maintained during construction:

- All necessary and appropriate erosion control Best Management Practices (BMPs) will be used during construction to limit sediment runoff from access roads, work areas, and stockpiles during rain events.
- Turbidity in the Green River will be monitored during in-water construction work to ensure levels are within permitted limits.
- Work areas will be temporarily isolated from the Green River by a turbidity curtain to minimize mobilization of sediment from the project area during construction.
- Establishment of native plant communities will help to reduce erosion.

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.

Air quality will be impacted by greenhouse gas (GHG) emissions produced by vehicles and equipment during project construction. Internal combustion engines primarily emit carbon dioxide (CO₂), methane, and nitrous oxide. 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. Carbon dioxide emissions can be approximated from projected fuel consumption, transportation distances, and duration of use, using formulae developed by the Energy Information Administration (EIA) of the U.S. Department of Energy.

The project is expected to discharge 47.8 tons of CO₂e over 100 days during construction of the project. Emissions will be offset by planting native trees and shrubs that sequester CO₂. The finished project will emit no GHGs aside from those naturally occurring in the environment; all emissions are related to construction of the proposed project. The Greenhouse Gas (GHG) Emissions Worksheet is attached to the end of this checklist (see Appendix B, Table 1: Greenhouse Gas Emissions Worksheet).

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:**

Construction will comply with Puget Sound Clean Air Agency regulations. Engines will not idle unnecessarily and will be kept in proper working order with all filters and other emission control devices functional.

Project emissions will be offset by planting of trees and shrubs that are also an essential component of the proposed project. Approximately 10,000 trees and shrubs will be planted following construction of the project. Trees and shrubs sequester CO\(_2\) during their growth and help to offset emissions of CO\(_2\) 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. At rates calculated using these formulae, these plantings should sequester the 47.8 tons of CO\(_2\)e emitted during construction of the proposed project in less than three years.

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 area is adjacent to the Green River and Burns Creek, perennial streams that flow into Puget Sound 37.5 miles downstream of the project site.

   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 project will entail grading and excavation in the Green River in order to remove the levee. A 530-foot-long side channel will be excavated through riparian forest to introduce flows into the upper end of the Lones Levee oxbow.

   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**

      - Approximately 1,490 CY of angular rock will be removed from the Green River as part of the levee removal process.
      - Approximately 325 CY of native material will be excavated from the oxbow pond wetlands to increase hydraulic connectivity to the Green River.
      - Approximately 180 CY of native material will be excavated from an existing side channel to create a pilot channel.

      **Fill**

      - Approximately 171 CY of mixed angular rock and native alluvium will be placed in the wetlands to construct ten engineered log jams.
• Approximately 2,400 CY of native alluvium will be placed in the Green River to form gravel bars and to ballast six log jams.
• Approximately 300 CY of alluvium and a large logjam will be placed below the mouth of Burns Creek to relocate the lower portion of the stream into oxbow Wetland A through a pilot channel. Figure 4: Project Impacts.
• Approximately 700 CY of alluvium will be incorporated into engineered log jams on the Green River.

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

The Contractor is responsible for the means and methods for accomplishing the required excavation and may elect to remove groundwater from the project site to dry out soils prior to and/or during excavation. Any water withdrawn will be treated to meet state water quality standards prior to discharge into the Green River. The contractor may also elect to place a barrier of some sort, such as temporary coffer dams, to keep groundwater and/or river water out of the excavation area. Any such measures will be removed upon completion of grading to connect the finished site to the Green River. Activities that may occur include:

• Temporary water management features such as a bulk bag coffer dam along 600 linear feet (LF) of Lones levee, to isolate and exclude fish from 90,000 square feet (SF) of work area while excavation of the levee is underway.

• A temporary stream crossing and temporary water diversion system to divert Burns Creek during construction. This may affect 1,600 SF of Burns Creek, and could include a 600 LF temporary diversion pipe, and 50 LF of bulk bag coffer dam.

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

The project footprint lies within the 100-year floodplain (Figure A below).

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.
Figure A: 100-Year Floodplain
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.*

Shallow groundwater, the levels of which are directly related to those in the adjacent Green River, may be pumped out of the active construction area to facilitate excavation and to protect water quality. This will be limited to the immediate project area and for short durations that are not expected to affect deeper groundwater conditions or drinking water wells. Any groundwater withdrawn will be treated prior to discharge to the adjacent Green River to maintain State water quality standards. There will be no discharges 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 discharged to groundwater.

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.*

Precipitation that falls within the project area is expected to infiltrate on the site due to the porous nature of the onsite soils. During periods of heavy rain, however, rainwater that does not infiltrate is expected to enter the oxbow or Burns Creek and then flow into the Green River.

