



Washington State  
Department of Transportation

# SR 520 Bridge Replacement and HOV Program



## Tree and Vegetation Management and Protection Plan

Prepared for  
**Washington State Department of Transportation**

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*October 21, 2013*

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## Acronyms and Abbreviations

ABGC	Arboretum and Botanical Garden Committee
CCMP	Community Construction Management Plan
DBH	diameter (of tree trunk) at breast height
DPD	City of Seattle Department of Planning and Development
ECA	Environmental Critical Areas
GPS	Global positioning system
HVF	High Visibility Fencing
MOU	Memorandum of Understanding
SDOT	Seattle Department of Transportation
SMC	Seattle Municipal Code
TVMPP	Tree and Vegetation Management and Protection Plan
WABN	West Approach Bridge North structure
WSDOT	Washington State Department of Transportation
WABS	West Approach Bridge South structure

# I. Executive Summary

WSDOT has developed this Tree and Vegetation Management and Protection Plan (TVMPP) as part of the West Approach Bridge North Community Construction Management Plan (CCMP) and to satisfy Condition 10 of the City of Seattle (Seattle) Department of Planning and Development (DPD) Shoreline Decision (decision) for Project 3012587 – SR 520 West Approach. The West Approach Bridge is one construction phase of the SR 520, I-5 to Medina: Bridge Replacement and HOV Project (I-5 to Medina Project).

This version of the TVMPP focuses on the West Approach Bridge North (WABN), which is currently funded for construction. The West Approach Bridge TVMPP will address construction of the West Approach Bridge South (WABS) as appropriate, when additional design progresses and it is funded for construction.

The purpose of this plan is to describe the standards and project-specific best management practices that will be used as guidance to preserve and protect trees and vegetation within the limits of project construction. The TVMPP presents a variety of methods for minimizing effects on trees and vegetation during construction and establishes an implementation and tracking plan to ensure that the best practices are followed. To accomplish this, the plan identifies areas of mature tree removal, protection, and restoration including areas temporarily dedicated to construction.

Input from the City of Seattle and key stakeholders was considered in developing the TVMPP. WSDOT will submit the TVMPP to these stakeholders prior to construction. WSDOT will submit the TVMPP to Seattle DPD as part of the Master Use Permit submittal for the West Approach phase of construction in September 2013.

During construction, WSDOT will ensure that contractors adhere to the TVMPP, notify neighborhoods prior to construction activities per requirements described in the WABN Community Construction Management Plan (CCMP), and remove trees and vegetation only at the approximate time required for construction.

## **II. Tree and Vegetation Management and Protection Plan Overview**

### **Purpose**

This TVMPP has been prepared as part of the West Approach Bridge North Community Construction Management Plan (CCMP) and to satisfy Condition 10 of the City of Seattle (City) Department of Planning and Development (DPD) Shoreline Decision (decision) for Project 3012587 – SR 520 West Approach. The purpose of the TVMPP is to describe the standard and project-specific best management practices that will be used as guidance to preserve and protect trees and vegetation to the extent feasible within the limits of construction of the West Approach Bridge North (further described in Section III). This plan presents a variety of tools for protecting trees during construction. To accomplish this, the TVMPP identifies subareas within the project where mature trees will either be removed or require protection and restoration.

The TVMPP reflects input WSDOT received through from previous discussions with the City, University of Washington (UW), and Arboretum and Botanical Garden Committee (ABGC), as described further in Section 0.

### **Timeline and Process**

The project team developed a draft outline as the first step toward developing the TVMPP. The outline was reviewed with the City before WSDOT began to draft the TVMPP. The TVMPP has been developed through coordination of the SR 520 permitting and design teams and is one component of the September 2013 Master Use Permit submittal to DPD.

WSDOT will submit the TVMPP to interested stakeholders prior to construction. WSDOT will also submit the TVMPP to Seattle DPD as part of the Master Use Permit submittal for the West Approach phase of construction in September 2013.

This version of the TVMPP focuses on the West Approach Bridge North (WABN), which is currently funded for construction. The West Approach Bridge TVMPP will address construction of the West Approach Bridge South (WABS) as appropriate, when additional design progresses and it is funded for construction.

### **Implementation**

The TVMPP documents WSDOT's requirements of construction contractors to protect and restore vegetation during construction. Implementation of the TVMPP will be executed through a variety of contract documents, including standard specifications, construction drawings, and special contract provisions. A detailed discussion of TVMPP implementation is included herein.

### **III. SR 520 West Approach Overview**

#### **Background**

The SR 520 West Approach Bridge is one construction phase of the I-5 to Medina: Bridge Replacement and HOV Project (I-5 to Medina Project), which is part of the SR 520 Bridge Replacement and HOV Program. The SR 520 Program's 12.8-mile-long corridor area begins at I-5 in Seattle and extends to SR 202 in Redmond. The SR 520 Program also includes the Pontoon Construction Project and the Medina to SR 202: Eastside Transit and HOV Project. Since the publication of DPD decision 3012587 and related SR 520 shoreline decisions, WSDOT has continued to advance the overall design and contracting of the I-5 to Medina project through several phases (e.g., Floating Bridge and Landings, West Connection Bridge).

The information contained herein pertains to the first portion of the West Approach Bridge phase of construction referred to as the West Approach Bridge North (WABN).

#### **West Approach Bridge North Description**

The 2010 Preferred Alternative West Approach Bridge design is composed of two separate bridge structures: one bridge to the north of the existing bridge that would carry westbound traffic, and one bridge in the same location as the existing bridge that would carry eastbound traffic. The bridge carrying the east-bound traffic is referred to as West Approach Bridge South (WABS).

As the first portion of the West Approach Bridge to be implemented, the WABN includes some of the features of the Preferred Alternative design for the Montlake area; other features will be constructed at a later time, with WABS. WABN implementation will include construction of the new West Approach Bridge North, to the north of the existing West Approach Bridge and removal of the existing westbound off-ramp to Montlake Boulevard, the westbound off-ramp to Lake Washington Boulevard, and the unused R.H. Thomson ramps. The existing Union Bay Bridge and West Approach Bridge would be kept and used for the eastbound travel lanes to reach the floating bridge until WABS is constructed. The WABN project also includes a temporary connection to the existing SR 520 mainline in the Montlake area.

