

Appendix A: Tree and Vegetation Management and Protection Plan

Community Construction Management Plan

SR 520 Portage Bay Bridge and Roanoke Lid Project CCMP

(Contract name: SR 520 / I-5 to Montlake - I/C and Bridge Replacement Project)

June 2022

Appendix A Tree and Vegetation Management and Protection Plan (TVMPP)

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Acronyms and Abbreviations

CCMP	Community Construction Management Plan
CPTED	Crime Prevention Through Environmental Design
DBH	Diameter of tree trunk at breast height (measured 4.5 feet from ground)
DPD	City of Seattle Department of Planning and Development
ECA	Environmental Critical Areas
I-5	Interstate 5
MOU	Memorandum of Understanding
PA	Section 106 Programmatic Agreement
PBB	Portage Bay Bridge
ROTW	Rest of the West
SDCI	City of Seattle Department of Construction and Inspection
SDOT	Seattle Department of Transportation
SMC	Seattle Municipal Code
SR 520	State Route 520
Portage Bay Phase	SR520/I-5 to Montlake - I/C and Bridge Replacement Project
TVMPP	Tree and Vegetation Management and Protection Plan
WSDOT	Washington State Department of Transportation

I. Executive Summary

WSDOT has developed this Tree and Vegetation Management and Protection Plan (TVMPP) as part of the SR 520 Portage Bay and Roanoke Lid Project Community Construction Management Plan (CCMP). Per the [Section 106 Programmatic Agreement](#) (PA), the Community Construction Management Plan (CCMP) was developed as a mitigation commitment for adverse effects from the [I-5 to Medina: Bridge Replacement and HOV Program](#) (I-5 to Medina project), including vibration, noise, change of use or physical features of a property's setting, or visual, atmospheric, or audible intrusions (as defined in [36 CFR 800.5\(a\)\(2\)](#)).

The purpose of the TVMPP, as an appendix to the CCMP, is to describe the standards and project-specific best management practices to preserve, protect and avoid impacts to trees and vegetation within the limits of project construction. The TVMPP presents a variety of methods to minimize effects on trees and vegetation during construction and establishes an implementation and tracking plan to ensure the best practices are followed. The plan identifies areas of tree removal, protection, and restoration, including areas temporarily dedicated to construction. Tree impacts and protection are categorized for trees meeting the definition of mature or exceptional trees as defined by Seattle Municipal code and rules.

WSDOT considered input from the City of Seattle and key stakeholders in developing the TVMPP. WSDOT will submit the TVMPP to these stakeholders prior to construction. During construction, WSDOT will follow the TVMPP and notify neighborhoods before SR 520 Portage Bay Bridge and Roanoke Lid Project construction activities.

Of the SR 520 Project phases, the [Pontoon Construction Project](#), [Eastside Transit and HOV Project](#), [Floating Bridge and Ladings Project](#), and [West Approach Bridge North Project](#) have been completed. Following the completion of these Projects, the remaining work for the [SR 520 Bridge Replacement and HOV Program](#) is collectively known as Rest of the West (ROTW). The remaining work will be delivered in phases with four projects, collectively called the [Rest of the West](#), and will complete WSDOT's enhancement of the SR 520 corridor. The SR 520 Portage Bay Bridge and Roanoke Lid Project is the third of these four phases. Additional volumes and/or updates to existing CCMPs and TVMPP will be developed in conjunction with future construction of the I-5 to Medina project.

II. Tree and Vegetation Management and Protection Plan Overview

A. Purpose

This TVMPP has been prepared to meet commitments made in the [Section 106 PA](#). The purpose of the TVMPP is to describe the standard and project-specific best management practices that will be used to preserve, protect and avoid impact to trees and vegetation within the limits of construction of the SR 520 Portage Bay Bridge and Roanoke Lid Project (further described in Section III). This TVMPP presents multiple tools for protecting trees and vegetation during construction. Sub areas are identified in this plan within the project where trees will either be removed or will require protection and restoration.

The TVMPP reflects input WSDOT received through discussions with the City of Seattle and interested stakeholders, as described further in Section V.

B. Timeline and Process

This is the third TVMPP of the Rest of the West. The SR 520 permitting and design teams developed a draft outline which was then reviewed by the City of Seattle and used basis to develop this TVMPP.

This TVMPP focuses on the SR 520 Portage Bay Bridge and Roanoke Lid Project, the third of four phases to complete the Rest of the West phase of the SR 520 corridor.