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

No.

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

To the extent possible, the work area will remain isolated from the adjacent channel of the Green River to prevent mobilization of sediments as the site is excavated. Some excavation will be necessary on the banks of the river channel to remove angular rock as well as in the forested floodplain to create the new side channel. A floating/weighted turbidity curtain or similar will be used where possible to contain turbid runoff from these activities.

Groundwater and/or surface water may need to be pumped from the site to facilitate excavation. Turbid water from the dewatering of deep excavation areas will be pumped to a permitted settling basin onsite or mobile settling tanks where sediment can settle or be filtered prior to discharge to the river or wetlands.

Discharges of turbid water will be managed using the methods above and other Best Management Practices to comply with State Water Quality Standards throughout most of the construction duration. The nature of the rock removal along the banks of the river will require a variance to normal permit conditions for brief periods through an Individual 401 Water Quality Certification from the Department of Ecology. While water quality standards for turbidity will not change via this permitting process, the allowable mixing zone during rock removal will be negotiated to a point...
downstream where unavoidable turbid water discharged from the site will mix with clean water and meet State Water Quality Standards.

4. **Plants**

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

      ☒ Deciduous trees: Red alder, black cottonwood, Oregon ash,
      ☒ Evergreen trees: Western red cedar, Sitka spruce Douglas fir, Western hemlock
      ☒ Shrubs: native willows, blackberry
      ☒ Grass:
      ☒ Pasture:
      ☒ Crop or grain: Noble fir, Douglas fir, Grand fir (Christmas trees)
      ☒ Wet soil plants: Cattail, sedges, rushes, red osier dogwood, skunk cabbage
      ☒ Water plants: Water knotweed
      ☒ Other types of vegetation:

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

      A total of 8.1 acres of vegetation will be removed to construct the pilot channels, remove the levee, construct the engineered log jams, and construct the new maintenance road, resulting in the removal of 447 whole trees These will be repurposed to construct engineered log jams, roughness logs, and deflector jams. These will include:

      - 200 trees <12 inches diameter at breast height (DBH)
      - 150 trees 12-17 IN DBH
      - 97 trees > 17 IN DBH

   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 indicated no listed species are found on the subject properties or nearby.

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

      The design has minimized the clearing of native vegetation outside of the levee-removal and setback footprints. Clearing limits will be flagged or fenced off to reduce risk of inadvertent clearing of native vegetation. After trees and shrubs have been removed, topsoil will be salvaged. This will be used to cap spoil piles. Approximately 10,000 native shrubs and trees that are appropriate to the soils and hydrology on the site will be densely planted, monitored and maintained for five years to ensure success.

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: Osprey, heron, geese, songbirds, other
      ☒ Mammals: river otter, beaver, coyotes, deer, elk
      ☒ Fish: salmon, trout, other
The adjacent Green River Natural Area provides habitat to a variety of fish and wildlife species native to Puget Sound. All species of salmonids that use the Green/Duwamish River for spawning and rearing, including ESA-listed Chinook salmon, bull trout and steelhead trout, will migrate past the project site on their way to spawning grounds upstream and as smolts as they migrate back out to Puget Sound and the Pacific Ocean. This project is designed to provide off-channel rearing habitat for juvenile Chinook salmon and other salmon species that use the system. Other fish species that use the Green River as a migration path or for juvenile rearing include steelhead trout, bull trout, coho, pink, chum and sockeye salmon, searun and resident cutthroat trout.

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

Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*), Coastal/Puget Sound steelhead trout (*Oncorhynchus mykiss*), and Coastal/Puget Sound bull trout (*Salvelinus confluentus*) are known to use the Green River for migration, spawning and rearing. The Green River is designated as Critical Habitat for both Puget Sound Chinook salmon and Coastal/Puget Sound bull trout.

Chinook salmon and winter-run steelhead trout spawn and rear in the Green River. Steelhead trout typically spend two to three years rearing upstream in the Green River before migrating back through the Duwamish River to Puget Sound and the Pacific Ocean.

The Green River is used by bull trout for foraging, but no spawning populations have been detected. Bull trout have been observed on the mainstem up to Newaukum Creek and it is presumed that bull trout utilize the Green River up to the Tacoma Headworks at river mile 61 (Green/Duwamish and Central Puget Sound Watershed Salmon Habitat Plan, August 2005).

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

Yes. Numerous salmonid species, including Chinook, coho, pink, chum and sockeye salmon, bull trout and steelhead trout use the Green River to migrate upstream to spawning grounds and downstream as smolts to Puget Sound and the Pacific Ocean.