#### **Construction Schedule**

WABN construction is scheduled to begin in summer 2014. WSDOT anticipates completing construction by connecting the new WABN structure to the new floating bridge and opening to drivers by fall 2016. WSDOT is still seeking funding for the WABS phase and other future phases of the SR 520, I-5 to Medina Project.

## IV. Environmental Compliance

WSDOT has applied for, and received, various environmental permits and authorizations from federal, state, and local regulatory authorities for the I-5 to Medina Project. Vegetation management is related to compliance with permit regulations as they pertain to natural resource and water quality protection. At the federal and state levels, the I-5 to Medina Project must comply with the vegetation management provisions of the following authorizations:

- National Environmental Policy Act compliance with the Federal Highway Administration and cooperating agencies
- National Historic Preservation Act Section 106 Consultation with the Department of Archaeology and Historic Preservation
- Endangered Species Act Section 7 Consultation with the US Fish and Wildlife Service and NOAA's National Marine Fisheries Service
- Department of the Army Permit issued by the Corps of Engineers
- Water Quality Certification Order issued by the Washington State Department of Ecology
- Hydraulic Project Approval issued by the Washington Department of Fish and Wildlife

As part of the shoreline permit approval process, the project must also comply with the local City of Seattle tree protection policies and regulations. The regulations are described below.

### Shoreline Decision Requirements

The West Approach project was conditionally granted approval through the shoreline decision. The TVMPP has been developed to satisfy Condition 10 of DPD's decision 3012587, which reads as follows:

*As part of the Community Construction Management Plan process, and as agreed to in the signed MOU between the State and the City of Seattle, WSDOT will develop a Tree and Vegetation Management and Protection Plan (TVMPP). The final TVMPP will be developed and implemented prior to construction. The plan will be developed in collaboration with the City, neighborhoods, and organized groups, such as the ABGC, and will address areas of the corridor where specific trees and or vegetation are to be removed or disturbed as part of the construction or resulting project improvements.*

*The plan will identify areas of mature tree removal, protection, potential relocation, and restoration of project areas including areas temporarily dedicated to construction, including staging and lay down areas. The goal of the plan is to minimize effects on trees where feasible. WSDOT will ensure that contractors adhere to the plan, notify neighborhoods prior to impacts, and that tree and vegetation removal would only occur at the approximate time required for construction. A DPD planner or designated representative shall be a participant in this process.*

Development of the TVMPP is required prior to WSDOT obtaining the Master Use Permit necessary for the construction of WABN.

## Other City Regulations

As part of the shoreline permit approval process, the project must also comply with city tree protection regulations contained in Seattle Municipal Code (SMC) Title 25 for all trees within Seattle's shoreline jurisdiction. These regulations include the Environmental Critical Areas (ECA) Ordinance and the Tree Protection Ordinance. The project will also comply with the Seattle Department of Transportation's (SDOT) Street Use Ordinance (SMC Title 15) for street trees within City of Seattle right-of-way. Exhibit A-1 graphically portrays where these three ordinances have jurisdiction and will be applied within the boundaries of the SR 520 West Approach project limits.

### **SMC 25.09 - Environmental Critical Areas Ordinance**

SR 520 construction activities occur in environmentally critical areas and this triggers SMC 25.09. This ordinance applies to development (defined in Section 25.09.520) that is carried out by any person on publicly or privately owned parcels containing an environmentally critical area or buffers. For trees located within ECAs or ECA buffers the SR 520 project will:

- Characterize and mitigate impacts to trees, per ECA provisions. The project will provide mitigation equal in function to those functions that are lost.
- Plant new trees at a standard density to the extent possible in order to provide for ecological function. Specific mitigation ratios, acreage amounts, plant types and plant spacing information are included in the SR 520 project ECA report.
- Restore onsite temporary impacts as a part of the WABN construction contract package. Offsite compensatory mitigation will be executed under separate construction contracts.

### **SMC 25.11 - Tree Protection Ordinance**

SR 520 construction activities do not trigger Tree Protection Ordinance SMC 25.11 because these activities do not occur on undeveloped lots, which is the jurisdiction of SMC 25.11. The code does encourage the preservation of trees in general and exceptional trees in particular. An exceptional tree, a Japanese Laceleaf Maple, was located within the project area next to the MOHAI building. MOHAI has already successfully relocated it.

### **SMC Title 15 - Street Use Ordinance**

SR 520 construction activities will trigger SMC Title 15 and require a Street Use permit from the Seattle Department of Transportation. The ordinance authorizes and defines Seattle's policy of retaining and preserving street trees in public places whenever possible. Accordingly, any work affecting street trees that are under the jurisdiction of the Department of Transportation (authorized by Section 15.43.010) requires a street use permit. Street tree removal is only permitted by the Director under certain well-defined conditions, one of which is when a street tree cannot be successfully retained because it conflicts with public construction activities. Removal of any trees within SDOT's right-of-way will be subject to the requirements and conditions of a City of Seattle Street Use permit..

The two areas within the Seattle DOT right-of-way that are affected by the project are East Park Drive East in the Shelby-Hamlin neighborhood, and East Lake Washington Boulevard (Exhibit A-2 and A-3). No trees are planned to be removed along East Park Drive East. Four or five trees on the north side of East

Lake Washington Boulevard will be affected by utilities work and may need to be removed. To the extent possible, the removed street trees will be replaced with the same species as that being removed, or a species from the approved tree list, or with a tree approved by the Director. The replanting will be consistent with the standards in the Street Tree Manual if site conditions allow.

## **V. TVMPP Development and Coordination Process**

This section describes the process through which the TVMPP was developed, including WSDOT's work to identify and monitor trees in the project area, coordination with stakeholders related to protecting trees and vegetation, and commitments through the WABN design process.

### **Tree Monitoring**

The WSDOT Northwest Region Landscape Architecture office has been documenting the condition of trees designated to be saved within the Montlake Park/Arboretum and Roanoke Park areas since 2010. Trees are photographed and any health issues are documented and tracked on an annual basis. This report will be referred to during construction, so staff can closely monitor each tree's condition and prevent impacts during construction.

