



**City of Portland, Oregon**  
**Bureau of Development Services**  
**Land Use Services**

FROM CONCEPT TO CONSTRUCTION

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**Date:** May 20, 2014  
**To:** Interested Person  
**From:** Stacey Castleberry, Land Use Services  
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## **NOTICE OF A TYPE II DECISION ON A PROPOSAL IN YOUR NEIGHBORHOOD**

The Bureau of Development Services has **approved** a proposal in your neighborhood. The reasons for the decision are included in the version located on the BDS website <http://www.portlandonline.com/bds/index.cfm?c=46429>. Click on the District Coalition then scroll to the relevant Neighborhood, and case number. If you disagree with the decision, you can appeal. Information on how to do so is included at the end of this decision.

### **CASE FILE NUMBER: LU 13-213107 GW**

#### **GENERAL INFORMATION**

**Applicant:** Portland Parks & Recreation  
**Attention:** George Lozovoy  
1120 SW 5<sup>th</sup> Avenue, Suite #1302  
Portland, OR 97204  
Ph. 503.823.5595

**Owners:** Portland Parks & Recreation  
1120 SW 5<sup>th</sup> Avenue, Suite #1302  
Portland, OR 97204

Metro  
600 NE Grand Avenue  
Portland, OR 97232

**Representative:** Vigil Agrimis, Inc.  
**Attention:** John Vlastelicia  
819 SE Morrison Street, Suite #310  
Portland, OR 97214

**Site Address:** Springwater on the Willamette Trail Corridor, Mile Post 1.75--175 feet west of SE McLoughlin Boulevard, between SE Holgate Boulevard and SE Long Street, on the bank of the Willamette River.

**Legal Description:** TL 1300 0.78 ACRES, SECTION 14 1S 1E; TL 500 7.76 ACRES, SECTION 14 1S 1E

**Tax Account No.:** R991140100, and R991141250 (R328380 and R502733)

**State ID No.:** 1S1E14BA 01300, 1S1E14B 00500

**Quarter Section:** 3531 and 3631

**Neighborhood:** Sellwood-Moreland, contact Ellen Burr at 503-234-2233.

**Business District:** Sellwood-Westmoreland, contact Tom Brown at 503-381-6543.

**District Coalition:** Southeast Uplift, contact Bob Kellett at 503-232-0010.

**Plan District:** None

**Other Designations:** 100 Year Floodplain; Floodway; Potential Landslide Hazard; Dogami Landslide Deposits.

**Zoning:** OSnq—Open Space base zone, with Greenway River Natural and Greenway Water Quality overlay zones

**Case Type:** GW—Greenway Review

**Procedure:** Type II, an administrative decision with appeal to the Hearings Officer.

**Proposal:** Portland Parks and Recreation (PP&R) is responsible for managing and maintaining the Springwater Corridor trail where it parallels the Willamette River in southeast Portland. Erosion of the river bank resulted in the loss and partial closure of an approximately 70-foot length of the trail, during the spring of 2012 and the fall of 2013, making the trail susceptible to further damage from erosion. The 2012- 2013 slope erosion presented a risk for the further loss of property and a safety hazard for users of the trail, and immediate trail repair and bank protection measures were needed at the site of the bank failure to address these concerns. PP&R constructed emergency trail repairs and bank stabilization measures in October/November 2013. The emergency slope repairs were permitted under City permit number 13-180572 SD.

The Springwater Trail and the adjacent failing riverbank in the project area are located within the Willamette River Greenway, within City-designated overlay zones of River Natural (n) and River Water Quality (q). Development within a Greenway overlay zone is subject to the standards and approval criteria outlined in the City's Planning and Zoning Code Chapter 33.440 (Greenway Overlay Zones).

The Greenway regulations of Chapter 33.440 provide an exemption from Greenway Review requirements for certain "emergency procedures for the safety or protection of property." However, in the River Water Quality overlay zone setback, temporary emergency procedures for the safety or protection of property that result in permanent measures must meet the regulations of 33.430 once the emergency has passed. The bank stabilization and trail repair measures conducted by PP&R will remain in place after the emergency has passed, and therefore those portions of the improvements located "within" the water quality overlay zone setback (landward of and within 50 feet of top of bank) must meet the Greenway regulations post-construction.

The loss of a section of the existing asphalt trail is an immediate safety hazard that needs to be addressed in the short-term. However, the erosion problems extend beyond the site of the trail failure and require a longer-term solution that extends beyond the immediate trail failure area.

This Greenway Review application addresses only those emergency trail repair and bank protection measures implemented for fall 2013 construction. Long-term toe protection measures below OHW at the site of the trail failure (e.g., large wood) and any additional reach-scale solutions will be reviewed and permitted at a later date, when funding is secured and design is developed.

The bank stabilization approach used by PP&R involved constructing a soil nail retaining wall fronted by vegetated soil wrapped lifts. Limited excavation of the existing eroded bank was performed to prepare the ground surface for the installation of the soil nail wall. The "wall" consists of a high-tension galvanized wire mesh held to the bank by soil "nails", consisting of round, hollow, galvanized steel tubing with an outer diameter of 1.5 inches. Each nail was driven into the bank to an embedded depth of up to 14 feet. The nail heads consist of 8-inch square steel plates that hold the mesh against the bank with the use of hex nut fasteners. The nails were launched (driven) into the bank at angles of approximately 20 degrees from horizontal. Vertical to near vertical soil nail micropiles were driven into the ground at the base of the mesh wall.

A "Biowall" consisting of vegetated soil wrapped lifts was installed in front of the wire mesh of the soil nail wall. The soil wrapped lifts have a minimum thickness of 8 inches, beginning a minimum of 1 foot above the OHW level of the Willamette River and extending up the slope to the top of the bank. Supported by concrete footing, the uppermost lift matches the grade of the Springwater Trail. The lifts are planted with live willow stakes and shrubs.

Once the soil nail wall and the soil wrapped lifts were in place, the damaged portion of the Springwater Trail was reconstructed. Asphalt within the entire 14-foot width of the existing damaged portion of the trail was sawcut and removed and replaced with new asphalt paving to match the existing trail width and grade. Rock shoulders 2 feet in width border each side of the reconstructed pavement. Because of the trail's close proximity to the top of the bank, a safety barrier was constructed along the repaired segment to separate the trail from the steep slopes below. The safety barrier consists of 8-inch by 8-inch pressure treated posts spaced 9 feet apart and extending 4 feet above the finished ground surface. Galvanized steel cable is strung between the posts.

The planting (see attached plan) includes establishing native vegetation within four distinct zones that encompass areas of the site affected by permanent bank stabilization improvements (Zones 1 and 2) and temporary construction disturbance (Zone 4). Plantings are also proposed for vegetation enhancement/mitigation purposes immediately below (and outside of) the proposed bank stabilization measures (Zone 3).

The majority of the site is within the City's Willamette Greenway overlay zone, and the work must be approved through a Greenway Review.

**Relevant Approval Criteria:**

In order to be approved, this proposal must comply with the approval criteria of Title 33. The relevant criteria are:

- Greenway Review Approval Criteria, Zoning Code Section 33.440.350; and
- *Willamette Greenway Design Guidelines*

**Facts**

**Description of the Site:** The project site lies due east of Ross Island, along Portland's Springwater Corridor Trail along the Willamette River, north of the Oaks Bottom Wildlife Refuge in Southeast Portland. The Springwater Corridor Trail at the project site is situated on a bench above the Willamette River, on its east bank. At the location of the bank failure, the relatively flat bench is approximately 30 feet wide. It is bound by the bank of the Willamette River sloping down to the west, railroad tracks adjacent to the east, and the upward sloping hillside above the railroad tracks farther east. SE McLoughlin Boulevard parallels the trail at the top of the slope, approximately 150 feet east of the trail.

The construction staging area is approximately 300 feet southwest of the bank failure on the east side of the Springwater Corridor Trail.

The asphalt-paved trail is 14 feet wide. The western edge of the trail has been damaged by the bank failure, and the western half of the trail is currently closed (marked and blocked with orange traffic posts and tape). A chain-link fence parallels the trail on its eastern edge, separating the trail from the adjacent railroad tracks.

The elevation of the trail surface is approximately 36 feet (City of Portland datum). The 100-year flood elevation at this location is approximately 30.9 feet, and the ordinary high water (OHW) level of the Willamette River is approximately 18.2 feet.

The horizontal distance between the Willamette River's OHW level and the trail at the top of the bank is approximately 20 feet in the vicinity of the proposed trail repairs and bank protection. The steeply sloping river banks immediately north and south of the bank failure site are similarly narrow, and bank vegetation is dominated by a band of cottonwood trees.

Cottonwood trees previously standing along the shoreline at the site of the bank failure have toppled into the water and remain at the toe of the slope, along with slide debris (soil) from the bank above. PP&R has placed plastic sheeting over the exposed and steep banks below the damaged section of trail to provide some limited protection from surface water runoff. Various grasses and shrubs have colonized the slide area below the plastic sheeting and above the water's edge.

**Zoning:** The zoning designation on the site includes the Opens Space (OS) base zone, with River Natural (n), and River Water Quality (q) overlay zones (see zoning on Exhibit B).

The Open Space base zone is intended to preserve public and private open and natural areas to provide opportunities for outdoor recreation and a contrast to the built environment, preserve scenic qualities and the capacity and water quality of the stormwater drainage system, and to protect sensitive or fragile environmental areas. No new uses are proposed within the OS zone and the provisions of the zone do not apply to the proposal. The OS zone is therefore not addressed through this Greenway Review.

The Greenway overlay zone is intended to protect, conserve, enhance, and maintain the natural, scenic, historical, economic, and recreational qualities of lands along Portland's rivers; establish criteria, standards, and procedures for the development of land, change of uses, and the intensification of uses within the Greenway; and implement the City's Willamette Greenway responsibilities as required by ORS 390.310 to 390.368 and Metro's Title 3.

**Land Use History:** City records indicate that prior land use reviews have been conducted for this site, but that are unrelated to the current land use review.

**Summary of Applicant's Statement:** The project site and reach of the Willamette River are located in an area of high stream energy, based on geomorphology and hydraulics. The eroded bank and damaged trail section are located on the outside of a bend in the river, where flows, velocities, and stream energy are concentrated. In addition, this reach of the river is one where the channel narrows, resulting in higher velocities that exacerbate erosion.

Another contributing factor to the erosion problems along the project reach of the river is the absence of a floodplain bench. Moving water strikes the riverbank in this area directly, with its full force. In contrast, upstream of this area, there is a floodplain bench that absorbs river energy. Water moving across the bench is reduced in velocity and energy due to friction (moving through plant materials, across soils, etc.) as it flows toward the riverbank and trail.

Based on a review of the riverbanks in the project area, from land and water, it appears that the mechanism for bank failure is toe erosion. That is, as water from the Willamette River flows toward and long the bank, hydraulic forces result in shear stress along the riverbank, causing erosion. As the toe of the slope erodes away, the bank becomes oversteepened, and eventually sloughs into the river.