C. Implementation

The TVMPP documents WSDOT's plans to preserve, protect and restore trees and vegetation during construction of the SR 520 Portage Bay Bridge and Roanoke Lid Project.

III. SR 520 - Portage Bay Phase Overview

A. Background

The [SR 520 Bridge Replacement and HOV Program](#), the Program’s 12.8-mile-long corridor area begins at SR 202 in Redmond and extends west to I-5 in Seattle. As part of the Program, the [Pontoon Construction Project](#), the [Eastside Transit and HOV Project](#), the [Floating Bridge and Landings Project](#), and the [West Approach Bridge North Project](#), have been completed. The remaining work will be delivered in phases with four projects, collectively called the [Rest of the West](#), and will complete WSDOT’s enhancement of the SR 520 corridor. The SR 520 Portage Bay Bridge and Roanoke Lid Project is the third of these four phases.

The Community Construction Management Plan (CCMP) was developed as a mitigation commitment for adverse effects from the [SR 520, I-5 to Medina: Bridge Replacement and HOV Project](#) (I-5 to Medina Project) to historic properties during the National Historic Preservation Act Section 106 Consultation process. Because Section 106 consulting parties had significant concerns related to construction effects (both indirect and direct) to historic properties, development of the CCMP was included in the earliest iterations of the [Section 106 Programmatic Agreement](#) (PA). Construction effects (as defined in [36 CFR 800.5\(a\)\(2\)](#)) may include vibration, noise, change of use or physical features of a property’s setting, or visual, atmospheric, or audible intrusions. During the consultation process, the CCMP then became a project-wide commitment, not exclusive to Section 106 PA concurring parties. The PA language references the concurring parties “and others potentially affected by Project construction.”

The purpose of this TVMPP as an appendix to the CCMP is to describe the standards and project-specific best management practices that will be used to preserve and protect trees and vegetation within the limits of project construction.

B. SR 520 - Portage Bay Phase Description

The 1960s-era Portage Bay Bridge is nearing the end of its functional life. Supported by hollow concrete columns, the four-lane bridge could collapse in a severe earthquake. This project will replace the old bridge with a seismically stronger structure. The project also will extend SR 520’s transit/HOV system and cross-lake bicycle and pedestrian trail from Montlake to I-5.

The project will construct two new parallel, three-lane bridges across Portage Bay with dedicated transit/HOV lanes across Portage Bay between Montlake and I-5 along with extension of the regional SR 520 Trail from Montlake to I-5. A landscaped Roanoke lid over SR 520, between 10th Ave E and Delmar Dr E, and a 30-foot-wide bicycle and pedestrian crossing over I-5 will be constructed.

These features will ultimately result in stronger connectivity between the growing cities of the eastside, Seattle’s booming South Lake Union neighborhood, and downtown Seattle. The travel between these points will become safer and more reliable via the dedicated, flexible transit/HOV lane. The Roanoke lid will visually connect landscapes and parklands both north and south of the highway with passive recreation landscape spaces, including trees and other landscape amenities.

A multi-disciplinary team has worked to track and implement the environmental commitments for each of the SR 520 Project's design and construction phases.

C. Construction Schedule

SR 520 Portage Bay Bridge and Roanoke Lid Project construction is scheduled to begin in 2024, with completion anticipated in 2030. The schedule for some construction activities, including nighttime work related to Major Public Project Construction Noise Variance, may be restricted to comply with environmental permits.

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 related to natural resource and water quality protection. At the federal, state and local jurisdictional 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 Section 106 PA, the project must also comply with the local City of Seattle tree protection policies and regulations as described below.

A. Shoreline Decision Requirements

The SR520 Portage Bay Phase (i.e., the portion of the project within City of Seattle shoreline jurisdiction) was conditionally granted approval through a shoreline decision on January 17, 2012. The project is currently seeking a new shoreline decision and permit approvals for the updated project design. The TVMPP has been developed in part with the expectation that the new shoreline decision will apply the previous Condition 10 of the City of Seattle Department of Construction and Inspection's (SDCI) decision 3012585, 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.

As with the prior shoreline decision, development of the TVMPP is expected to be required prior to WSDOT obtaining the Master Use Permit (MUP) necessary for the construction of the SR520 - Portage Bay Phase.