### **2009 Tree Inventory**

Trees were identified by a tree survey performed in 2009 as part of the environmental impacts assessment process. Using hand-held GPS, project biologists located trees with trunk diameter at breast height (DBH) greater than or equal to six inches. Survey data include location, DBH, and species and genus (if possible) for each tree. Specimen trees within the inventory were identified by information from the Washington Park Arboretum.

### **Stakeholder Commitments**

WSDOT has coordinated with several external stakeholders and stakeholder groups throughout the environmental process for the I-5 to Medina Project. Vegetation management is also addressed through WSDOT's commitments with external stakeholders during that process and documented through various plans and agreements.

### **Cultural and Historic Mitigation**

Section 106 of the National Historic Preservation Act is the primary driver behind cultural and historic mitigation commitments related to vegetation management. A Programmatic Agreement, developed through consultation with affected stakeholders, includes the following key components related to tree and vegetation management:

- Consult with the Arboretum Botanical Garden Committee (ABGC) and the affected tribes on a planting plan.

- Re-vegetate WSDOT right-of-way on Foster Island with native vegetation of ethnobotanical significance to affected tribes. The WSDOT contracted plant establishment period would extend for a period of years to be determined through consultation.
- Select planting materials [for Foster Island] from an ethnobotanical list provided by the Muckleshoot Indian Tribe;
- Use planting materials on Foster Island that are consistent with historic and documentary research performed as part of the ethnographic study, which identified types of vegetation present on Foster Island historically.
- To the maximum extent practicable, avoid placement of temporary work bridges and other short-term construction features where they would require permanent removal of or would damage mature trees.
- Conduct vegetation management, including provisions for:
  - Protecting trees and other screening vegetation adjacent to construction work areas from construction impacts
  - Replacing removed trees following City of Seattle street tree standards (see below for the standards).
  - Monitoring of contractor adherence to these commitments
- Development of the CCMP. This document, also under development for WABN, describes anticipated construction effects, applicable commitments, and best practices and tools to minimize the effects of construction on local communities (including the development of this TVMPP).

Per the commitments outlines in the Programmatic Agreement and to fulfill Section 4(f) and 6(f) obligations described below, WSDOT coordinated with the ABGC and consulting tribes on restoration of native vegetation in the Foster Island portion of the project area.

## **Parks Mitigation**

Section 4(f) of the Department of Transportation Act and Section 6(f) of the Land and Water Conservation Fund Act require mitigation for affected park resources. WSDOT coordinated with various stakeholders, including the ABGC, Seattle Parks and Recreation, SDOT, UW, and the Arboretum Foundation, to identify mitigation for effects to park resources.

This coordination process resulted in a cooperative agreement between WSDOT, the ABGC, Seattle Parks and Recreation, SDOT, UW, and the Arboretum Foundation (GCB 1182), executed in January 2013, describing mitigation actions specific to the Washington Park Arboretum, including coordination with tribes and the ABGC related to Foster Island. Further coordination related to improvements to the Foster Island undercrossing and surrounding area has also included discussion of tree and vegetation protection. Feedback from the tribes and ABGC representatives has included:

- Replant with native plants of tribal significance, to be identified in coordination with the tribes.
- Integrate plantings within WSDOT right-of-way with adjacent shoreline mitigation plantings. Minimize tree and vegetation removal on Foster Island as much as possible; use low-impact equipment for removing trees and vegetation.

- Minimize impacts to the bald cypress strand on Foster Island, as these trees are an important part of the Arboretum.

The feedback received from the tribes and ABGC representatives participating in this coordination process were reflected in the design concepts developed for the Foster Island undercrossing and surrounding areas.

### **Other stakeholder feedback**

The SR 520 WABN project met several times during 2013 with the urban design subgroup of the Seattle Technical Working Group to discuss design goals and options for Canal Reserve and the MOHAI/East Montlake Park area. Three significant decisions relating to these areas were reached as a result of these discussions:

- Large trees would be planted just inside East Montlake Park along East Park Drive East to contribute to Seattle urban forest goals and the character of the Shelby-Hamlin neighborhood.
- The upper MOHAI parking lot would be converted to a grassy (lawn) open area surrounded by shrubs and small trees. This landscaping would act as an attractive street end consistent with the character of the neighborhood and screen the Hamlin residences.
- The portion of East Montlake Park that was affected by construction would be returned to its original condition (open and grassed) when construction was finished.
- The safety fencing around the pre-settling cell would either be of an attractive, park-appropriate design or screened by vegetation.

### **West Approach Bridge North**

The project design team has undertaken a process by which all of the various commitments made by the SR 520 Program through the environmental process will be implemented in either the design or construction phases of project delivery. A multi-disciplinary team has inventoried all commitments and identified the process, tool, or product that is appropriate for the implementation of the commitment.

This TVMPP has been developed to satisfy commitments originating with the CCMP process and to satisfy the City's shoreline decision condition 10 prior to obtaining the MUP. As stated in the overview, this TVMPP documents the mechanisms that WSDOT will use to direct a contractor in implementing vegetation management during construction. These mechanisms are further discussed in the subsequent implementation section.

Community coordination and public outreach specific to WABN was initiated in June of 2013 with public meetings consisting of community drop-in events in the Montlake neighborhood. Public outreach and corresponding refinements related to these plans are scheduled to be ongoing throughout the latter portion of 2013 up to final design in January 2014. Coordination on both CCMP and TVMPP development will continue with DPD throughout the MUP process and as future community coordination occurs related to the CCMP.

## Updating the TVMPP

This version of the TVMPP focuses on the West Approach Bridge North (WABN), which is currently funded for construction. The West Approach Bridge TVMPP will address construction of the West Approach Bridge South (WABS) as appropriate, when additional design progresses and it is funded for construction.

## VI. WABN Tree and Vegetation Protection Implementation

This section discusses the means and methods available for ensuring that trees and vegetation will be protected during WABN construction. The means and methods are documented in three ways: by **specifications** that set performance standards for contractor work; by construction **drawings** that locate and identify the different vegetation protection areas; and by design **details** that show how something is to be built or function. These three documents are incorporated into the written agreement – the contract – between WSDOT as contracting agency and the contractor. They can only be revised if WSDOT project personnel agree to the change. Specifications come in three forms that range from proven best practices to special project-specific practices. The three forms are:

- **Standard specification:** a requirement that has been developed as a baseline for construction work delivered to the public by WSDOT. These specifications are provided in the *Standard Specifications for Road, Bridge, and Municipal Construction* (WSDOT 2012).
- **Amendment:** a standard specification that has been recently updated by WSDOT.
- **Special provision:** a standard specification that has been modified to fit the special conditions of a project. The decision to replace a standard specification with a special provision is made during the design process and is based upon the judgment of the project designers.