This phenomenon is exacerbated by top-heavy bank vegetation, particularly the cottonwood trees growing on the riverbank. When toe erosion occurs at the root line of the cottonwoods, the trees become undermined and topple over due to gravity. The roots are not bedded in soil sufficiently to provide tensile strength to counteract the gravity and rotational forces. These conditions can worsen as the trees mature (increasing in height, diameter, and weight). As the large cottonwoods fall, their root masses rotate out of the soil, leaving holes in the bank and unprotected and oversteepened slopes.

The loss of a section of the existing Springwater Corridor trail is an immediate public safety hazard that must be addressed in the short-term. PP&R is proposing a phased construction approach that will allow emergency trail repair and bank stabilization measures above the OHW level of the Willamette River to be constructed this fall (Phase 1), followed at a later date by additional toe protection below OHW, when funding has been secured for design and construction, and all federal, state, and local approvals have been obtained (Phase 2). PP&R also recognizes that this section of bank and trail are within a larger erosion-prone reach of the Willamette River (approximately 1,000 feet in length), which warrants further evaluation for a comprehensive, long-term approach to bank stabilization (Phase 3).

This Greenway Review application addresses only Phase 1.

The project elements described by PP&R in this application will repair the damaged portion of the Springwater Corridor Trail and stabilize the adjacent segment of Willamette River bank immediately below the trail. The trail repair and bank stabilization measures discussed in this

application are located above the OHW elevation of the Willamette River. Native vegetation is to be planted at the toe of the slope, below the proposed stabilization measures and below the river's OHW level.

**Agency and Neighborhood Review:** A Notice of Proposal in your Neighborhood was mailed on April 14, 2014.

**1. Agency Review:** Several Bureaus and agencies have responded to this proposal, expressing no concerns and requiring no conditions of approval. Please see Exhibits E.1 through E.3 for details.

**2. Neighborhood Review:** No written responses were received from either the Neighborhood Association or notified property owners in response to the proposal.

## **ZONING CODE APPROVAL CRITERIA**

### **33.440.350 Greenway Review Approval Criteria**

The approval criteria for a Greenway review have been divided by location or situation. The divisions are not exclusive; a proposal must comply with **all** of the approval criteria that apply to the site. A Greenway review application will be approved if the review body finds that the applicant has shown that all of the approval criteria are met.

**A. For all Greenway reviews.** The Willamette Greenway design guidelines must be met for all Greenway reviews.

**Findings:** The Willamette Greenway Design Guidelines address the quality of the environment along the river and require public and private developments to complement and enhance the riverbank area. The Design Guidelines are grouped in a series of eight Issues:

**Issue A. Relationship of Structures to the Greenway Setback Area:** This issue “applies to all but river-dependent and river-related industrial use applications for Greenway Approval, when the Greenway trail is shown on the property in the *Willamette Greenway Plan*.” These guidelines call for complementary design and orientation of structures so that the Greenway setback area is enhanced;

#### **Guidelines:**

**1. Structure Design.** The Greenway Setback area should be complemented and enhanced by designing, detailing, coloring, and siting structures and their entrances to support the pedestrian circulation system, including both the Greenway trail and access connections.

**Findings:** Buildings or similar above-ground structures are not proposed as part of this project. The proposed bank stabilization and trail repair measures are intended specifically to support the existing pedestrian and bicycle circulation system of the Greenway Trail (the Springwater Corridor Trail in this location) by restoring the damaged segment of trail to its fully usable width and protecting it from further damage from riverbank erosion. This design guideline is met.

**2. Structure Alignment.** Where surrounding development follows an established block pattern, alignment with the block pattern should be considered in structure placement. Structure alignment should also take into account potential view corridors from existing public rights-of-way or acknowledged viewpoints. The pedestrian access system should be designed to take advantage of these alignments.

**Findings:** Block-pattern development is not present in the immediate project vicinity, nor is it affected by the project. The alignment and footprint of the repaired section of trail will match the alignment and footprint of the existing trail prior to the erosion that resulted in its damage. Officially recognized viewpoints are not present in the immediate project vicinity. The bank failure and the toppling of cottonwood trees into the river at the trail failure site have “improved” the view of the river along the damaged section of trail. The project does not involve structural improvements that will interfere with views. This design guideline is met.

**Issue B. Public Access:** This issue “applies to all but river-dependent and river-related industrial use applications for Greenway Approval, when the Greenway trail is shown on the property in the *Willamette Greenway Plan*.” These guidelines call for integration of the Greenway trail into new development, as well as the provision of features such as view points, plazas, or view corridors;

**Guidelines:**

- 1. Public Access.** New developments should integrate public access opportunities to and along the river into the design of the Project. This includes the Greenway trail, formal viewpoints, access connections to the Greenway trail, and internal site pedestrian circulation.

**Findings:** The proposed trail repair and bank stabilization measures will restore public access to the full width of the Greenway Trail along the Willamette River in the project area. This design guideline is therefore met. Public access from the trail to the river below is not currently provided and is not safe due to the steepness of the banks. A safety barrier along the trail’s western edge will be installed as part of the project to discourage public access to the river and prevent accidents.

- 2. Separation and Screening.** The pedestrian circulation system, including Greenway trail, viewpoints, and trail access connections, should be designed to ensure adequate separation and screening from parking, loading, circulation routes, external storage areas, trash dumpsters, exterior vents, mechanical devices, and other similar equipment.

**Findings:** Not applicable. The segment of the existing Greenway Trail to be repaired is not located near the above-listed areas or equipment.

- 3. Signage.** Access connections should be clearly marked.

**Findings:** Not applicable. The proposed project does not create any new access connections.

- 4. Access to Water’s Edge.** Where site topography and conservation and enhancement of natural riverbank and riparian habitat allow, safe pedestrian access to the water’s edge is encouraged as part of the Project.

**Findings:** Not applicable. The steep and eroded banks in the project vicinity do not allow safe pedestrian access to the water’s edge, and such access will be discouraged through the installation of a safety barrier along the western edge of the reconstructed segment of the trail.

**Issue C. Natural Riverbank and Riparian Habitat:** This issue “applies to situations where the river bank is in a natural state, or has significant wildlife habitat, as determined by the wildlife habitat inventory.” These guidelines call for the preservation and enhancement of natural banks and areas with riparian habitat;

**Guidelines:**

- 1. Natural Riverbanks.** The natural riverbank along the Willamette River should be conserved and enhanced to the maximum extent practicable. Modification of the riverbank should only be considered when necessary to prevent significant bank erosion and the loss of private property, or when necessary for the functioning of a river-dependent or river-related use.

**Findings:** The proposed bank stabilization and trail repair activities are proposed solely to prevent continued significant bank erosion and allow the continued functioning of the Greenway Trail. The bank modifications will be limited to that area necessary to adequately protect the damaged and vulnerable segment of trail. This design guideline is met.

- 2. Riparian Habitat.** Rank I riparian habitat areas, as identified in the wildlife habitat inventory, should be conserved and enhanced with a riparian landscape treatment. Other riparian habitat should be conserved and enhanced through riparian landscape treatments to

the maximum extent practical. Conservation however does not mean absolute preservation. Some discretion as to what vegetation should remain and what can be removed and replaced should be permitted. Riparian habitat treatments should include a variety of species of plants of varying heights that provide different food and shelter opportunities throughout the year.

**Findings:** The project site is located within a Rank IV wildlife habitat area according to the Lower Willamette River Wildlife Habitat Inventory (Map No. 10); therefore, this criterion requires that riparian habitat at the project site be conserved and enhanced through riparian landscape treatment to the “maximum extent practical.”

The project conserves existing riparian vegetation to the maximum extent practical by limiting the bank stabilization improvements to that area necessary to repair and re-open the damaged segment of the Springwater Trail. The project does not involve the removal of any mature trees, and tree protection fencing will be installed to ensure trees adjacent to work areas are not accidentally damaged during construction.

The bank failure site currently represents a compromised section of shoreline in terms of upland riparian habitat function. Mature trees previously present along this section of bank have toppled into the river, non-native species such as reed canarygrass have established in the slide area’s lower slopes, and plastic sheeting is protecting the upper slopes from further erosion.

PP&R is proposing a riparian landscape treatment as part of this project, as illustrated in the Landscape Plan sheets in Exhibits C.6 and C.7. The proposed landscape plan incorporates native vegetation into each of the bank stabilization elements. Additional plantings are proposed on the bench below the proposed bank stabilization measures, below the OHW level of the river.

The proposed plantings will include multiple native ground cover, shrub, and tree species suitable for riparian areas and the conditions of the project site, in particular. The steep, erosion prone slopes and the location of the trail at the top of the bank make planting large trees (e.g., cottonwoods) within or immediately adjacent to the proposed soil nail wall inappropriate, due to the need for slope stability. The proposed plantings, which include willow trees and numerous shrubs, will provide multi-layered habitat structure that will provide food and shelter opportunities for wildlife including small mammals and birds. This criterion is met.

**Issue D. Riverbank Stabilization Treatments:** This Issue “applies to all applications for Greenway Approval.” This guideline promotes bank treatments for upland developments that enhance the appearance of the riverbank, promote public access to the river, and incorporate the use of vegetation where possible;

**Guidelines:**

**1. Riverbank Enhancement.** Riverbank stabilization treatments should enhance the appearance of the riverbank, promote public access to the river, and incorporate the use of vegetation where practical. Areas used for river-dependent and river-related industrial uses are exempted from providing public access.

**Findings:** The bank failure at the project site resulted in the loss of existing vegetation in the slide area and the toppling of cottonwood trees into the river. Plastic sheeting temporarily protected the upper slopes of the eroded banks immediately below the trail, and a mix of native and non-native grasses and shrubs have colonized the more gently sloping “bench” below.

Each element of the proposed bank stabilization treatment incorporates native vegetation, and additional vegetation is proposed below the bank stabilization treatment, below the OHW level of the river. The proposed stabilization measures and native groundcover, shrub, and tree species will maintain the vegetated appearance of the riverbank from the river to the greatest practical extent. The steep slopes of the bank stabilization area are not suitable for promoting safe public access to the river currently, and the proposed project will not encourage such access. This criterion is met.

**Issue E. Landscape Treatments:** This Issue “applies to all applications for Greenway Approval which are subject to the landscape requirements of the Greenway chapter of Title 33 Planning and Zoning of the Portland Municipal Code.” This Issue calls for landscaping treatments that create a balance between the needs of both human and wildlife populations in the Greenway Setback area or riverward of the Greenway Setback.

**Guidelines:**

**1. Landscape Treatments.** The landscape treatment should create an environment which recognizes both human and wildlife use. Areas where limited human activity is expected should consider more informal riparian treatments. Areas of intense human use could consider a more formal landscape treatment. The top of bank may be considered a transition area between a riparian treatment on the riverbank and a more formal treatment of the upland.

