



King County

**ENVIRONMENTAL CHECKLIST ADDENDUM**

---

**REDDINGTON LEVEE SETBACK AND EXTENSION**

---

**NOTE: Bold text contains new information regarding work proposed for implementation in 2013. This information varies from the original SEPA Environmental Checklist due to project design updates and refinements. Non-bold, strike-through text contains the responses to questions in the original Environmental Checklist. Only those questions to which the answers have changed as a result of the new project information (and some "Background" information) are presented here; answers to questions not shown here are unchanged from the original Environmental Checklist.**

**A. BACKGROUND**

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

Reddington Levee Setback and Extension

2. *Name of Applicant:*

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

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

King County Water and Land Resources Division  
201 South Jackson Street, Suite 600  
Seattle, WA 98104-3855  
Phone: 206-263-0492  
Fax: 206-205-5134

4. *Date checklist prepared:*

8/13/2012; **Revised 11/26/2012 (Questions A.10, B.1.e, B.3.a.2, B.3.a.3, B.3.d, B.4.b, and B.4.d have been revised)**

5. *Agency requesting checklist:*

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

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

May 1, 2013 – November 30, 2013

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

| Permit  | Issuing/Regulating Agency           |
|---|-------------------------------------|
| Clean Water Act Section 404 Permit                      | US Army Corps of Engineers (USACE)  |
| Rivers and Harbors Act Section 10 Permit                | USACE                               |
| Endangered Species Act Section 7 Consultation           | NMFS and USFWS                      |
| LOMA / LOMR   | FEMA                                |
| Clean Water Act Section 401 Water Quality Certification | WA Dept of Ecology                  |
| Coastal Zone Management Consistency Determination       | WA Dept of Ecology                  |
| NPDES Permit  | WA Dept of Ecology                  |
| <b>Aquatic Use Authorization</b>                        | <b>WA Dept of Natural Resources</b> |
| National Historic Preservation Act Section 106          | DAHP, coordinated by USACE          |
| SEPA (State Environmental Policy Act)                   | King County (lead agency)           |
| Hydraulic Project Approval                              | WDFW with MIT concurrence           |
| Shoreline Management Act Compliance                     | City of Auburn                      |
| Critical Areas compliance                               | City of Auburn                      |
| Floodplain Development Permit                           | City of Auburn                      |
| Clearing/Grading Permit                                 | City of Auburn                      |
| Flood Hazard Certification                              | City of Auburn                      |
| Right of Way Construction Permits                       | City of Auburn                      |
| Demolition Permits                                      | City of Auburn                      |
| Asbestos/Demolition Notification                        | Puget Sound Clean Air Agency        |

**B. ENVIRONMENTAL ELEMENTS****1. Earth**e. *Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate the source of fill.*

Approximately ~~27~~ **30** acres will be cleared and grubbed in preparation for construction. Significant trees will be avoided where possible.

The following excavation is proposed:

- Removal of approximately 4,400 cubic yards (CY) of existing levee riprap (**all visible angular** rock will be removed from the riverward face of the existing levee, **some rock may be left intact in order to protect mature trees**)
- Removal of approximately ~~160,000~~ **84,000** CY of existing levee fill and terrace material (the terrace will be excavated for the installation of rock barbs and down to current floodplain elevation). An ~~additional~~ **estimated 15,000** ~~26,000~~ CY

~~CY~~ of excavated terrace material will be used to backfill and cover over the rock barbs.

Excavated rock, fill, and earthen material will be reused onsite if materials are determined to be suitable. Any material that cannot be reused onsite will be exported to an approved disposal facility (e.g., Pacific Topsoil or a King County soil recycling facility). The following fill is proposed:

- Approximately ~~40,000 CY~~ **28,000 CY** of earthen and gravel fill for the setback levee
- Approximately ~~82,000 CY~~ **34,650 CY (48,500 tons)** of angular gravel and riprap for the rock barbs and levee face rock (located adjacent to Wetland E at River Mobile Estates [37<sup>th</sup> Street NE, see Reddington Wetland Delineation Report on King County's project webpage] and the City of Auburn's Brannan Park Pump Station near 30<sup>th</sup> Street NE). **The following modifications were made to reduce both the amount and the impact of the rock fill:**
  - **The downstream most barb (Barb #10) was removed from the design because it was determined unnecessary for infrastructure protection. Nine barbs are now proposed for construction.**
  - **The total amount of rock to be used for barb construction has been reduced by 60% from 27,790 CY (38,900 tons) to 11,360 CY (15,900 tons).**
  - **The amount of rock to be used for individual barb construction has been reduced by over 50% from 2,790 CY (3,900 tons/barb) to 1,290 CY (1,800 tons/barb).**
  - **The length of rock revetment along River Mobile Estates extending upstream (south) of the first upstream engineered log jam (ELJ) was reduced 150 feet, thereby reducing the amount of rock used for this revetment by over 40% from 39,290 CY (55,000 tons) to 23,140 CY (32,400 tons).**
- Approximately ~~224~~ **415** boulders for engineered log jam (ELJ) ballast

~~In addition, 64~~ **The eight ELJs will be constructed with at least 104 pieces of large wood and secured with approximately 64 wood pilings rock attached to the logs.**

**Five to eight ballasted logs are proposed for installation on the downstream side of each barb, with the exception of Barb 4; currently a total of 48 pieces of large wood are anticipated adjacent to the barbs.**

### 3. Water

#### a. Surface:

- 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 levee removal will occur adjacent to the Green River. Removal of the rock toe and face rock from the base of the levee slope will occur, in part, below the Ordinary High Water Mark (OHWM) of the Green River. **Installation of the rock revetment adjacent to the Brannan Park Pump Station will require excavation and replacement of rock fill waterward of the OHWM and within the original footprint of the existing levee.** Setback levee construction will also require work in and adjacent to Wetland E (adjacent to the River Mobile Estates).