B. City of Seattle Regulations

As part of the Section 106 PA, the Project must comply with City of Seattle tree protection regulations contained in Seattle Municipal Code (SMC) Title 25 Chapter 25.09 for all trees within City of Seattle's shoreline and critical area jurisdictions. These regulations include the Environmental Critical Areas (ECA) Ordinance and the Tree Protection Ordinance. This project will affect vegetated areas within the City's shoreline jurisdiction and as well as steep slope erosion hazard areas shown in [Exhibit A-2](#). SMC Title 25 Chapter 25.11 as amended by Directors Rule 16-2008 regulates for protection of trees outside of ECAs.

This project will remove a limited number of Street trees within the City of Seattle right-of-way as defined by the Seattle Department of Transportation's (SDOT) Street Use Ordinance (SMC Title 15) and may implement protection measures as required to protect trees to remain from adjacent project impacts. [Exhibit A-2](#) shows where applicable City of Seattle ordinances have jurisdiction and will be applied within the boundaries of the project limits.

SMC 25.09 – Environmental Critical Areas Ordinance

Project construction activities occur in environmentally critical areas, which triggers SMC 25.09. This ordinance applies to development (defined in Section 25.09.520) by any person on publicly- or privately-owned parcels containing an environmentally critical area or critical area buffers. Total area of impacted steep slope critical areas for this project is approximately 1.27 acres. Temporary clearing in wetlands is approximately 1.19 acres. Permanent restoration of ECAs, including plant types and plant spacing, is currently being coordinated with Seattle Parks and Recreation as part of the long-term maintenance agreement between WSDOT and the city of Seattle for the Portage Bay Phase.

For trees located within ECAs or ECA buffers, the SR 520 Project will:

- Characterize and mitigate impacts to trees per ECA provisions.
- Provide mitigation equal in function to those functions that are lost.
- Plant new trees at a density to provide ecological and slope stabilization functions to the extent possible.
- Provide a long-term erosion control treatment for slope stabilization functions.
- Provide final restoration of onsite temporary impacts as part of the subsequent Portage Bay Phase.

WSDOT does not anticipate offsite mitigation for steep slope impacts; however, offsite tree replacement will be considered if there is not enough area to locate replacement trees onsite.

SMC 25.11 – Tree Protection Ordinance

Most parcel-based impacts within the project area are likely to be subterranean and have little impact to tree health. However, improvements within the right-of-way will likely be within the driplines of several parcel-based exceptional trees or tree groves defined by this ordinance. These trees are primarily located within City of Seattle Park land and WSDOT parcels not within the right-of-way.

SMC Title 15 – Street Use Ordinance and City of Seattle Executive Order 03-05.

Construction activities near the Roanoke Lid and the Montlake interchange will trigger SMC Title 15 and would require a Street Use Permit from SDOT. Street tree removal is only permitted by the SDOT Director under certain well-defined conditions, such as when a street tree cannot be successfully retained because it conflicts with public construction activities. Removal of any trees within City of Seattle right-of-way and publicly owned parcels will be subject to the requirements and conditions of a modified street use permit agreed upon between WSDOT and the City of Seattle.

City of Seattle Executive Order 30-05 will also be triggered and reinforces SMC Title 15 with additional clarification. The ordinance authorizes and defines City of Seattle’s policy of retaining and preserving trees in public places whenever possible and requires that every tree removed from City of Seattle property, for any reason, be replaced with 2 trees for each tree removed. Under this rule, replacement trees shall be appropriate for the area and shall be no less than 2 inches in caliper.

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 SR 520 Portage Bay Bridge and Roanoke Lid Project design process.

A. Tree Inventory

Trees were identified by a tree survey performed 2009 as part of the project-wide survey and inventory process with select project areas updated in 2019 and 2020. The survey was completed with survey technicians locating trees with trunk diameter at breast height (DBH) greater than or equal to four inches. Survey data include location, DBH, and species and genus (if possible).

B. 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 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 Section 106 Programmatic Agreement, developed through consultation with affected stakeholders, includes the following key components related to tree and vegetation management:

- WSDOT will revegetate the roadside areas of SR 520 from I-5 to the eastern extent of the Roanoke Lid according to WSDOT and City of Seattle standards and following the concept developed with consulting parties, including Portage Bay, Roanoke Park, and North Capitol Hill communities, to identify and select plantings compatible with the historic character of the area to the maximum extent practicable.
- To the maximum extent practicable, WSDOT will avoid placement of temporary work bridges and other short-term construction features where they would require permanent removal of or would damage mature trees.
- WSDOT will 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 adherence to these commitments.