**Findings:** The landscape treatments proposed as part of this project account for both human and wildlife uses of the area. The native groundcover, shrub, and tree species proposed as part of and immediately below the bank stabilization elements are intended to provide riparian water quality and habitat functions for wildlife (e.g., food, structure) without jeopardizing bank stability and further threatening the trail above for human use. The native grass restoration proposed for the temporary construction staging area immediately south of the damaged trail (above the top of bank) will preserve the existing function of this area for off-trail access by trail users. This criterion is met.

**2. Grouping of Trees and Shrubs.** In areas of more intense human use, trees and shrubs can be grouped. The grouping of trees and shrubs allows for open areas for human use, and has the secondary value of increasing the value of the vegetation for wildlife.

**Findings:** The landscape plan (Exhibits C.6 and C.7) proposed with this application involves grouping of native trees and shrubs. This criterion is met.

**3. Transition.** The landscape treatment should provide an adequate transition between upland and riparian areas and with the landscape treatments of adjacent properties.

**Findings:** In the bank stabilization project area, the top of the riverbank marks a sharp transition between the riparian area below the top of bank and the Springwater Trail and railroad above the top of bank. The proposed landscape treatment reflects that transition and provides riparian continuity with the riverbank north and south of the bank failure site. This criterion is met.

**Issue F. Alignment of Greenway Trail:** This issue “applies to all applications for Greenway Approval with the Greenway trail shown on the property in the Willamette Greenway Plan.” These guidelines provide direction for the proper alignment of the Greenway trail, including special consideration for existing habitat protection and physical features in the area of the proposed alignment;

**Guidelines:**

**1. Year-round Use.** The Greenway trail should be located so as to be open for public use year round. The trail may be constructed along the top of bank, on a floating platform, or in a series of tiers adjacent to the river, provided that at least one of these levels will remain unsubmerged.

**Findings:** The damaged section of the Greenway Trail is restored to its previous width along its existing alignment at the river’s top of bank. The trail is above the 100-year flood elevation of the river and is open for public use year round. Trail closures associated with construction of the proposed bank stabilization and trail repairs were temporary. This criterion is met.

**2. Habitat Protection.** The Greenway trail should be routed around smaller natural habitat areas to reduce the impact on the habitat area.



**Findings:** Not applicable. The proposed project does not involve installing new Greenway Trail or re-routing the existing Greenway Trail.

**3. Alignment.** The Greenway trail alignment should be sensitive to and take advantage of topographical and environmental features of the site, views of the river, existing and proposed vegetation, and sunlight.

**Findings:** The proposed project does not involve a change in the existing Greenway Trail alignment, which parallels the Willamette River and takes advantage of the narrow bench between the river's top of bank (to the west) and the railroad tracks (to the east). This criterion is met.

**Issue G. Viewpoints:** This issue "applies to all applications for Greenway Approval with a public viewpoint shown on the property in the *Willamette Greenway Plan* and for all applications proposing to locate a viewpoint on the property". These guidelines provide direction about the features and design of viewpoints, as required at specific locations;

**Findings:** This issue does not apply to the current proposal as the project does not involve viewpoints.

**Issue H. View Corridors:** This issue "applies to all applications for Greenway Approval with a view corridor shown on the property in the *Willamette Greenway Plan*." These guidelines provide guidance in protecting view corridors to the river and adjacent neighborhoods;

**Findings:** This issue does not apply to the current proposal as designated view corridors are not present in the vicinity of the proposed bank stabilization and trail repair measures.

**B. River frontage lots in the River Industrial zone.**

**Findings:** This criterion does not apply to the current proposal as the proposed project is not located within the River Industrial zone.

**C. Development within the River Natural zone.** The applicant must show that the proposed development, excavation, or fill within the River Natural zone will not have significant detrimental environmental impacts on the wildlife, wildlife habitat, and scenic qualities of the lands zoned River Natural. The criteria applies to the construction and long-range impacts of the proposal, and to any proposed mitigation measures. Excavations and fills are prohibited except in conjunction with approved development or for the purpose of wildlife habitat enhancement, riverbank enhancement, or mitigating significant riverbank erosion.

**Findings:** The City's Zoning Code (Chapter 33.910) defines significant detrimental impact to be "an impact that affects the natural environment to the point where existing ecological systems are disrupted or destroyed. It is an impact that results in the loss of vegetation, land, water, food, cover, or nesting sites."

The entire project site is zoned River Natural, and the proposed construction activities and development will necessarily have some environmental impact on the area, particularly during construction due to ground disturbance and equipment activity. However, the anticipated effects are not expected to constitute significant detrimental impacts on the wildlife, wildlife habitat, and scenic qualities of the area, based on the following:

- The existing shoreline within the bank stabilization work area has been impacted by the erosion that caused the trail damage. Mature trees previously present in this area have toppled, the steep upper slopes are covered with plastic sheeting, and the lower slopes are vegetated with various native and non-native groundcover and shrubs that have colonized since the initial erosion event occurred in March 2012.
- The project does not involve tree removal or direct physical disturbance to bird nesting sites. Construction related ground disturbance (including vegetation removal and excavation) will cause

the temporary loss of the existing vegetation within the bank stabilization footprint (~ 1,370 square feet). The bank stabilization area is revegetated with native species. Native plantings are also proposed as mitigation within an approximately 1,038-square foot area immediately below the bank treatment.

- The native groundcover, shrub, and tree plantings proposed in the project area will, in the long-term, create a multi-layered plant community that will provide improved habitat functions for most wildlife (e.g., structure, cover, food), including perching and nesting opportunities for birds, relative to the existing eroded-bank conditions.
- In addition to the temporary construction impacts to wildlife use and habitat associated with physical ground disturbance, noise and the visual presence of construction equipment/activity are also likely to cause wildlife to avoid the area during active construction. The project site is located at the southern end of a Rank IV wildlife habitat area (Site 21.2A) that extends along the Willamette River shoreline. Higher value (Rank I) riparian habitat south of the project site and similar Rank IV riparian habitat north of the project site provide opportunity for accommodating temporary displacement and minimizing the impacts of the temporary fragmentation that will occur during construction.
- The excavation and fill proposed as part of this project is specifically and solely for the purpose of mitigating significant riverbank erosion.

This criterion is met.

- D. Development on land within 50 feet of the River Natural zone.** The applicant must show that the proposed development or fill on land within 50 feet of the River Natural zone will not have a significant detrimental environmental impact on the land in the River Natural zone.

**Findings:** This criterion is not applicable because the proposed project is located on land within the River Natural zone (and not on land within 50 feet of the River Natural Zone that is not within the River Natural Zone).

- E. Development within the Greenway setback.** The applicant must show that the proposed development or fill within the Greenway setback will not have a significant detrimental environmental impact on Rank I and II wildlife habitat areas on the riverbank. Habitat rankings are found in the *Lower Willamette River Wildlife Habitat Inventory*.

**Findings:** The project site is identified as a Rank IV wildlife habitat area (Site 21.2A) according to the *Lower Willamette Wildlife Habitat Inventory*. Development or fill within the greenway setback includes the trail repairs and the ground preparation necessary to facilitate the bank protection (riverward of the greenway setback) and trail reconstruction. Since the proposed development and fill associated with the project is not located within a Rank I or II wildlife habitat area, the project is not expected to have a significant detrimental impact on Rank I and II wildlife habitat areas on the riverbank. This criterion is met.

- F. Development riverward of the Greenway setback.** The applicant must show that the proposed development or fill riverward of the Greenway setback will comply with all of the following criteria:

**1. The proposal will not result in the significant loss of biological productivity in the river;**

**Findings:** The Greenway Setback begins at the top of bank, which is currently approximated by the edge of the asphalt trail in the bank failure/trail repair area. The project elements riverward of the existing top of bank include the soil nail wall, soil wrapped lifts, and that portion of the reconstructed trail riverward of the damage. The plantings proposed below the bank stabilization elements are also riverward of the setback.

Biological productivity in aquatic systems is a measure of the quantity of organic matter that is accumulated during a given period of time. It is dependent on both primary production, in which living organisms form biomass from inorganic materials through photosynthesis, and secondary production, which is the transformation, through consumption, of biomass into other forms. The

project's potential to impact biological productivity relates primarily to the vegetation condition of the bank in the project area and its influence on the adjacent aquatic environment.

The bank erosion initiated during a high-water event in 2012 resulted in the movement and local loss of vegetation (organic material), as the steepest portion of the bank "slumped" into the river below. This resulted in exposed soils on the banks, the accumulation of slide debris (soil and vegetation) at the toe of the slope, and mature cottonwood trees toppling into the river. Downed wood remains on the lower banks and below the OHW level of the river. The steepest part of the bank immediately below the damaged asphalt trail has been covered with plastic sheeting to prevent further erosion from surface runoff. Some vegetation has re-established on the lower slopes since the erosion occurred in 2012.

The proposed bank stabilization work will involve excavation and vegetation removal over an approximately 85-foot length of riverbank (above OHW), as the bank is prepared for the installation of the soil nail wall and soil wrapped lifts. The bank's denuded vegetative condition will be temporary, as the stabilized bank and the bench below will be vegetated with a mix of native trees, shrubs, and groundcover. The proposed vegetation in the project work area includes approximately 267 willow trees and 986 shrubs.

The plantings included as part of this project will accelerate the re-establishment of vegetation along the eroded project reach of Willamette River shoreline, compared with doing nothing about the erosion and allowing vegetation to re-colonize the area without planting. The soil nail wall will prevent the establishment of large trees on the steep slope below the trail, but the density of smaller willow trees, shrubs, and groundcover species will maximize the vegetative biomass of this area to the extent practicable (while maintaining slope stability).

The multi-layered riparian plant community established by the project will support aquatic productivity in the Willamette River directly by providing a source of organic matter inputs to the system (e.g., leaves and other plant material). The riparian vegetation will also provide habitat structure and a food source for insects, which are a food source for aquatic species including fish such as juvenile salmon and steelhead. The stabilization of the bank also indirectly supports biological functions in the river by reducing erosion and sedimentation, which can adversely affect habitat conditions for aquatic species including salmon and steelhead. This criterion is met.

## **2. The riverbank will be protected from wave and wake damage;**

**Findings:** Wind-driven wave action is likely not a major factor in the bank erosion at the project site, due to the site's position in the landscape (a river bend) along a relatively narrow Willamette River side channel (e.g., little "fetch" to accommodate wave building). Wave action from vessel wakes may be a larger factor, although this has not been studied in detail. Commercial vessel traffic associated with Ross Island Sand and Gravel operates downstream of the project site, and smaller motorized recreational boating traffic passes through the project reach of the Willamette River.

The bank stabilization measures are located above the OHW level of the river and would thus provide direct wave and wake protection primarily when river levels are relatively high. The slide debris (earth and wood) that has settled at the toe of the slope is currently providing some bank protection (from wake and wave damage), and the plantings proposed in this application should further stabilize this area while more long-term solutions are explored. This criterion is met.