**Construction-related tree removal and natural channel erosion of trees may increase solar radiation to the river, which may in turn cause an increase in summer water temperature depending on the location of tree removal, river channel migration rate(s) and rate of vegetation growth.**

- 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.

Direct wetland impacts in Wetland E include approximately:

- **5,222** ~~6,290~~ cubic yards (CY) of rock fill (**0.44 acre** ~~26,200~~-square feet (SF) footprint)
- **12,466** ~~7,150~~ CY (**1.23 acre** ~~44,460~~-SF footprint) temporary wetland excavation; this includes **10,997** ~~4,185~~ CY (**0.87 acre** ~~6,400~~-SF footprint) for ELJ and rock spur placement (**previous calculations did not account for excavation required to place ELJs**).

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

Temporary erosion and sediment control measures will be used during construction to reduce and control surface water runoff. Reduction of impervious area and dense revegetation with native riparian plants with the project will be used to protect surface water quality following construction. No groundwater impacts are expected during or following construction.

**The Green River Temperature Total Maximum Daily Load (TMDL) Water Quality Improvement Report (Coffin et al. 2011) identifies loss of riparian habitat as a pollutant source affecting stream temperature. This includes removal or depletion of riparian buffers and bank armoring. The proposed levee setback and extension project removes a riprap levee from the river bank, thereby opening up approximately 20 acres between the river and the proposed setback**

levee. Though the setback levee is close to the expected channel in two places, specifically the Brannan Park Stormwater Pump Station and the River Mobile Estates, and includes removal of trees for project construction, the proposed project opens up large areas for revegetation.

Vegetation removal will be mitigated by planting trees and shrubs immediately following project construction (Autumn 2013) and by retaining all removed trees on-site for use in log jams, ballasted logs adjacent to barbs, and erosion and sediment control. The draft planting plan has been developed for the 60% design. This plan includes installation of trees at a 4:1 replacement ratio (approximately 2,800 trees), with an expected performance standard of 80% survival. All of these trees will be planted in native soil to increase survival and growth potential. King County also proposes planting an additional 400 cottonwood stakes (these stakes will be planted in the levee removal area adjacent to River Mobile Estates which is an area likely to erode, so the stakes are not considered mitigation for tree removal) and 7,000 shrubs throughout the entire site, and incorporating three layers of willows into the revetment adjacent to River Mobile Estates and two layers of willows into the revetment adjacent to the Brannan Park Stormwater Pump Station. In total, the landscaping plan includes installation of approximately 3,200 trees, 7,000 shrubs, and 8,000 willow stakes.

#### 4. Plants

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

Levee removal and construction of project elements will require removal of approximately 28 trees greater than 24 inches diameter at breast height (dbh), 186 trees between 12 and 24 inches dbh, and 478 trees less than 12 inches dbh, for a total of 692 trees. The majority of these trees are located adjacent to River Mobile Home Park and Labrador soil pile. ~~Approximately 300 trees will be removed, primarily from upland areas and existing levee slopes.~~ Large trees will be avoided where possible. Levee vegetation consists primarily of bigleaf maple (40%), black cottonwood (24%), and red alder (23%), with Douglas fir, Oregon ash, and willow species making up the rest of the vegetation. Upland vegetation consists primarily of black cottonwood (54%), red alder (17%), and Douglas fir (13%), with bigleaf maple, western red cedar, and ornamental species making up the rest. **Following construction, additional trees may be recruited to the river as a result of channel migration and forest erosion.**

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

Significant trees will be avoided during construction when feasible. **Trees along the mid to lower slopes of the existing levee will not be removed in preparation for removal of existing riprap. During levee excavation and riprap removal, efforts will be taken to minimize damage to the trees on the levee face.** Levee removal will be limited to the upper six feet of the levee adjacent to Wetland E near the River Mobile Estates (though all of the riprap from the riverward slope will be removed) in

order to preserve several significant trees on the lower portion of the landward levee slope in this portion of the project.

**As noted in Section B.3.d., the project area, including all disturbed areas, will be planted with native trees, shrubs, and grasses following construction. The 60% landscaping plan extensive planting of trees and shrubs, and it also includes invasive species removal. Many of the proposed planting areas include zones that are not currently vegetated and will not be affected by the proposed construction. Therefore, the overall coverage of native vegetation through the project area is expected to improve over the long-term following project construction.**

**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: Sarah McCattly  
Title: Senior Ecologist  
Date Submitted: 11-26-12