- Development of the CCMP, to which this document is an appendix, describing anticipated construction effects, applicable commitments, and best practices and tools to minimize the effects of construction on local communities.

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 SPR and SDOT, to identify mitigation for effects to park resources.

This coordination process resulted in project requirements for inclusion of the following improvements:

- Reestablishment of the Bagley Viewpoint as relocated onto the Roanoke lid.
- Coordination with SPR regarding replanting of native trees as part of critical area restoration on SPR property along the Portage Bay Shoreline at Montlake Playfield.

Other stakeholder feedback

During 2019 and 2020, the project team undertook a review process with the Seattle Design Commission and community working groups. Potential impacts to trees and vegetation as well as landscape design goals and options were discussed which helped guide landscape restoration and tree replacement design. Considerations of Crime Prevention Through Environmental Design (CPTED) were discussed and acknowledged to play an important role, such as maintaining visual transparency from street areas into open spaces. Such CPTED principles may influence existing vegetation management and the projects revegetation efforts to maintain a safe public environment.

C. SR 520 Portage Bay and Roanoke Lid Project

This TVMPP focuses on the SR 520 Portage Bay Bridge and Roanoke Lid Project to document vegetation management and discuss restoration for impacts occurring in the SR520/I-5 interchange area as part of the SR 520/I-5 Express Lanes Connection Project. It may be revised for subsequent phases of the ROTW as they approach construction. This TVMPP is intended to meet the commitments made in the CCMP process. As stated in the overview, this TVMPP documents the methods that WSDOT will use for vegetation management during construction of the SR 520 Portage Bay Bridge and Roanoke Lid Project. These methods are further discussed in the subsequent implementation section.

Community coordination and public outreach specific to the SR 520 Portage Bay Bridge and Roanoke Lid Project builds off efforts previously undertaken prior to starting ROTW phase construction. Coordination and outreach specific to the scope of SR 520 Portage Bay Bridge and Roanoke Lid Project was initiated in early 2019 with interested stakeholders, including City of Seattle staff, Seattle Design Commission staff, and community members via public meetings and briefings, online material review opportunities, phone calls, email responses, and a variety of other public involvement tools. WSDOT will continue to coordinate with stakeholders and the City of Seattle to refine these plans in advance of the RFP publication date, in January 2023, and throughout the duration of project construction.

VI. SR 520 Portage Bay Bridge and Roanoke Lid Project Tree and Vegetation Protection Implementation

This section discusses the means and methods available for ensuring that trees and vegetation will be protected during the SR 520 Portage Bay Bridge and Roanoke Lid Project construction.

A. SR 520 Portage Bay Bridge and Roanoke Lid Project – Technical Requirements by Vegetation Management Area

These technical requirements were written for the conditions and activities specific to the areas affected by the SR 520 Portage Bay Bridge and Roanoke Lid Project construction. The vegetation management areas described below and shown graphically within [Exhibit A-1](#) are geographically distinct landscapes with unique uses and landscape character. 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 each area’s special details.

Montlake Boulevard and Bill Dawson Trail Area

The Montlake Boulevard and Bill Dawson Trail area is an approximately 1.3-acre area composed of zones north and south of SR 520 that connect and transition from Montlake project improvements at Montlake Boulevard E. Improvements are generally associated with the regional shared use path (SR 520 Trail), and local street and park connections.

There are two distinct landscape types in this area: North of SR 520, the Montlake Project cleared the preexisting ornamental landscape that included Cherry trees and shrubs with restoration of the area delayed pending further disturbance from the SR 520 Portage Bay Bridge and Roanoke Lid Project. South of SR 520, a mostly native mix of coniferous and deciduous trees, including Douglas Fir, Big Leaf Maple, Cottonwood, and Red Alder, is present with a predominantly invasive understory of English Ivy and Himalayan Blackberry. Portions of landscape areas south of SR 520 which currently provide visual screening for adjacent residences will be impacted by clearing required for highway, off-ramp, utility, and path construction work.

Landscaping Goals and Requirements

North of SR 520, goals will be to provide trees and shrubs that provide trailside landscaping that functions well for user safety and trailside maintenance. South of the highway, existing trees will be retained where practicable, and new trees will be planted to continue to provide visual screening functions, and shrubs to establish native ground cover and provide trailside landscaping.