## **3. The proposal will not:**

- a. Restrict boat access to adjacent properties;**
- b. Interfere with the commercial navigational use of the river, including transiting, turning, passing, and berthing movements;**
- c. Interfere with fishing use of the river;**
- d. Significantly add to recreational boating congestion; and**

**Findings:** The project does not involve new development or construction activity below the OHW level of the Willamette River and therefore is not expected to restrict boating access or commercial, recreational, or fishing uses of the river from the river. An approximately 0.25-mile length of the

Springwater Corridor trail will be closed temporarily during construction, restricting pedestrian and bicycle access to the closed portion of trail. The riverbanks adjacent to this section of trail are typically steep with overhanging vegetation, providing little opportunity for public access to the water for fishing from the shore. Impacts to shoreline fishing are therefore expected to be negligible. This criterion is met.

**4. The request will not significantly interfere with beaches that are open to the public.**

**Findings:** Public beaches are not present in the project area, and the proposed trail repair and bank stabilization measures will not interfere with public beach use in either the short-term (during construction) or the long-term. This criterion is met.

- G. Development within the River Water Quality overlay zone setback.** If the proposal includes development, exterior alterations, excavations, or fills in the River Water Quality overlay zone setback the approval criteria below must be met. River-dependent development, exterior alterations, excavations, and fills in the River Water Quality zone are exempt from the approval criteria of this subsection.

**Findings:** The Approval Criteria within Section G are organized by development/project type. Subsection 4 addresses Public Recreational Facilities, which include trails. However, since the trail repair element of the project involves only restoring the damaged section of the existing, allowed Greenway Trail to its original width (14 feet) along its existing alignment, the criteria of Subsection 4 are not specifically addressed below. Rather, the criteria of Subsection 5 for “other development, excavations, and fills” are addressed to account for the bank stabilization improvements in conjunction with the trail repairs.

**5. Other development, excavations, and fills in the River Water Quality overlay zone setback. Where development, exterior alterations, excavation, or fill is proposed in the River Water Quality overlay zone setback, the applicant’s impact evaluation must demonstrate that all of the following are met:**

- a. Proposed development minimizes the loss of functional values, consistent with allowing those uses generally permitted or allowed in the greenway overlay zone without a land use review;**

**Findings:** The River Water Quality overlay zone setback begins at the top of bank, which is currently approximated by the edge of the damaged asphalt trail in the bank failure/trail repair area. Proposed project development within the existing setback consists of repairs to the damaged segment of the trail, which will be reconstructed to its original width (14 feet) along its existing alignment, consistent with its currently approved/allowed use in the greenway overlay zone. Some excavation will be performed within the setback to prepare the ground for the soil nail wall, and fill in the form of soil wrapped lifts will be placed to front the soil nail wall and rebuild the damaged (lost) section of bank to allow the trail to be reconstructed.

A number of measures have been incorporated into the overall project design and will be incorporated into the construction approach to minimize impacts to water quality resource functional values. The water quality functional values listed in Section 33.440.030 of the Greenway regulations are identified in the table below, along with corresponding project measures intended to minimize the loss of these values.

<b>Table 2. Water Quality Functional Values and Loss Minimization Measures</b>	
<b>Water Quality Resource Area Functional Value</b>	<b>Measures to Minimize Loss of Functional Values</b>
Providing a vegetated corridor to separate protected water features from development	The Springwater Trail is situated at the Willamette River’s top of bank, separated from the water by steeply sloping banks. The soil nail wall proposed to stabilize the bank will be fronted by soil wrapped lifts to allow vegetation

<b>Table 2. Water Quality Functional Values and Loss Minimization Measures</b>	
<b>Water Quality Resource Area Functional Value</b>	<b>Measures to Minimize Loss of Functional Values</b>
	to be planted. The planting plan proposed for this project incorporates the bank stabilization footprint as well as the bank's lower slopes immediately below the soil nail wall. The native trees, shrubs, and groundcover that will be established with this project will provide a vegetated corridor separating the Willamette river from both the soil nail wall and the trail at the top of the bank.
Maintaining or reducing stream temperatures	Riparian corridors function to regulate stream temperatures primarily by providing shade. The trail repair and bank stabilization footprint does not currently contain any large, standing trees. Cottonwood trees previously present along the bank at this location toppled into the river during the erosion event that caused the trail damage. The proposed project will minimize any loss of this function by completely avoiding the removal of existing trees along the sections of bank adjacent to the project and by planting native willow trees within and below the bank stabilization footprint.
Maintaining natural stream corridors	The repair of the existing trail does not represent a "new development" that encroaches into the existing natural stream corridor. However, the soil nail wall bank protection represents an alteration to the bank's natural condition. The incorporation of vegetated soil wrapped lifts into the wall design and the establishment of native plantings within and below the bank treatment are intended to minimize the effect of the bank protection on the natural stream corridor condition.
Minimizing erosion, nutrient, and pollutant loading into water	<p>The proposed bank stabilization and revegetation measures will function to reduce site erosion and river sedimentation in the long-term. The project does not represent a significant long-term source of, or pathway for, nutrient or pollutant loading into the river.</p> <p>The contractor will be required to implement an Erosion, Sediment, and Pollutant Control Plan to minimize impacts to water quality during construction. Erosion control measures proposed for construction include the installation of a sediment fence downslope of the disturbance areas.</p>
Filtering, infiltration, and natural water purification	<p>Above the top of bank, the project restores an existing section of damaged paved trail to its previous width (14 feet). The trail reconstruction will promote stormwater infiltration through the use of porous pavement.</p> <p>The use of soil wrapped lifts and planting of native vegetation within the bank stabilization area, and the additional plantings proposed below the bank stabilization area, will provide filtration, infiltration, and natural water purification functions for runoff.</p>
Stabilizing slopes to prevent landslides contributing to sedimentation of water	The project is intended specifically to stabilize an erosion-prone section of the riverbank and

<b>Table 2. Water Quality Functional Values and Loss Minimization Measures</b>	
<b>Water Quality Resource Area Functional Value</b>	<b>Measures to Minimize Loss of Functional Values</b>
features	will function to prevent (additional) landslides contributing to sedimentation of the river.

This criterion is met

**b. Proposed development locations, designs, and construction methods are less detrimental to the functional values of the water quality resource area than other practicable and significantly different alternatives, including alternatives outside the River Water Quality overlay zone setback;**

**Findings:** The proposed trail repairs and bank stabilization measures are a site-specific response to trail damage caused by Willamette River bank erosion. Alternative locations for the improvements are not available or applicable. The damaged trail will be constructed along its existing alignment, which is confined by a fence separating it from the adjacent railroad tracks to the east. Rerouting the project section of the Greenway Trail to a location farther from the top of bank, including to areas outside of the River Water Quality overlay zone, would conflict with the existing railroad and is therefore not an option.

The range of conceivable design alternatives for an emergency bank stabilization project like this encompasses exclusively “hard” solutions like concrete, sheet pile, or riprap, as well as exclusively “soft” solutions such as the use of plant materials. PP&R and its consultants evaluated a number of design alternatives to address the bank erosion along the Springwater Trail and allow the repair and re-opening of the damaged trail segment.

**Alternative #1: Soldier Pile Wall**

One design alternative considered by PP&R shortly following the erosion event and trail failure consisted of constructing a soldier pile wall. This design involved the use of drilled vertical “soldier” piles and horizontal lagging to create a vertical retaining wall. Fill placed on the uphill side of the retaining wall would allow the reconstruction of the damaged section of trail, and coir fabric (or similar) placed on the slope immediately below the retaining wall would provide some additional limited short-term stability.

The soldier pile wall alternative was ultimately rejected for multiple reasons, including: (1) the fact that it would only provide a temporary solution that would do nothing to address the larger site and reach erosion issues; (2) it would require maintenance including the placement of additional lagging if subsequent erosion were to occur in front of the wall; (3) the drilled piles (necessary because of cemented soils) would be expensive to install; and (4) the retaining wall approach is more detrimental to the functional values of the water quality resource area than the proposed alternative.

The soldier pile wall would represent a new, vertical, hard-surface face along the Willamette River shoreline. With this alternative, the slope below the wall could be planted with native vegetation to minimize the impacts of the wall; however, vegetation coverage under this alternative would be less than that for the proposed alternative, and the related impacts to vegetation-related water quality functions would therefore be greater.

In addition to the impacts to water quality functional values, the soldier pile wall approach was also less desirable to the project team than the selected alternative due to the greater visual impacts to the shoreline. Compared with the proposed soil nail wall/soil wrapped lift/vegetated bank approach, the soldier pile wall would present a sharper contrast with the adjacent, vegetated riverbank, particularly when viewed from the river.

Following the initial exploration of the soldier pile wall alternative, PP&R and its consultants completed additional site analyses to evaluate the causes of the bank erosion at the project site and along the larger project reach of the river. Considering the public safety hazard presented by

the damaged trail and the need to repair and re-open the trail in a timely manner, PP&R decided to pursue a multi-phased approach to the project that would allow bank stabilization measures above OHW to be constructed during the fall of 2013. Work in subsequent years would focus on providing toe protection of the slope below OHW at the trail failure site and addressing erosion problems within a larger reach of the river where it parallels the Springwater Trail.

With a multi-phased approach to the project in mind, the project team used professional judgment in developing alternatives that provide both stability and natural resources benefits. Exclusively “hard” alternatives, such as sheet pile or riprap, were not further evaluated because they are impractical at this site and lack important environmental functions and values, including those natural, scenic, and water quality functions the Greenway regulations are intended to protect. At the other end of the spectrum, exclusively “soft” solutions (for example, using plant materials exclusively) were also not evaluated in extensive detail because site-specific conditions, including the size and energy of the Willamette River, demand more robust solutions. The size of the Willamette River also makes some bank stabilization approaches used on smaller streams (barbs, weirs, hooks, etc.) impractical due to dewatering and constructability constraints.

Based on the site analyses and with the phased approach in mind, the PP&R team evaluated two alternatives (in addition to the soldier pile wall) in detail, as outlined below. The alternatives analysis was based on a number of factors, including constructability, costs, maintenance needs, recreation, aesthetics, and water quality and natural resource functions and values.

#### Alternative #2: Shotcrete Wall with Soil Nails

This design alternative consists of a shotcrete and soil nail wall to protect the slope below the trail. Fill would be placed behind the shotcrete wall to support the repair of the trail. Native plantings would be installed on the lower slopes, below the shotcrete wall.

This alternative meets the objective of allowing the trail to be constructed to its original width in fall 2013, avoiding the need for extensive state and federal permitting due to the fact that the wall is entirely above the OHW level of the river. It also has the advantage of being the least expensive alternative.

This design alternative was ultimately rejected due to the fact that the shotcrete wall would not aesthetically blend well with the adjacent vegetated riverbank, and this option would not provide the opportunity for preserving the habitat and water quality functions that the selected alternative provides (see below).

#### Alternative #3: Wire Mesh Wall with Soil Nails and Soil Wrapped Lifts

Alternative #3 is the selected design proposed for construction in this application. This option meets the objective of allowing the trail to be constructed to its original width this fall (2013), avoiding the need for extensive state and federal permitting due to the fact that the bank treatments are entirely above the OHW level of the river.