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

The Lones Levee Setback Project is designed to provide critically needed rearing habitat for juvenile Chinook salmon and other fish species that use the Green River for rearing. The project will increase habitat complexity with a variety of backwater channels and surrounding wetland and riparian habitats that will provide habitat for many species of fish and wildlife. The project site will contain diverse native vegetation communities as well as features such as large wood to enhance wildlife habitat.

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.

None. 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 effect.
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.

Construction equipment could leak diesel gas, oil, or hydraulic fluid onto the site.

1) Describe special emergency services that might be required.

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.

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

All construction equipment will be refueled at a designated fueling area at least 150 feet from critical areas. All equipment will be inspected on a daily basis to determine if there are leaking seals or gaskets that require replacement. BMPs such as fuel containment and a spill response plan will be used during construction of this project to reduce and control environmental health hazards.

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 located in the Green River Agricultural Production District where there is unlikely to be any noise that affects the project.

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 associated with construction of the project will cause temporary noise increases between 7 a.m. and 7 p.m. on weekdays and between 9 a.m. and 5 p.m. on Saturdays. Pile driving equipment may be used to drive pilings and a helicopter may be used to place salvaged logs. If a helicopter is used, there will be substantial public outreach to notify and coordinate with landowners and farmers within a several mile radius of the project area. Construction is anticipated to last about 100 days.

The completed project will not result in long-term change to existing noise levels.

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

Noise is unavoidable during large construction projects that will utilize numerous pieces of heavy equipment. All noise impacts will be temporary. The completed project will not increase existing background noise levels.
8. Land and Shoreline Use

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

Portions of the project site are used as a Christmas tree farm and others are vacant land. There are residential properties to the west. The King County Green River Natural Area is located south of the project site.

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

Approximately 3 acres of the site is used as a Christmas tree farm.

c. Describe any structures on the site.

Not applicable.

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

No structures will be demolished.

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

The site is zoned by King County as A-10.

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

The site is designated as Agricultural by the comprehensive plan.

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

This site is designated as Natural Shoreline.

Restoration of habitat onsite will preserve the natural character of the shoreline.

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

Yes. The proposed project is adjacent to the Green River which is regulated by the State of Washington and subject to the Hydraulic Code of Washington. The site contains wetlands and aquatic areas that support Threatened fish species.

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

The project will restore and create environmentally sensitive areas that are consistent with existing land use plans. Considerable effort has been made to ensure that the project is consistent with current land uses adjacent to the site. The set-back revetment will protect private property that is enrolled in the Farmland Preservation Program from erosion. Hydraulic analyses demonstrated that the project will not have any negative effects on overbank flooding of surrounding private residences, public infrastructure or agriculture.

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:**

      Does not apply.

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?**

      No above-ground structures are proposed for this site.

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

      The project will not impact existing views or adversely impact the aesthetics of the surrounding area.

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

      There will be no aesthetic impacts.

11. **Light and Glare**

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

      The finished project will produce no light or glare.

   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?

There are fishing trails located along the banks of King County-owned properties within the Green River Natural Area.

There is also recreational boating in this reach of the Green River. Drift boats, kayaks, rafts and other boats with oars are common year-round, with more focused use around the salmon season. Inner tubes are common in this reach during the summer months. Boaters typically put in at Whitney Hill bridge several miles upstream and float ~8 miles down to the boat ramp near SR-18.

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

No recreational uses will be eliminated, but changes in the types of uses may occur. The character of the river reach resulting from the levee removal may at times make it less suitable or desirable for some recreational floaters. Removal of the levee will initiate channel migration, which will in turn cause some trees to fall into the river as the bank retreats. The widening channel and more accessible floodplain will also encourage large wood floating from upstream to deposit within the reach. The position and orientation of these future wood accumulations will be determined by river conditions and are expected to change over time as a result of natural river processes. King County is committed to monitoring these conditions after the project is completed and will work closely with the King County Sheriff to evaluate and respond to future recreational safety concerns. Protocols are specified in Procedures for Managing Naturally Occurring Large Wood in King County Rivers, available on King County’s website (https://www.kingcounty.gov/services/environment/watersheds/general-information/large-wood/public-rule-safety-procedures.aspx).

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

The proposed project will improve fish and wildlife habitat and thereby may have a positive effect on recreational opportunities. Recreation will be enhanced by restoring river and floodplain processes in the project area. For example, habitat restoration helps promote recreational fishing by improving fish survival and provides a more natural river environment in which to fish.

The project will install informational signs upstream of the site alerting users to existing river hazards and changing conditions and potential hazards within the project reach. News releases and website alerts will also be used to provide updated information to recreational users. These improvements are intended to provide options for river users, but will not eliminate the inherent risk that users take when recreating in or around the river. Consistent with safe recreational practices, recreational users need to take appropriate precautions, play close attention to river conditions and make wise decisions consistent with their skills and abilities.