Montlake Interchange Area

The Montlake interchange area is approximately 1-acre consisting of primarily ornamental trees and shrubs remaining from the original 1960’s highway construction. Within the loop ramp, all vegetation except for two remaining Sweet Gum trees was cleared as a result of required construction disturbance for

the Montlake Project. West of the loop ramp, thickets of Himalayan Blackberry and patches of English Ivy hang from ornamental trees and have generally overtaken any remaining ornamental shrubs.

Landscaping Goals and Requirements

Portions of the loop ramp and areas west of the loop ramp will be utilized to provide canopy replacement for WSDOT right-of-way tree loss. Vegetation will be organized to screen the mainline from path connections and nearby residences. Lower story vegetation will be primarily evergreen to provide year-round driver guidance and screening of head light glare. New plantings will be a mix of native and adaptive ornamental species appropriate for clearance requirements along highways.

Portage Bay Shoreline Areas

This landscape management area is approximately 3-acres and is primarily comprised of critical areas, including lake fringe wetlands and wetland buffers south of SR 520 between the highway and Montlake Playfield as well as shoreline buffer areas north, south, and under SR 520 at the west side of Portage Bay. These areas will be impacted by temporary work trestles and permanent project construction of the new wider bridge, path and trail, and realigned off-ramps being constructed in these areas.

This area is primarily dominated by a woody deciduous canopy of Willow, Red-Twig Dogwood, Cottonwood, and Alder. Understory species include several invasive species including Yellow Sweet-Flag Iris, Purple Loosestrife, and Reed Canary Grass. Trees and large scrub shrub species not in direct conflict with temporary features such as work bridges may require clearance pruning or removal to provide operation of equipment on work trestles.

Landscaping Goals and Requirements

Clear delineation and protection of remaining vegetation, removal of invasive species and weed control, plantings of native tree and shrubs, and placement of habitat features will be done to improve habitat and water quality in these areas. Invasive species will be removed and managed as part of the restoration efforts. Restoration of these areas will comply with the various permits covering impacts to shorelines, wetland, critical areas, and each of their buffers.

Boyer Ave Hill Area

The Boyer Ave hill area is the approximately 4.5-acre area surrounding and under SR520 west of Portage Bay with critical areas on either side of Boyer Ave E extending west uphill to Delmar Dr E. West of Boyer Ave E these areas are on steep slopes which are considered unstable. Predominant species include Big-Leaf Maple, Alder, Cottonwood, and Bitter Cherry with a primary understory of Himalayan Blackberry. Construction of the bridge replacement and addition of structure supporting the regional shared use path will require removal of all trees and vegetation north and south of the highway.

Landscaping Goals and Requirements

Trees, shrubs, and vines will be planted in areas north and south of the bridge to provide visual screening functions for neighbors on all sides and regain lost canopy coverage to the maximum extent

possible. Plantings along with long-term erosion control measures will be implemented to provide slope stability.

Distinct areas below the bridge, notably between the Portage Bay Bridge abutment (pier 1) and approximately pier 2 and a small area around pier 3, will be landscaped with rock mulch to create visual buffer, discourage illicit use, and provide erosion control. Habitat logs and boulders will be placed in amongst the mulch areas. Elsewhere under the bridge where natural light and rainfall flow, short stature trees and a mixture of primarily native shrubs that have low light tolerance will be provided to aid erosion control.

North Capitol Hill Buffer

The North Capitol Hill Buffer area is composed of two 1.5-acre swaths of forested land on the south side of SR 520, bisected by 10th Ave E. The character of these areas is a mostly native mixed canopy layer of coniferous and deciduous trees including Douglas Fir, Big Leaf Maple, Vine Maple, and Red Alder, and a predominantly invasive understory of species such as English Ivy and Bindweed. The areas currently provide visual screening for adjacent residences. Steeper slopes west of 10th Ave E will be impacted by construction of retaining walls supporting the trail proposed to connect at Harvard Ave E. At the western most portion of this area, several large specimen oak trees are located in the tall grass area adjacent Harvard Ave E.

East of 10th Ave E, development of the Roanoke lid and associated local paths, sidewalks, and stairs will require fill to be placed throughout much of the area requiring removal of most trees in this area.