The selected alternative involves the use of wire mesh and soil nails to stabilize the bank (similar to Alternative #2 above), but uses vegetated soil wrapped lifts above a concrete footing for the bank surface rather than shotcrete. This option is more expensive than Alternative #2, but it has the advantage of providing a more natural aesthetic than Alternatives 1 and 2. The selected alternative also has the clear advantage of having the least detrimental impact on the functional values of the water quality resource area, compared with the soldier pile wall and shotcrete wall alternatives.

In terms of the water quality functional values listed in the Greenway regulations, all three of the bank stabilization alternatives that were considered in depth would positively (and relatively equally) contribute to the following functional value of water quality resource areas:

- Stabilizing slopes to prevent landslides contributing to sedimentation of water features; The remaining functional values identified in Table 2 of this narrative (above) are directly or indirectly related to the nature of the ground surface (soft vs. hard) and the type and amount of vegetation. Because the proposed alternative provides a soil-wrapped lift surface as part of the soil nail treatment, it has less impact on infiltration functions than the harder soldier pile and shotcrete wall alternatives. Because it provides greater coverage, density, and diversity of native

vegetation than the soldier pile and shotcrete wall options, the proposed alternative will also result in less impact to all other water quality functional values, which include:

- Providing a vegetated corridor to separate protected water features from development
- Maintaining or reducing stream temperatures
- Maintaining natural stream corridors
- Minimizing erosion, nutrient, and pollutant loading into water
- Filtering, infiltration, and natural water purification

The applicant's discussion above demonstrates that this criterion is met.

**c. There will be no significant detrimental impact on functional values in areas designated to be left undisturbed;**

**Findings:** The proposed project does not involve elements that are expected to adversely impact water quality functional values outside of the ground disturbance areas. For example, the project will not:

- Increase the paved width of the trail over the pre-erosion conditions and will therefore not increase site runoff that could potentially impact water quality and hydrologic functional values off-site;
- Introduce new, long-term activity- or development-related sources of pollutants or nutrients that could reach areas beyond the project footprint via runoff; and
- Promote or increase public access to off-trail areas in ways that would damage vegetation and corresponding water quality functional values.

Further, the applicant's construction management plan (Exhibit C.4) demonstrates how the construction activity will be contained within the immediate project area.

This criterion is met.

**d. Areas disturbed during construction that do not contain permanent development will be restored with native vegetation appropriate to the site conditions and found in the Portland Plant List;**

**Findings:** The planting plan proposed with this application (Exhibits C.6 and C.7) covers the permanent bank stabilization measures as well as temporary construction disturbance areas, which consist mainly of the construction staging area immediately to the south of the trail repair/bank stabilization site. All plant species proposed as part of the revegetation effort are native and are found on the Portland Plant List. The selected species are based on site conditions, with riparian trees, shrubs, and groundcover proposed below the top of bank. The construction staging area located immediately to the south of the trail repair/bank stabilization work area, above the top of the bank, will be seeded with native grasses, consistent with the existing conditions and uses of this location for off-trail access. This criterion is met.

**e. All significant detrimental impacts on functional values will be offset through mitigation;**

**Findings** The project's long-term impacts on water quality functions relate primarily to the effect the soil nail wall will have on the type and condition of vegetation that will establish within the bank stabilization treatment area (vs. doing nothing about the erosion and allowing vegetation to re-establish naturally). Specifically, the shoreline alteration presents the potential for impacts to the following two functional values listed in 33.440.010: (1) maintaining natural stream corridors, and (2) maintaining or reducing stream temperatures.

The project is unable to entirely maintain the "natural stream corridor" due to the need for structural stabilization measures to repair and protect the existing trail. The project's potential for impacting stream temperatures has to do with the fact that the soil nail wall, concrete footing, and the proposed bank planting will prevent large trees (such as cottonwoods), which provide shade, from re-establishing on the steep slopes below the trail. The toppling of large trees contributed to the bank failure at the site, and large trees are not desirable within the bank treatment area due to the risks they present for bank stability.



The impacts to the “natural stream corridor” and the potential for establishment of large shade trees will be minimized within the bank stabilization footprint as part of the project through the planting of native riparian vegetation, including groundcover, shrubs, and willow trees. To further mitigate for the bank stabilization impacts to riparian function, the project involves additional mitigation plantings immediately below the bank stabilization footprint, extending below the OHW level of the Willamette River along the entire length of the bank treatment. This criterion is met.

**f. The mitigation plan meets the requirements of Subsection 33.440.350.H;**

**Findings:** The mitigation plan requirements of 33.440.350.H are identified and addressed in the following section (H) of this narrative. This criterion is met.

**g. The mitigation plan ensures that the proposed development will not contribute to a cumulative loss of functional values over time; and**

**Findings:** The establishment and maintenance of native riparian vegetation as part of the bank stabilization treatment and as mitigation below the bank treatment will ensure the proposed project will not contribute to a cumulative loss of functional values over time. This criterion is met.

**h. Where significant restoration or enhancement opportunities have been identified in City-adopted watershed restoration plans or where previous restoration projects have taken place, the proposed development will not preclude those restoration or enhancement opportunities or damage existing restoration projects.**

**Findings:** The project site is not within an area that has been identified in City-adopted watershed restoration plans as a significant restoration or enhancement opportunity, and the project does not overlap or interfere with any known previous restoration project. This criterion is met.

**H. Mitigation or remediation plans.** Where a mitigation or remediation plan is required by the approval criteria of this chapter, the applicant's mitigation or remediation plan must demonstrate that the following are met:

**1. Except when the purpose of the mitigation could be better provided elsewhere, mitigation will occur:**

- a. On site and as close as practicable to the area of disturbance;**
- b. Within the same watershed as the proposed use or development; and**
- c. Within the Portland city limits.**

**Findings:** The proposed mitigation is located on-site, within and immediately adjacent to the project's area of disturbance. The project and mitigation areas are within the Willamette River watershed (mainstem) and within the Portland city limits. These criteria are met.

**2. The applicant owns the mitigation or remediation site; possesses a legal instrument that is approved by the City (such as an easement or deed restriction) sufficient to carry out and ensure the success of the mitigation or remediation plan; or can demonstrate legal authority to acquire property through eminent domain;**

**Findings:** The bank stabilization work and mitigation plantings proposed as part of the project are located on two separate and adjacent properties, one of which is owned by the City of Portland (Parks and Recreation) and the other of which is owned by Metro. PP&R has authorities and responsibilities for vegetation management on both properties. PP&R management responsibilities for the Metro-owned portion of the site are authorized through an Intergovernmental Agreement between the City of Portland and Metro. This criterion is met.

- 3. The mitigation or remediation plan contains a construction timetable and a minimum 1 year monitoring and maintenance plan that demonstrates compliance with Subsection 33.248.090.E and includes the following elements:**
  - a. Identification of the responsible party or parties that will carry out the mitigation or remediation plan;**
  - b. Identification of clear and objective performance benchmarks that will be used to judge the mitigation or remediation plan success; and**
  - c. A contingency plan that indicates the actions to be taken in the event that performance benchmarks are not met.**

**Findings:** The mitigation plantings proposed for this project are detailed on the Landscape Plan sheets included in Exhibit C of this application. Important elements of the mitigation plan demonstrating compliance with the approval criteria (above) are outlined below.

- PP&R will be responsible for installing, monitoring, and maintaining the plantings proposed for the project. Installation and monitoring will be performed under the direction of a PP&R landscape professional.
- Installation of plants and seeding will occur immediately following the soil nail wall construction and trail repairs (November 2013).
- The mitigation plantings will be formally monitored for a 2-year period following installation, and PP&R will continue to be responsible for ongoing survival of the plantings beyond the 2-year monitoring period.
- Shrubs and trees less than 1.5 inches in diameter will be watered for the first two years after planting as follows:
  - May-June: As needed, 5-10 gallons per tree/shrub
  - June-August: Twice monthly, 10 gallons per tree/shrub
  - September-October: As needed, 10 gallons per tree/shrub
- The mitigation plantings will be monitored for tree survival and percent coverage of native shrubs and groundcover. One replacement tree will be planted for every dead tree observed during each annual monitoring event. If less than 80 percent of the mitigation planting area is covered with native shrubs and ground cover at the time of the monitoring, additional shrubs and groundcover will be planted to achieve a minimum of 80 percent cover.
- PP&R will prepare a minimum of two annual letter reports to document the mitigation monitoring and maintenance activities. These reports will be submitted to the Bureau of Development Services. The first report will be submitted within 12 months following the approval of the permanent erosion control inspection of the required mitigation plantings. The second report will be submitted approximately 12 months after the date of the first report. These criteria are met.

## **DEVELOPMENT STANDARDS**

Unless specifically required in the approval criteria listed above, this proposal does not have to meet the development standards in order to be approved during this review process. The plans submitted for a building or zoning permit must demonstrate that all development standards of Title 33 can be met, or have received an Adjustment or Modification via a land use review prior to the approval of a building or zoning permit.

Section 33.440.230.A of the City's Greenway regulations requires that "landscaping must be provided to conserve or re-establish vegetative cover within or riverward of the greenway setback...except where it would significantly interfere with a river-dependent or river-related use..." The landscaping standards of 33.440.230.B have been addressed by the applicant in the Greenway Review narrative, and are shown to be met.

## **CONCLUSIONS**

The Portland Bureau of Parks and Recreation conducted emergency slope repairs along the Willamette River bank and the Springwater Corridor trail in fall of 2013. This Greenway Review demonstrates that the slope repairs and stabilization methods implemented by the applicant meet the Greenway approval criteria, and should be approved.

**ADMINISTRATIVE DECISION**

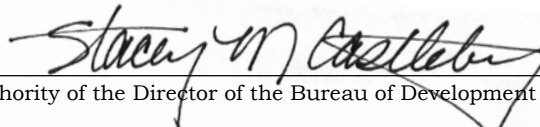
**Approval** of Greenway Review for prior construction of emergency slope repairs, bank stabilization, and Greenway trail repairs, within the Greenway overlay zones, and in substantial conformance with Exhibits C.2 through C.7, as, signed and dated by the City of Portland Bureau of Development Services on **May 15, 2014**. Approval is retroactive and subject to the following conditions:

- A. All permits:** Copies of the stamped Exhibits C.2 through C.7 from LU 13-213107GW and Conditions of Approval listed below, shall be included within all plan sets submitted for permits (building, grading, Site Development, erosion control, etc.). These exhibits shall be included on a sheet that is the same size as the plans submitted for the permit and shall include the following statement, ***"Any field changes shall be in substantial conformance with approved Exhibits C.2 through C.7."***
- B.** Approximately 650 willow cuttings, 780 shrubs, and native grass seed, shall be planted as shown on Exhibits C.6 and C.7
1. Non-native invasive plants shall be removed from all areas within 10 feet of mitigation plantings, using handheld equipment.
  2. All mitigation and remediation shrubs and trees shall be marked in the field by a tag attached to the top of the plant for easy identification by the City Inspector. All tape shall be a contrasting color that is easily seen and identified.
- C. The land owner shall maintain the required plantings** for two years to ensure survival and replacement. The land owner is responsible for ongoing survival of required plantings during and beyond the designated two-year monitoring period. The landowner shall:
1. Obtain a Zoning Permit for a final inspection at the end of the 2-year maintenance and monitoring period. The permit must be finalized no later than 2 years from the final inspection for the installation of mitigation planting, for the purpose of ensuring that the required plantings remain. Any required plantings that have not survived must be replaced.
- D.** Failure to comply with any of these conditions may result in the City's reconsideration of this land use approval pursuant to Portland Zoning Code Section 33.700.040 and /or enforcement of these conditions in any manner authorized by law.