The next sections give examples of standard specifications that will be included in the WABN contract followed by examples of special provisions by vegetation management area.

### Standard Specifications

Standard specifications are best practices that reflect years of refinement through the hundreds of projects WSDOT delivers each year. The standards have been developed and reviewed by both internal WSDOT staff as well as industry partners through the joint WSDOT/Associated General Contractors' Standing Committees. Standard specifications related to vegetation management that will be included in the construction contract are:

- **Contractor Submittals** (Specification 8-02.3(2)). As part of the contract the contractor is required to submit a roadside work plan, weed control plan, and plant establishment plan to WSDOT for review and approval. These plans explain how the contractor will preserve, protect, and maintain existing and proposed plants.

- **Vegetation Protection and Restoration** (Specification 1-07.16(2)). The contractor is required to save and protect existing vegetation, as shown in the plans or according to the project engineer, for the life of the contract. Before any construction begins the contractor will cordon off the protected vegetation by high visibility fencing and/or flagging or tagging individual trees. A component of this is that root systems shall be protected from compaction, earthwork that would cut or expose roots, or drastic pruning of above-ground vegetation. In addition, the contractor will be assessed damages if construction actions damage, destroy or disfigure any designated vegetation. For the WABN project, the locations and design details of the high visibility fencing will be shown in the environmental compliance plan drawings.
- **Erosion and Stormwater Control - High Visibility Fencing** (Specification 8-01.3(1)). High visibility fencing is also a required part of the temporary erosion control plan. As noted above, high visibility fencing is used to mark off-limit areas such as project boundaries and sensitive areas, which are shown in the plan drawings or as instructed by the engineer. The contractor is not allowed within the areas delineated by HVF at any construction phase. The contractor must also immediately repair or restore any damaged or missing high visibility fencing for the duration of the project so that there is no mistaking where the protected areas are. For the WABN project, the locations and design details of the high visibility fencing will be shown in the environmental compliance plan drawings.
- **Selective Pruning** (Special Provision 2-01.3(3) from Northwest Region Landscape Architecture). Selective pruning may be allowed for individual trees if it means the tree does not have to be removed altogether such as the bald cypress in the wetland east of Foster Island. The Contractor shall selectively prune only the tagged trees at the locations shown in the Plans. Pruning may include removal of branches that are in the way of construction structures, crossed and broken branches, and damaged or dead branches, and will conform to national arboriculture standards. Only an arborist or arboricultural technician showing proof of certification by the International Society of Arboriculture shall perform this work, unless the branch is less than 2 inches in diameter.
- **Root Zones** (Special Provision 2-01.3(1) from Northwest Region Landscape Architecture). The root zone around protected trees and vegetation is also protected against activities that may damage the roots. The Contractor shall exercise care during clearing, grubbing and other construction activities to ensure that the activities do not damage the root systems of the existing vegetation designated to be saved. The Contractor's operations shall be conducted so vehicles and equipment do not operate, haul, park, or perform other activity within the drip line of vegetation designated to be saved.

## **WABN-specific Special Provisions by Vegetation Management Area**

These special provisions were written for the conditions and activities specific to the areas affected by WABN construction. The provisions were developed by discipline experts and reviewed by knowledgeable WSDOT staff. The vegetation management areas are geographically distinct landscapes with unique uses and landscape character (Exhibit A-2). A management area may have more than one vegetation protection zone. Working with individual vegetation management areas enables WSDOT to

take a context-sensitive approach to tree and vegetation protection while keeping track of its special details.

## **Canal Reserve**

Canal Reserve is the western remnant (about one acre) of a larger piece of land that was set aside to be excavated as a canal for boat passage. The property contains mature and specimen trees of species such as sequoia, cedar, pine and spruce (Exhibit A-3), some of which were planted by the Arboretum (BOLA 2003). The trees include ornamentals and fruit trees, all of which ring an open area of lawn. Groves of very mature sequoias and pines line the alley and screen the backs of the houses north of the alley.

For the WABN project an east-west sidewalk will be installed in the north half of Canal Reserve and an off-ramp for westbound traffic to Montlake Boulevard will be constructed in the south half of Canal Reserve. During WABN construction there will be two vegetation protection areas here.

The first protection area is for the trees along the south side of the alley and is a permanent protection area throughout all future SR 520 projects. The area will be protected by high visibility fence that will be installed outside the drip line of the trees. The sidewalk has been designed and aligned to avoid trees and tree roots as much as possible.

The second protection area is for a grove of conifers at the west end of Canal Reserve and is a temporary protection area. Construction of the new westbound off-ramp to Montlake Boulevard will necessitate removal of the rest of the trees along the edge of the existing off-ramp. The protected grove of conifers will be encircled by high visibility fencing.

## **Landscaping goals and requirements**

The goal is to permanently protect and retain the trees along the Hamlin Street alley during construction of the Montlake lid and all future SR 520 projects. The trees near the off-ramp will be removed during construction of the final off-ramp, however. Revegetation will entail reseeding the areas along the new sidewalk and the newly exposed slopes along the off-ramp to match the existing condition. Because the screening trees along the alley will be preserved, no additional trees will be planted in Canal Reserve.

## **How will the information be conveyed to the contractor?**

- Locations for the high visibility fencing for tree and vegetation protection will be shown in the Environmental Compliance plan drawings and defined in standard specifications 8-01.3(1) and 9-14.5(8).
- Construction details for installation of tree and root zone protection structures will be included in the Environmental Compliance plans and landscape details. .
- The contractor will submit a roadside work plan, weed control plan, and plant establishment plan for WSDOT approval according to the standard specifications 8-02.3(2). These submittals communicate how the contractor will care for the existing and planned vegetation for the duration of the contract.