Consideration of potential recreational impacts is progressing through a series of steps during the design process including early identification of risks, data collection to understand specific site conditions and recreational uses affected by those risks, evaluation and assessment using available
tools, and incorporation of mitigation measures. Most importantly, King County has convened a recreational user group to provide feedback on the project design. King County is following the County’s Procedures for Considering Public Safety When Placing Large Wood in King County Rivers, which provides numerous opportunities for the public to provide input during the design process for projects which will place wood in King County rivers.

A post-project site management plan is being developed and will be finalized using input received from meetings with recreational users and the King County Sheriff’s Office. The plan will include a series of progressive steps that allow for a flexible response to addressing safety concerns using the least intrusive, yet effective means. Those may include: education and outreach; monitoring; public notices; web alerts; signs posted along the river to alert users to conditions; temporary and/or seasonal use advisories; temporary or seasonal closure (by order of King County Sheriff only); and finally, modification of wood accumulations where safe portage or passage is not possible. The plan will be consistent with the goals of the project and the draft Natural Wood Policy developed by King County.

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.

   No.

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

   A cultural resources investigation (CRC, 2018) found evidence to suggest past use by Native Americans. The design team is working with consultants and the tribes to refine our understanding of the setting and what is needed to assure any cultural resources are protected.

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

   Two subsurface surveys of cultural resources have been conducted on the site to minimize the potential of impacting cultural resources during project construction. In addition, a plan for monitoring for the presence of cultural resources during project construction, and which includes an Unanticipated Discovery Plan, has been developed. Construction crews will be briefed on the possibility of discovery of cultural resources during construction and on the procedures to follow should such an event occur.

   In the event that cultural or archaeological resources are uncovered or encountered during demolition, work will cease immediately and appropriate steps will be taken to protect those resources prior to resumption of any ground disturbing work in the area. 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 professional archaeologist or other qualified resource professional. A mitigation plan will be prepared, if necessary, prior to resuming excavation at the 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.*

Green Valley Road is located directly north of the project area. A new driveway will be constructed to the east of the existing driveway to provide access to construct the project and allow for long term access to the facility.

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

The project site is not served by public transit. The nearest stop is in the City of Auburn, approximately 10 miles west.

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

The project site will have no public 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).*

No.

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:*

Transportation impacts will be reduced with signage, flaggers, and similar methods to be developed in a traffic control plan.

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:*

Does not apply.
16. Utilities

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

Water, electricity, refuse services, telephone and a septic system are located on the site.

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.

No utilities are proposed as part of this project.

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: Mr. Bowles
Title: Senior Ecologist
Date Submitted: 7.30.19
Appendix A: Figures
Figure 1: Vicinity Map
Figure 2: Existing Conditions
Figure 3: Proposed Conditions
Figure 4: Project Impacts

Legend

- Project_Area
- Existing Ordinary High Water
- 0.288 Ac Wetland Fill - permanent
- 0.392 Ac OHWM Fill - permanent
- 0.147 AC OHWM Fill_temporary
- 0.284 Ac Wetland Excavation
- 1.149 Ac OHWM Excavation

REFERENCE: NWS-2019-447-WRD
APPLICANT: King County
ADJACENT PROPERTY OWNERS:
1. Jeff Coates
2. David and Cathie Petrie
LOCATION: 17225 SE Green Valley Rd
Auburn, WA 98092
47.27694 N lat. / -122.11692 W Long
PROPOSED PROJECT: Lones Levee Setback and Floodplain Restoration
IN: WRIA 9 Green Duwamish
NEAR: Auburn
COUNTY: King
STATE: WA

PAGE 4 OF 5 DATE: 07/11/19
Figure 5: Project Benefits
Appendix B, Table 1: Greenhouse Gas Emissions Worksheet

Greenhouse Gas (GHG) Emissions Worksheet

**Project Name: Lones Levee**
Project Manager: Eastman
Assessment Completed by: Bowles
Date of completion: 06/06/2019

**Project Description:** Excavation of ~27,000CY to restore habitat-forming processes.

### Construction-related Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Emissions from fuel-burning activities (in CO2e):</th>
<th>Pounds</th>
<th>Metric tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions from embedded materials (in CO2e):</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions resulting from site impacts (in CO2e):</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total Emissions (in CO2e):** 105403.6652 47.8238136

### Project-Related Carbon Sequestration

<table>
<thead>
<tr>
<th>Total Carbon Sequestration 35 years after planting:</th>
<th>Pounds</th>
<th>Metric tons</th>
</tr>
</thead>
</table>

8,521,920 3866.56987