**Note:** In addition to the requirements of the Zoning Code, all uses and development must comply with other applicable City, regional, state and federal regulations.

This decision applies to only the City's environmental regulations. Activities which the City regulates through PCC 33.430 may also be regulated by other agencies. In cases of overlapping City, Special District, Regional, State, or Federal regulations, the more stringent regulations will control. City approval does not imply approval by other agencies.

**Staff Planner: Stacey Castleberry**

**Decision rendered by:**  **on May 15, 2014**  
By authority of the Director of the Bureau of Development Services

**Decision mailed: May 20, 2014**

**About this Decision.** This land use decision is **not a permit** for development. Permits may be required prior to any work. Contact the Development Services Center at 503-823-7310 for information about permits.

**Procedural Information.** The application for this land use review was submitted on October 4, 2013, and was determined to be complete on **April 2, 2014**.

*Zoning Code Section 33.700.080* states that Land Use Review applications are reviewed under the regulations in effect at the time the application was submitted, provided that the application is complete at the time of submittal, or complete within 180 days. Therefore this application was reviewed against the Zoning Code in effect on October 4, 2013.

*ORS 227.178* states the City must issue a final decision on Land Use Review applications within 120-days of the application being deemed complete. The 120-day review period may be waived or extended at the request of the applicant. In this case the applicant did not waive or extend the 120-day review period. Unless further extended by the applicant, **the 120 days will expire on: July 31, 2014.**

**Some of the information contained in this report was provided by the applicant.**

As required by Section 33.800.060 of the Portland Zoning Code, the burden of proof is on the applicant to show that the approval criteria are met. The Bureau of Development Services has independently reviewed the information submitted by the applicant and has included this information only where the Bureau of Development Services has determined the information satisfactorily demonstrates compliance with the applicable approval criteria. This report is the decision of the Bureau of Development Services with input from other City and public agencies.

**Conditions of Approval.** If approved, this project may be subject to a number of specific conditions, listed above. Compliance with the applicable conditions of approval must be documented in all related permit applications. Plans and drawings submitted during the permitting process must illustrate how applicable conditions of approval are met. Any project elements that are specifically required by conditions of approval must be shown on the plans, and labeled as such.

These conditions of approval run with the land, unless modified by future land use reviews. As used in the conditions, the term "applicant" includes the applicant for this land use review, any person undertaking development pursuant to this land use review, the proprietor of the use or development approved by this land use review, and the current owner and future owners of the property subject to this land use review.

**Appealing this decision.** This decision may be appealed to the Hearings Officer, which will hold a public hearing. Appeals must be filed **by 4:30 PM on June 3, 2014** at 1900 SW Fourth Ave. Appeals can be filed at the Development Services Center Monday through Wednesday and Fridays between 8:00 am to 3:00 pm and on Thursdays between 8:00 am to 2:00 pm. After 3:00 pm Monday through Wednesday and Fridays, and after 2:00 pm on Thursdays, appeals must be submitted at the reception desk on the 5th floor. **An appeal fee of \$250 will be charged.** The appeal fee will be refunded if the appellant prevails. There is no fee for ONI recognized organizations appealing a land use decision for property within the organization's boundaries. The vote to appeal must be in accordance with the organization's bylaws. Assistance in filing the appeal and information on fee waivers is available from BDS in the Development Services Center. Please see the appeal form for additional information. The file and all evidence on this case are available for your review by appointment only. Please call the Request Line at our office, 1900 SW Fourth Avenue, Suite 5000, phone 503-823-7617, to schedule an appointment. I can provide some information over the phone. Copies of all information in the file can be obtained for a fee equal to the cost of services. Additional information about the City of Portland, city bureaus, and a digital copy of the Portland Zoning Code is available on the internet at [www.portlandonline.com](http://www.portlandonline.com).

**Attending the hearing.** If this decision is appealed, a hearing will be scheduled, and you will be notified of the date and time of the hearing. The decision of the Hearings Officer is final; any further appeal must be made to the Oregon Land Use Board of Appeals (LUBA) within 21 days of the date of mailing the decision, pursuant to ORS 197.620 and 197.830. Contact LUBA at 550 Capitol St. NE, Suite 235, Salem, Oregon 97301, or phone 1-503-373-1265 for further information.

Failure to raise an issue by the close of the record at or following the final hearing on this case, in person or by letter, may preclude an appeal to the Land Use Board of Appeals (LUBA) on that issue. Also, if you do not raise an issue with enough specificity to give the Hearings Officer an opportunity to respond to it, that also may preclude an appeal to LUBA on that issue.

**Recording the final decision.**

If this Land Use Review is approved the final decision must be recorded with the Multnomah County Recorder. A few days prior to the last day to appeal, the City will mail instructions to the applicant for recording the documents associated with their final land use decision.

- *Unless appealed*, The final decision may be recorded on or after **June 5, 2014 – (the day following the last day to appeal)**.
- A building or zoning permit will be issued only after the final decision is recorded.

The applicant, builder, or a representative may record the final decision as follows:

- By Mail: Send the two recording sheets (sent in separate mailing) and the final Land Use Review decision with a check made payable to the Multnomah County Recorder to: Multnomah County Recorder, P.O. Box 5007, Portland OR 97208. The recording fee is identified on the recording sheet. Please include a self-addressed, stamped envelope.
- In Person: Bring the two recording sheets (sent in separate mailing) and the final Land Use Review decision with a check made payable to the Multnomah County Recorder to the County Recorder's office located at 501 SE Hawthorne Boulevard, #158, Portland OR 97214. The recording fee is identified on the recording sheet.

For further information on recording, please call the County Recorder at 503-988-3034

For further information on your recording documents please call the Bureau of Development Services Land Use Services Division at 503-823-0625.

**Expiration of this approval.** An approval expires three years from the date the final decision is rendered unless a building permit has been issued, or the approved activity has begun. Where a site has received approval for multiple developments, and a building permit is not issued for all of the approved development within three years of the date of the final decision, a new land use review will be required before a permit will be issued for the remaining development, subject to the Zoning Code in effect at that time.

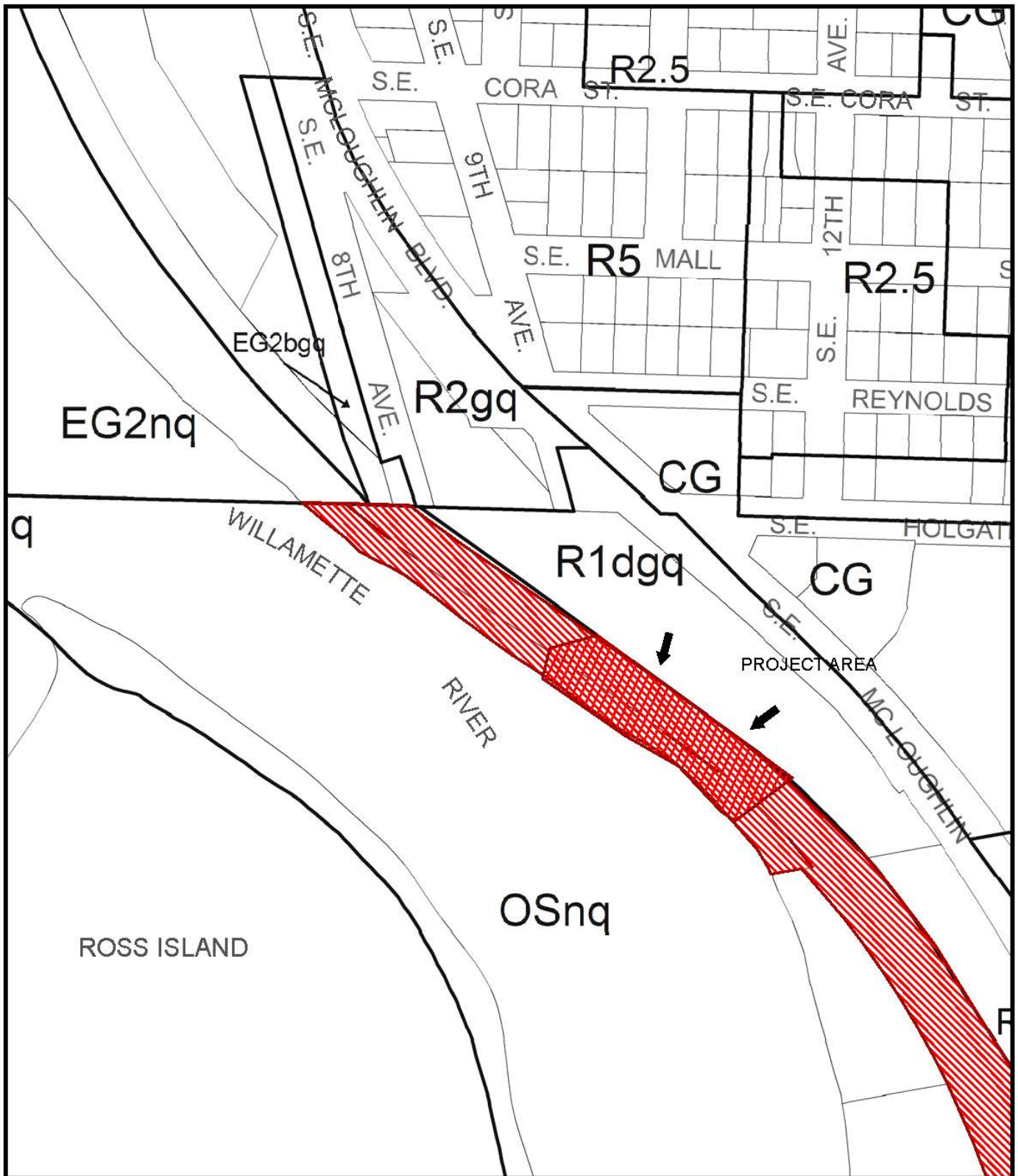
**Applying for your permits.** A building permit, occupancy permit, or development permit may be required before carrying out an approved project. At the time they apply for a permit, permittees must demonstrate compliance with:

- All conditions imposed herein;
- All applicable development standards, unless specifically exempted as part of this land use review;
- All requirements of the building code; and
- All provisions of the Municipal Code of the City of Portland, and all other applicable ordinances, provisions and regulations of the City.