## **Former MOHAI site – McCurdy Park**

McCurdy Park and the former site of the Museum of History and Industry (MOHAI) are on the eastern portion of what was once the greater canal reserve area. The property (about one and one quarter acre) contains mature and specimen trees of species such sequoia, cedar, pine and spruce (Exhibit A-2) that stand along the south edge of the parking lot and wrap around the west side of the former building site. Ornamental native and exotic trees and shrubs are also planted around the parking lot and former building site. One of these, a Japanese Laceleaf Maple was listed as a heritage tree (now called “exceptional” tree), and MOHAI has relocated it. The parks are bounded on the east by the shoreline of Union Bay, an environmentally sensitive area.

For the WABN project an interim constructed stormwater treatment facility will be built into the slope just north of the former MOHAI building and parking lot. An interim off-ramp and regional shared-use path will be constructed in the south portion of the former MOHAI building and parking lot. There will be one protection zone, which is the shoreline and Arboretum Waterfront Trail trailhead.

During WABN construction all of the trees in this management area will be removed for the new roadway, off ramp, and regional shared-use path for cyclists and pedestrians. Trees along the shoreline will be affected to some degree by construction and presence of the temporary work bridges on the north side of the new lanes.

This area will be reconfigured by WABS construction. The south half of the stormwater treatment facility will be enlarged to the south to handle the added stormwater from WABS and the permanent regional path and Montlake Boulevard off-ramp will be built.

### **Landscaping goals and requirements**

The landscape goals for the WABN are to create a low maintenance, self-sustaining landscape that is compatible with the recreational uses and the residential setting around the facility. The WABN facility will be planted with robust shrubs, grass, and low-growing ground covers. A few trees will be planted for aesthetic purposes and to balance the scale and character of the treatment facility with the park and shoreline.

### **How will the information be conveyed to the contractor?**

- Seattle shoreline permits include a requirement to monitor the progress of restoration plantings.
- The high visibility fencing for tree protection will be shown in the Environmental Compliance plans and landscape details and defined in standard specifications 8-01.3(1) and 9-14.5(8).
- Selective pruning requirements will be described in a new special provision.
- Landscape planting will be shown in the landscape plans and details. The contractor will submit a roadside work plan, weed control plan, and plant establishment plan for WSDOT approval according to the standard specifications 8-02.3(2). These submittals communicate how the contractor will care for the existing and planned vegetation for the duration of the contract.

## **East Montlake Park**

East Montlake Park is a grassy, open park bordered by East Park Drive East to the west, the former MOHAI parking lot to the south, and dense stands of alders, cottonwoods, and birches along the shorelines to the east and north. The Shelby-Hamlin neighborhood is to the west, with street trees of sweetgum and linden (Exhibit A-3).

For the WABN project a new permanent 14-foot wide path/driveway will be installed for the park and for access to the stormwater facility. On-street parking will be added to East Park Drive East by slightly widening the street on the east side. Small biofiltration planters will collect and treat stormwater runoff from the parking area. A new 6-foot wide sidewalk will connect the end of the regional shared-use path to the existing sidewalk along Shelby Street. In agreement with the Landscape and Stormwater Design technical working group, the WABN project will also plant several street trees along the east side of the new sidewalk to continue the rows of existing street trees along East Park Drive East. There are two vegetation protection areas.

The first is along the wetland buffer boundary on the north and the second is the shoreline buffer boundary on the east. During WABN construction the south portion of East Montlake Park will be used for construction staging and constructing the stormwater facility and a new permanent path linking East Park Drive East and the trailhead. No trees are planned to be removed, but trees along the east shoreline near the Arboretum Waterfront Trail trailhead may be removed or pruned during construction of the maintenance access path.

This area should not be affected by future projects because the decision was made to limit construction effects to once-in/once out in order to minimize impacts on the neighborhood.

### **Landscaping goals and requirements**

The landscape goals for the WABN are to return the area to its original character as an open, grassy park, but with the addition of a few street trees for the neighborhood and infill planting along the shoreline to enhance the buffer. This new landscaping will be permanent.

### **How will the information be conveyed to the contractor?**

- Seattle shoreline permits include a requirement to monitor the progress of restoration plantings.
- The high visibility fencing for tree protection will be shown in the Environmental Compliance plans and landscape details and defined in standard specifications 8-01.3(1) and 9-14.5(8).
- Selective pruning requirements will be described in a new special provision.
- Landscape planting will be shown in the landscape plans and details.
- The contractor will submit a roadside work plan, weed control plan, and plant establishment plan for WSDOT approval according to the standard specifications 8-02.3(2). These submittals communicate how the contractor will care for the existing and planned vegetation for the duration of the contract.

## **Lake Washington Boulevard and WSDOT Peninsula**

Lake Washington Boulevard in the project area is a tree-lined roadway of historic character that connects the University of Washington and the Arboretum (Exhibit A-4). The boulevard has its own vegetation management plan, which this TVMPP will refer to and uphold.

WABN will have little effect on the boulevard other than the removal of a few trees near 24th Avenue East for utilities work, and for construction access to the WSDOT Peninsula just east of Lake Washington Boulevard. There are two protection areas: one enclosing the wetland and buffer at the north end of the peninsula and the second is a small grove of trees at the south end of the peninsula.

During WABN construction the WSDOT Peninsula will likely be used for construction staging and access to ramp demolition areas. This will entail removing mature trees in order to remove the R. H. Thompson ramps, among other construction-related activities. Trees directly adjacent to the boulevard will be left in place to screen views of construction activities from houses facing east.

This vegetation management area is very likely to be used for staging for future phases of the Seattle project.

### **Landscaping goals and requirements**

The interim landscaping goal for the WABN construction phase is to return the peninsula to a grassy, open recreation area, as it currently is. The trees removed for WABN will not be replaced during the WABN phase because the WSDOT peninsula will likely be used for construction staging in future phases. The long-term landscape plan is to implement a plan developed by the ABGC and Seattle Parks and Recreation that will create a park-like landscape consistent with the Arboretum's use and character. This landscaping will be installed by the parks department after SR 520 projects have been completed.

The wetland and buffer at the north end of the peninsula will receive enhancement planting to bolster the function and quality of the area. This restoration project will not be part of WABN construction, but will be implemented separately as part of WABN mitigation.