**EXHIBITS**  
NOT ATTACHED UNLESS INDICATED

- A. Applicant's Statements A.1 through A.
- B. Zoning Map (attached)
- C. Plans/Drawings:
  - 1. Existing Conditions Site Plan
  - 2. Proposed Development Plan (attached)
  - 3. Details (attached)
  - 4. Construction Management Plan (attached)
  - 5. Staging Area plan
  - 6. Mitigation plan (attached)
  - 7. Mitigation plan and list (attached)
- D. Notification information:
  - 1. Mailing list
  - 2. Mailed notice
- E. Agency Responses:
  - 1. Bureau of Environmental Services
  - 2. Water Bureau
  - 3. Site Development Review Section of BDS
- F. Correspondence—none received
- G. Other:
  - 1. Original LU Application
  - 2. 13-180572 SD permit plans
  - 3. Incomplete letter

**The Bureau of Development Services is committed to providing equal access to information and hearings. Please notify us no less than five business days prior to the event if you need special accommodations. Call 503-823-7300 (TTY 503-823-6868).**



# ZONING



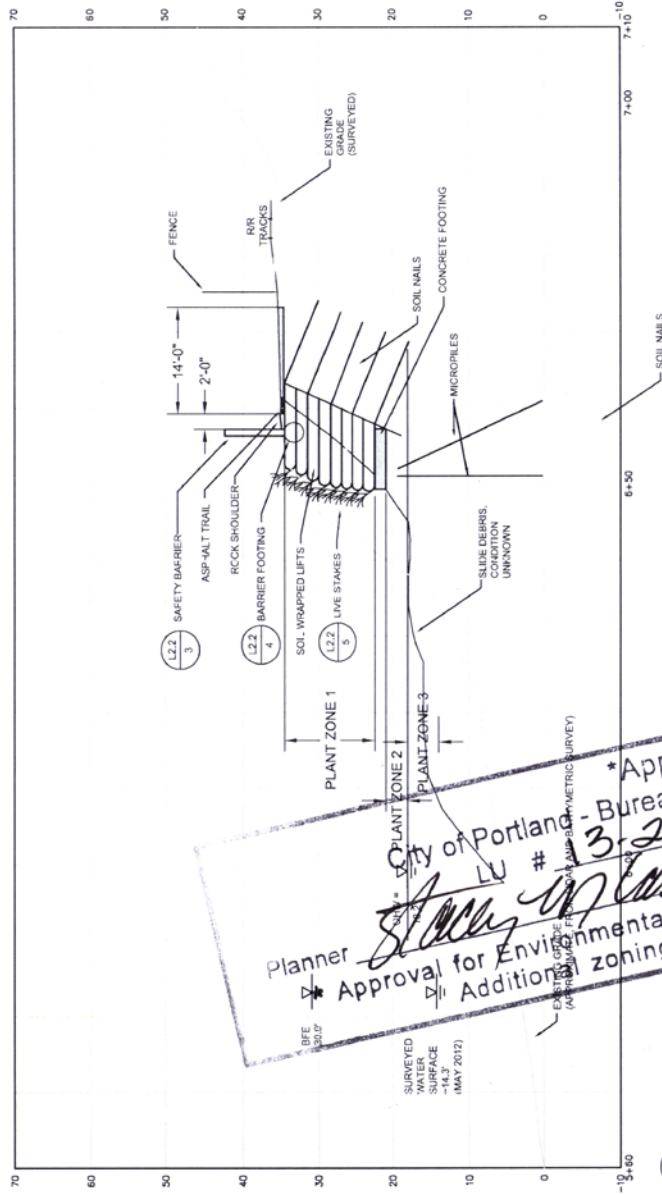
File No. LU 13-213107 GW  
 1/4 Section 3531.3631  
 Scale 1 inch = 200 feet  
 State\_Id 1S1E14B 500  
 Exhibit B (Oct 07, 2013)



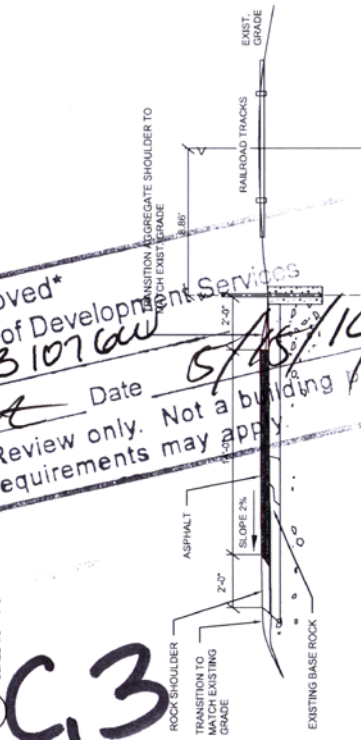
C.2



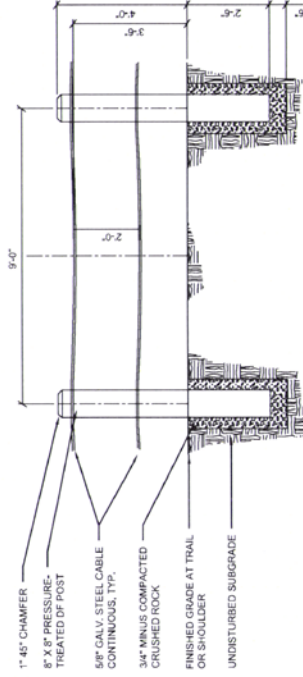
EV - ALTERNATIVE A - AL-52



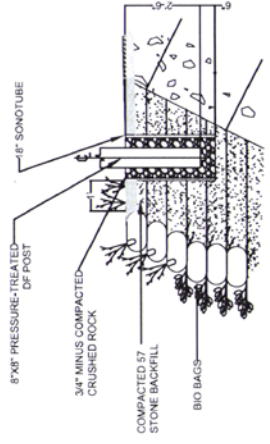
1 TYPICAL SECTION - SOIL NAIL WITH MICROPILES FOUNDATION AND SOIL WRAPPED LIFTS  
SCALE 1/8" = 1'-0"