### **How will the information be conveyed to the contractor?**

- Seattle shoreline permits include a requirement to monitor the progress of restoration plantings.
- High visibility fencing for tree protection will be shown in the Environmental Compliance plans and landscape details and defined in standard specifications 8-01.3(1) and 9-14.5(8).
- Selective pruning, if needed, will be described in a new special provision.
- Landscape planting will be shown in the landscape plans and details.
- The contractor will submit a roadside work plan, weed control plan, and plant establishment plan for WSDOT approval according to the standard specifications 8-02.3(2). These submittals communicate how the contractor will care for the existing and planned vegetation for the duration of the contract.

## **Foster Island**

Foster Island is a wooded park with walking paths that lead to shoreline swimming and picnic areas and launches for hand-carried boats (Exhibit A-5). Within the WABN construction limits are mature ash, black cottonwood, and red alder trees. To the east and west are shrub-scrub and forested wetlands, and beyond that are emergent wetlands. The wetlands on the east (LWN-1) have a collection of ten bald cypress trees that are special for the Arboretum. There are two bald cypresses in the west wetland (LWN-3). The existing SR 520 roadway crosses Foster Island where the north and south islands meet. WABN will affect only the north island.

There will be no WABN structures left on Foster Island other than the piers and columns required to hold the WABN bridge. However, construction of temporary and permanent structures and the needs of future operations and maintenance necessitate the removal of all trees on the north island and a few of the bald cypress in the grove in LWN-1. There is one vegetation protection zones within the Foster Island management area and that is for some of bald cypress in open water east of the north island. We believe it is possible to protect and preserve the bald cypresses by adjusting the decks of the temporary work bridges. The method of establishing high visibility fencing around these trees has not yet been determined because it must be able to change with water levels.

The limits of construction will also be marked with high visibility fencing to protect the north island woodland landscape that abuts the project boundary.

The Foster Island management area will not be affected by future projects.

### **Landscaping goals and requirements**

The landscaping goals for north Foster Island are a sustainable, safe, and park-like landscape that encourages through-movement. This is to be achieved by using native and ethno-botanical plant species, nurse logs, and stones that model the appearance of the floor of a forest under the WABN bridge and a naturalistic landscape where the temporary work bridges were. This will be bolstered by the required 10-year monitoring period for the scrub-shrub wetlands and buffers and three-year monitoring period for the emergent wetlands.

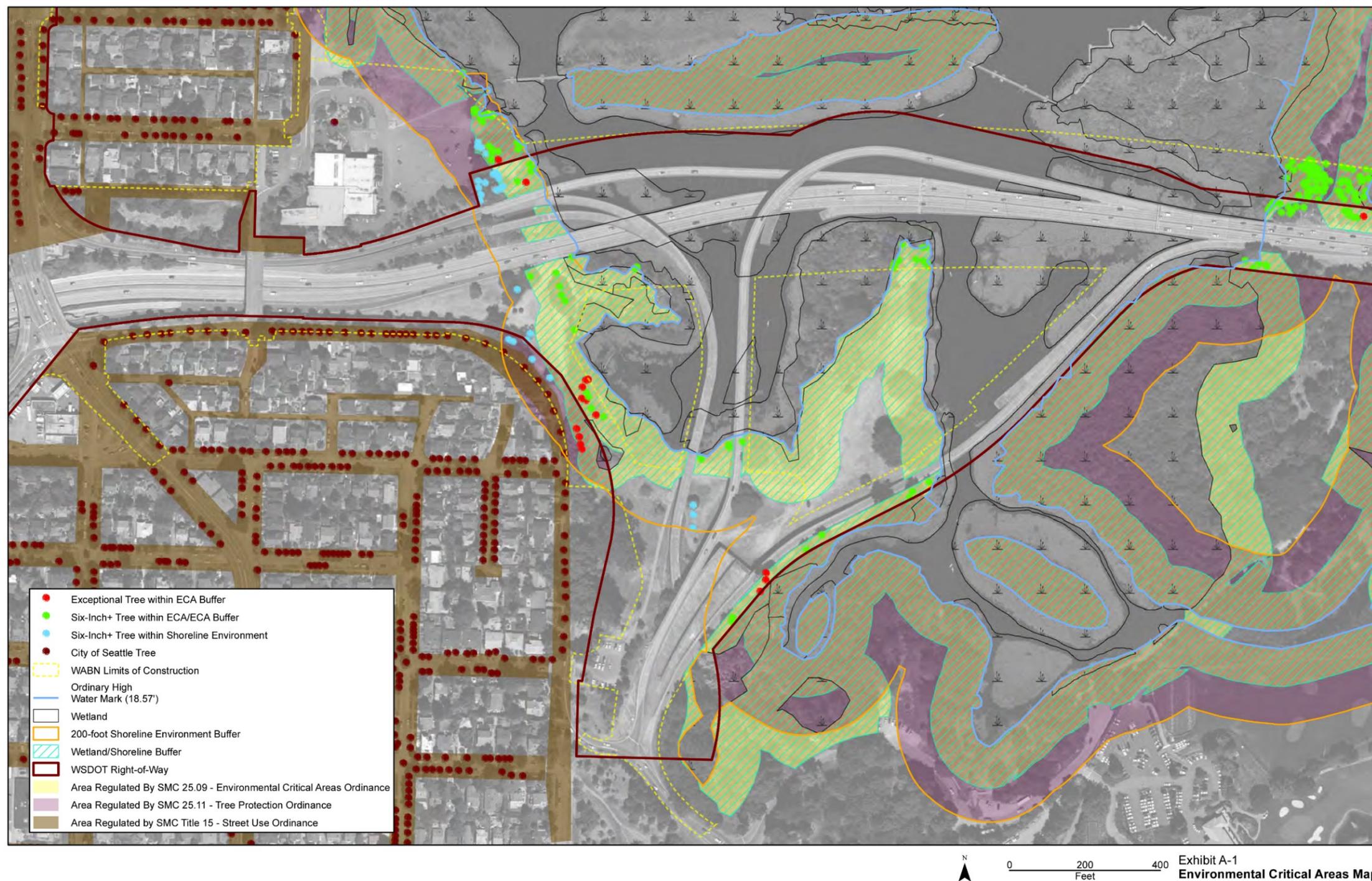
### **How will the information be conveyed to the contractor?**

- Seattle shoreline permits include a requirement to provide as-built plans documenting restoration plantings.
- The high visibility fencing for tree protection will be shown in the Environmental Compliance plans and landscape details and defined in standard specifications 8-01.3(1) and 9-14.5(8).
- Selective pruning requirements will be described in a new special provision.
- Landscape planting will be shown in the landscape plans and details.
- Tree removal specifications.
- The contractor will submit a roadside work plan, weed control plan, and plant establishment plan for WSDOT approval according to the standard specifications 8-02.3(2). These submittals communicate how the contractor will care for the existing and planned vegetation for the duration of the contract.

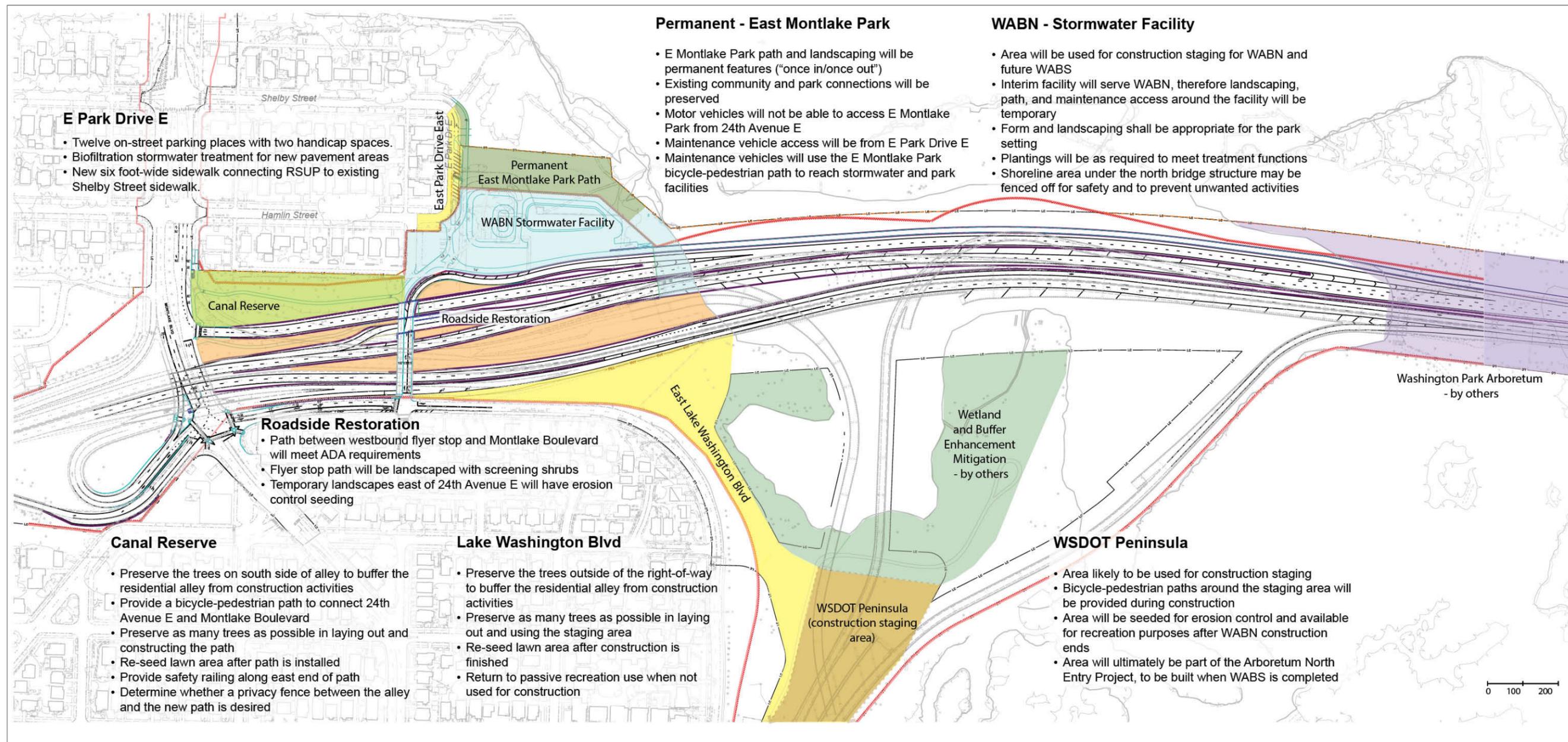
## VII. References

BOLA Architecture + Planning. "Washington Park Arboretum Historic Review." September 2003.

WSDOT. Westside Final Tree Inventory Technical Memorandum. June 23, 2009.