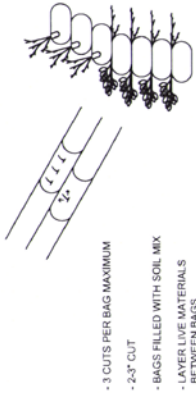
2 TRAIL SECTION  
NOT TO SCALE



3 SAFETY BARRIER  
NOT TO SCALE



4 SAFETY BARRIER POST - FOOTING  
1/4" = 1'-0"



5 BIO BAGS - VEGETATION  
1/4" = 1'-0"

CITY OF PORTLAND  
PARKS & RECREATION  
1120 SW 10TH AVE., SUITE 1302  
PORTLAND, OR 97204

GREENWAY  
REVIEW  
APPLICATION  
LU13-213107 C

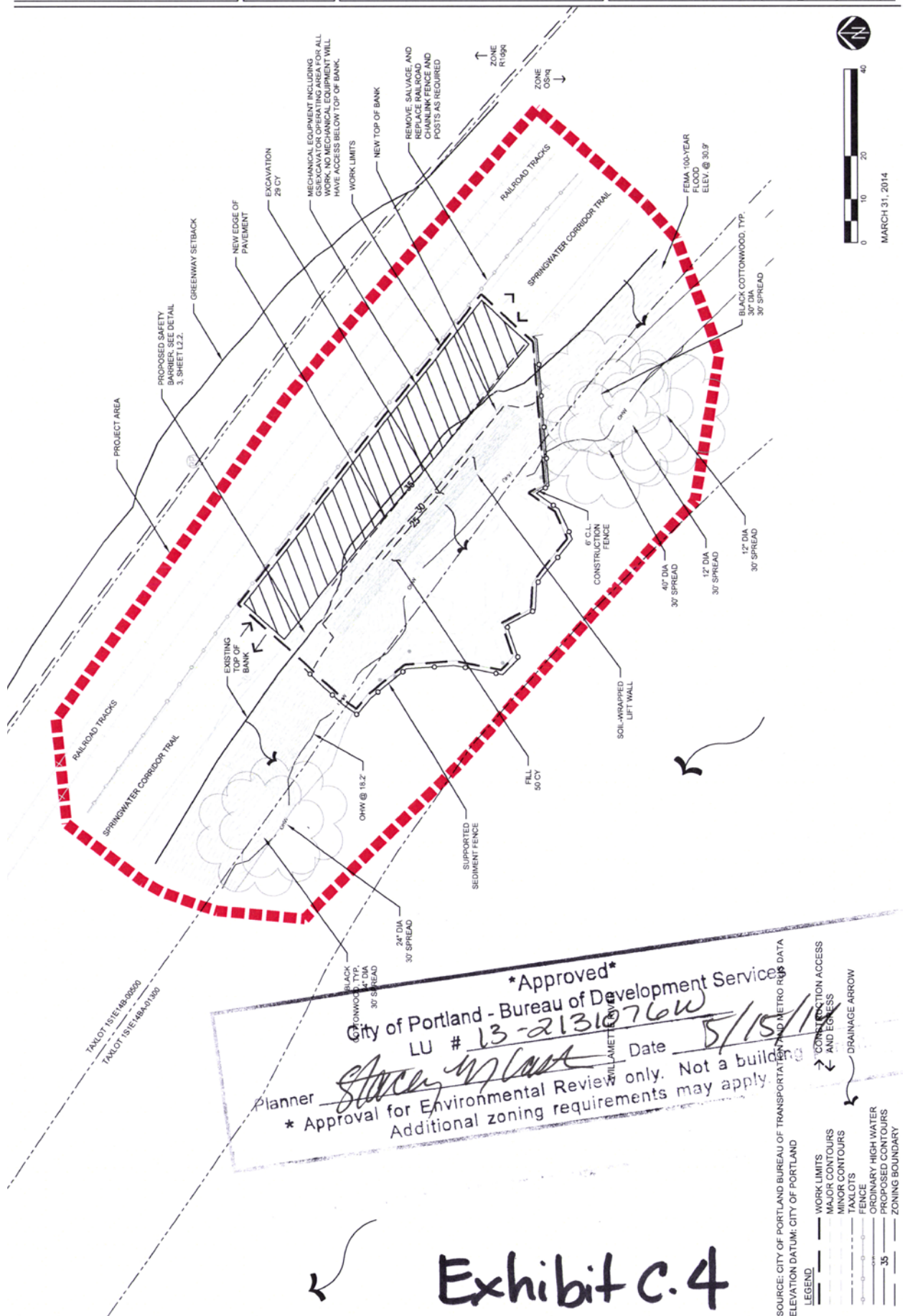
DETAILS  
AND  
SECTIONS

L2.2

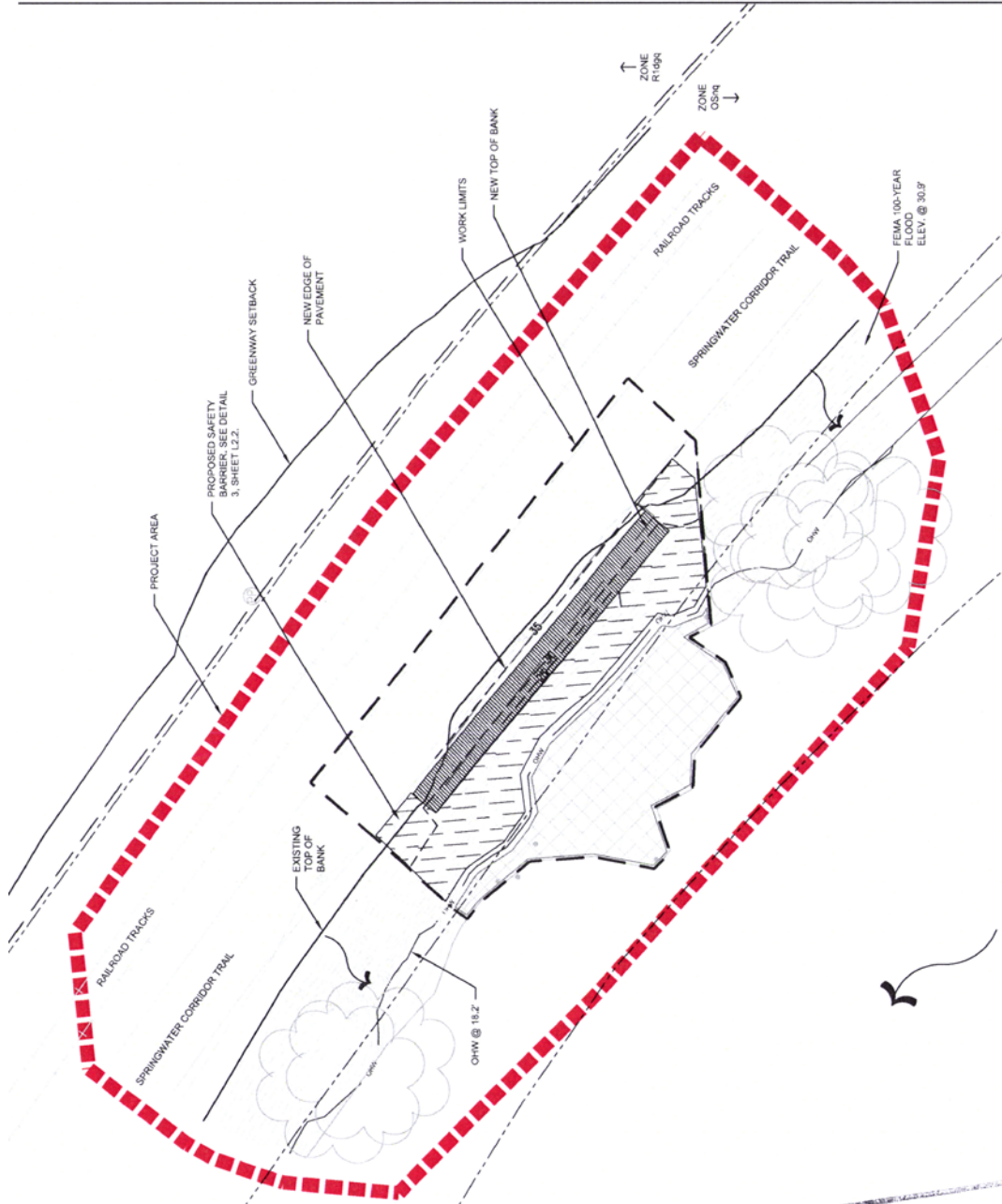
March 31, 2014

City of Portland - Bureau of Development Services  
Planner *Stacks* LU # *13-213107* Date *5/16/14*  
\* Approval for Environmental Review only. Not a building permit.  
\* Additional zoning requirements may apply.

SOURCE: CITY OF PORTLAND PARKS AND RECREATION AND GEOSTABILIZATION INTERNATIONAL



## Exhibit C.4



TAKLOT 151E148-030200  
TAKLOT 151E148A-011000

**\*Approved\***  
City of Portland - Bureau of Development Services  
LU # 13-213107  
Planner Stacey M. Laster Date 5/15/14  
**\* Approval for Environmental Review only. Not a building permit.**  
Additional zoning requirements may apply.

- NOTE:  
SEE SHEET L4.2 FOR PLANT LEGEND, SCHEDULE, AND SPECIFICATIONS  
ALL TREES TO REMAIN, NO TREES TO BE REMOVED.
- SOURCE: CITY OF PORTLAND BUREAU OF TRANSPORTATION AND METROPOLIS DATA  
ELEVATION DATUM: CITY OF PORTLAND
- LEGEND
- WORK LIMITS
  - MAJOR CONTOURS
  - MINOR CONTOURS
  - TAKLOTS
  - FENCE
  - ORDINARY HIGH WATER
  - PROPOSED CONTOURS
  - 35
  - ZONING BOUNDARY
  - DRAINAGE ARROW

C.6



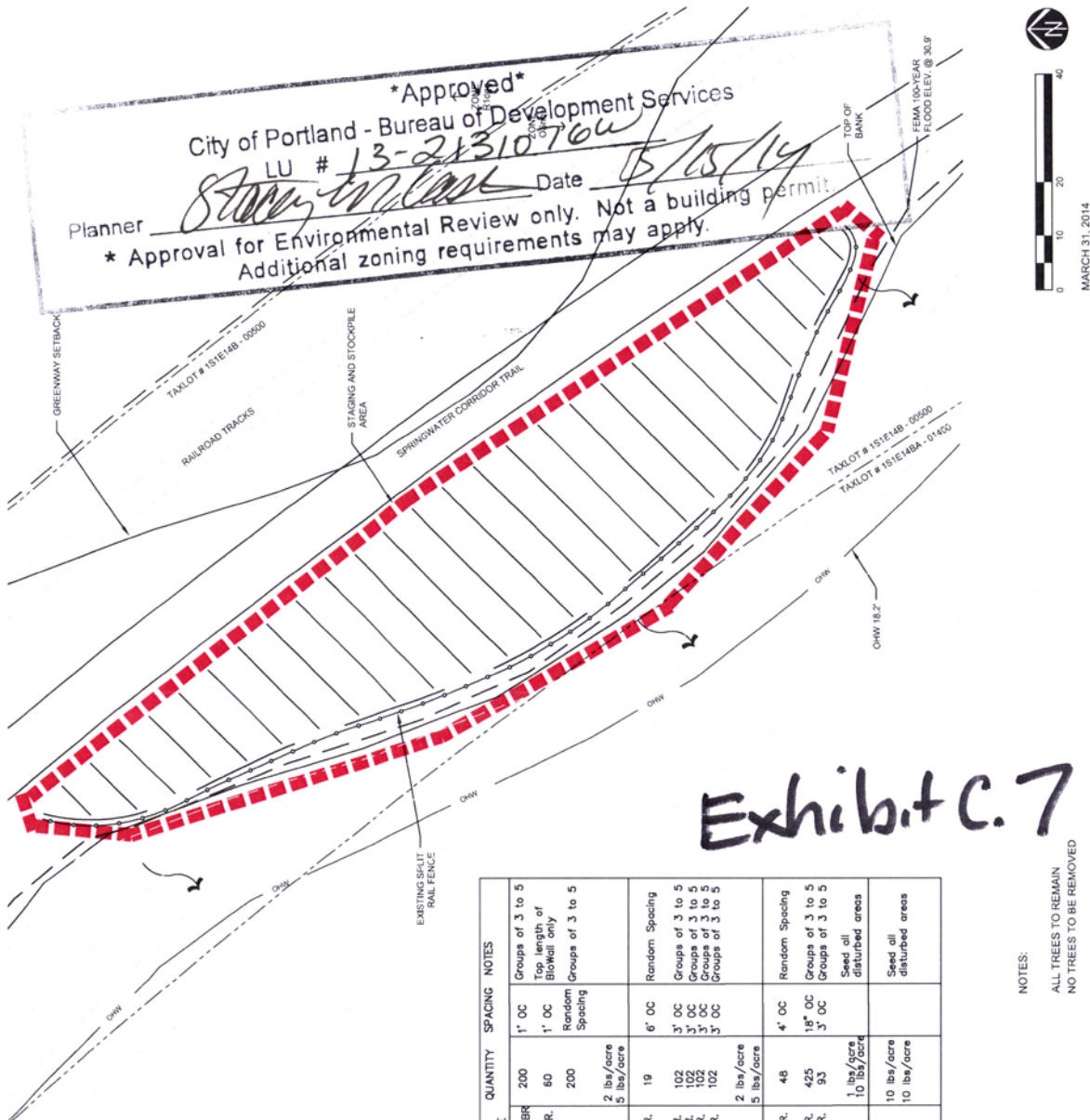


Exhibit C.7

SCIENTIFIC NAME	COMMON NAME	SIZE AND TYPE	QUANTITY	SPACING	NOTES
<b>ZONE1</b>	Soil Wrapped Sod 96" SQ. FT. 16' x 60' Slope Distance	<u>Tree</u> Salix scoulerian Salix sp. Mahonia repen Lib. Siderox Salix scoulerian Ground Cover Deschampsia elongata Hordeum brachyantherum	200 1 gal./B.R. 60 18" min. 200 Seed Seed	1' OC 1' OC Random Spacing	Groups of 3 to 5 Top length of Blowfill only Groups of 3 to 5
<b>ZONE2</b>	Stabilized Slope 1,128 SQ. FT. Approx. 15' x 80'	<u>Tree</u> Salix fluviatilis Shrub Cornus sericea Salix scouleriana Physocarpus opulifolius Symphoricarpos albus Ground Cover Hordeum brachyantherum	19 1 gal./B.R. 102 1 gal./B.R. 102 1 gal./B.R. 102 1 gal./B.R. Seed Seed	6' OC 3' OC 3' OC 3' OC 3' OC 3' OC 2 lbs./acre 5 lbs./acre	Random Spacing Groups of 3 to 5 Groups of 3 to 5 Groups of 3 to 5 Groups of 3 to 5 Groups of 3 to 5
<b>ZONE3</b>	Bank Area Bank OW 1,056 SQ. FT. 22' x 48' area	<u>Tree</u> Salix fluviatilis Shrub Cornus douglasii Salix stenolepis Ground Cover Lieris aryzoides Lynxus glauca	48 1 gal./B.R. 425 1 gal./B.R. 93 Seed Seed Seed	4' OC 18" OC 3' OC Seed all disturbed areas	Random Spacing Groups of 3 to 5 Groups of 3 to 5 Seed all disturbed areas
<b>ZONE4</b>	Staging Area 3,360 SQ. FT. Approx. 20' x 80'	<u>Ground Cover</u> Hordeum brachyantherum Lynxus glauca	Seed Seed	10 lbs./acre 10 lbs./acre	Seed all disturbed areas

NOTES:  
ALL TREES TO REMAIN  
NO TREES TO BE REMOVED

**LEGEND**

CONTOURS	CONSTRUCTION ACCESS AND EGRESS
TAXLOTS	
ORDINARY HIGH WATER	ZONING BOUNDARY
DRAINAGE ARROW	

SOURCE: CITY OF PORTLAND BUREAU OF TRANSPORTATION AND METRO RLIS DATA  
ELEVATION DATUM: CITY OF PORTLAND