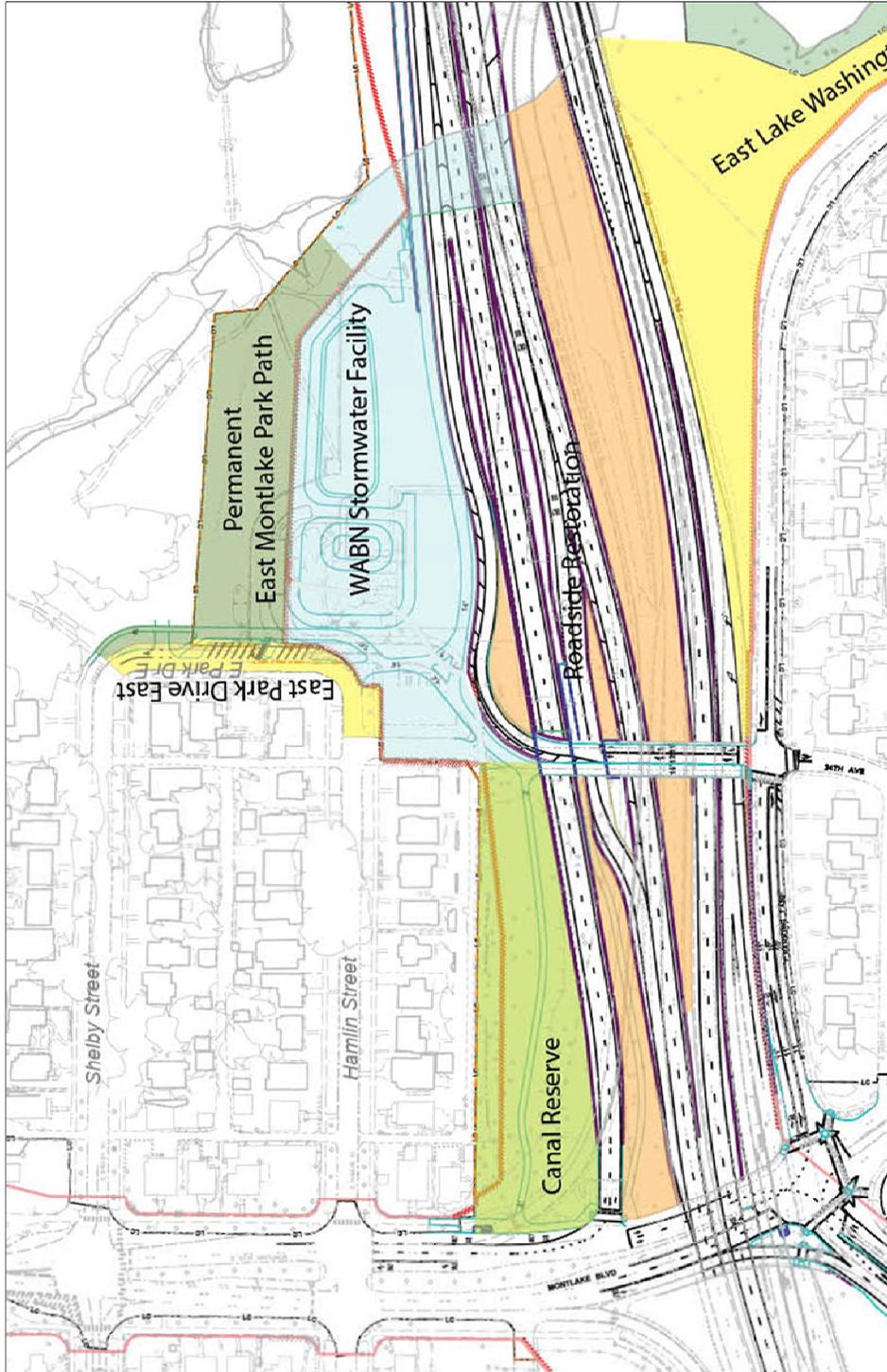


A-1 ENVIRONMENTAL CRITICAL AREAS MAP

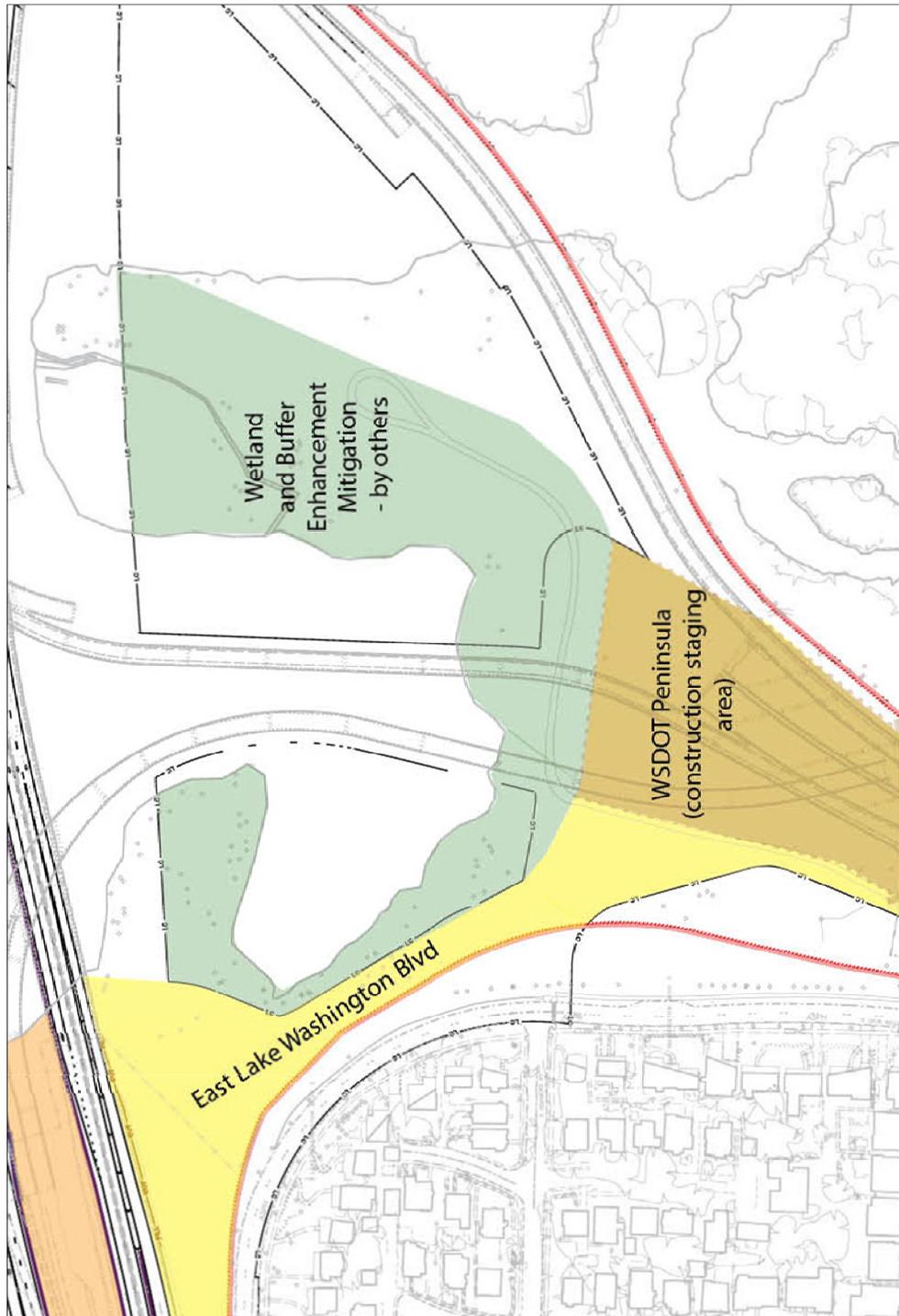


A-2 PROJECT AREA MAP AND MANAGEMENT AREAS

A-3 MONTLAKE MANAGEMENT AREAS



A-4 LAKE WASHINGTON BOULEVARD AND WSDOT PENINSULA MANAGEMENT AREAS



A-5 FOSTER ISLAND MANAGEMENT AREA