Landscaping Goals and Requirements

Landscape goals and requirements for this area should aim to protect vegetation to maintain the desired buffering qualities for adjacent residences. Removal of trees and vegetation buffering residences will be retained until vegetated areas are needed for construction activities. For steeper slopes west of 10th Ave E impacted by construction, long-term erosion control measures including replanting of native and ornamental trees and shrubs will be implemented to provide erosion control and slope stabilization. At the western most portion of this area, several large specimen Oak trees will be protected in place along with a general understory of grass or low stature groundcover.

Plantings will be designed east of 10th Ave E to provide privacy for neighbors and a green buffer enhancing the southern edge of the Roanoke lid open space. Trees, including Firs, Cedars, Pines, Maples, and Horse Chestnuts, close to the abutting residential and vacant parcels will be protected in place. A large Blue Atlas Cedar within a WSDOT-owned parcel will be protected in place. Where Federal Ave E intersects with this area, an open viewpoint will be maintained for users to look over and view the open space.

CPTED considerations in this area may require plants to be kept low near the open space, while taller fuller understory may be appropriate nearest residential parcels. Planting strategies may require adaptation over time to account for social aspects.

East Roanoke Street

The East Roanoke Street area runs from the east edge of I-5 to the intersection of E Roanoke St and 11th Ave E. Single family residences and the Roanoke Park border the area to the north, most of which serve as the southern interface of the Roanoke Park Historic District. Vegetation in this area is primarily composed of street trees, lawn, and planter strip shrub plantings.

About 2/3 of the trees within this area are within WSDOT right-of-way and have been or will be cleared by the SR 520/I-5 Express Lanes Connection Project. The remaining trees are within current City of Seattle right-of-way. Primary species observed include Big Leaf and Norway maples, Horse Chestnut, Katsura, Douglas Fir, Pine, Hawthorns, and Crabapple. Existing street trees in front of Fire Station 22 and west towards the I-5 off-ramp will likely require removal to allow for the widening of the sidewalk to serve both bicycles and pedestrians.

For construction of the Roanoke lid, full use of the area east of the fire station and between the south E Roanoke St curb line and highway will require removal of all trees. Local roadway realignments will require removal of trees closest to the 10th Ave E and E Roanoke St intersection, including several Birches in a planter strip fronting Roanoke Park and a Big Leaf Maple and Horse Chestnut northeast of the intersection of 10th Avenue E and E Roanoke St.

An existing City of Seattle 42” water line crosses underneath SR 520 and under Roanoke Park. Relocation of the waterline under SR 520 is required. While the relocation will not require removal of existing trees, including a grove of American Elm within Roanoke Park, water line work may occur within critical root zones of these trees, which are likely considered exceptional trees per SMC

Landscaping Goals and Requirements

Remaining trees within planter strips will be protected using City of Seattle best management practices, including tree protection fencing, mulching, and watering. Many trees may require corrective and clearance pruning and will be done in coordination with the City of Seattle. The project will utilize a Project Arborist to employ recommendations to protect roots within the critical root zones of the exceptional trees within Roanoke Park, including but not limited to, tunneling, steel matting, selective root pruning by a certified arborist, mulching, and watering.

Trees removed as part of the project within City of Seattle right-of-way and property will be cataloged and replaced at the required 2:1 replacement ratio. Trees will also be replanted both on the new Roanoke lid structure and north of the structure on grade. Table A depicts a conceptual list of acceptable street and back of sidewalk tree, shrub, and groundcover species have been coordinated with City of Seattle departments.

Table A - Plant List

	COMMON NAME
TREES	Slender Hinoki Falsecypress
	Kousa Dogwood
	Eddie's White Wonder Dogwood
	Rotundiloba Sweetgum
	Afterburner Blackgum
	Serbian Spruce
	Quaking Aspen
	Athena Elm
SHRUBS	Compact Strawberry Tree
	Dwarf Magellan Barberry
	Japanese Flowering Quince
	Boxleaf Hebe
	Oakleaf Hydrangea
	Compact Oregon Grape
	Japanese Mock Orange
	Mount Vernon Laurel
	Songbird Rhododendron
	Fragrant Sweetbox
	Birchleaf Spiraea
	Double Play Gold Spirea
	Upright Yew
GROUNDCOVER, GRASS & PERENNIALS	Blue Grama Grass
	Barrenwort
	Coast Strawberry
	Salal
	Hardy Geranium
	Coast Juniper
	Creeping Liriope
	Low Oregon Grape
	Mexican Feather Grass
	Fountain Grass
	Western Sword Fern

I-5 and SR-520 Interchange

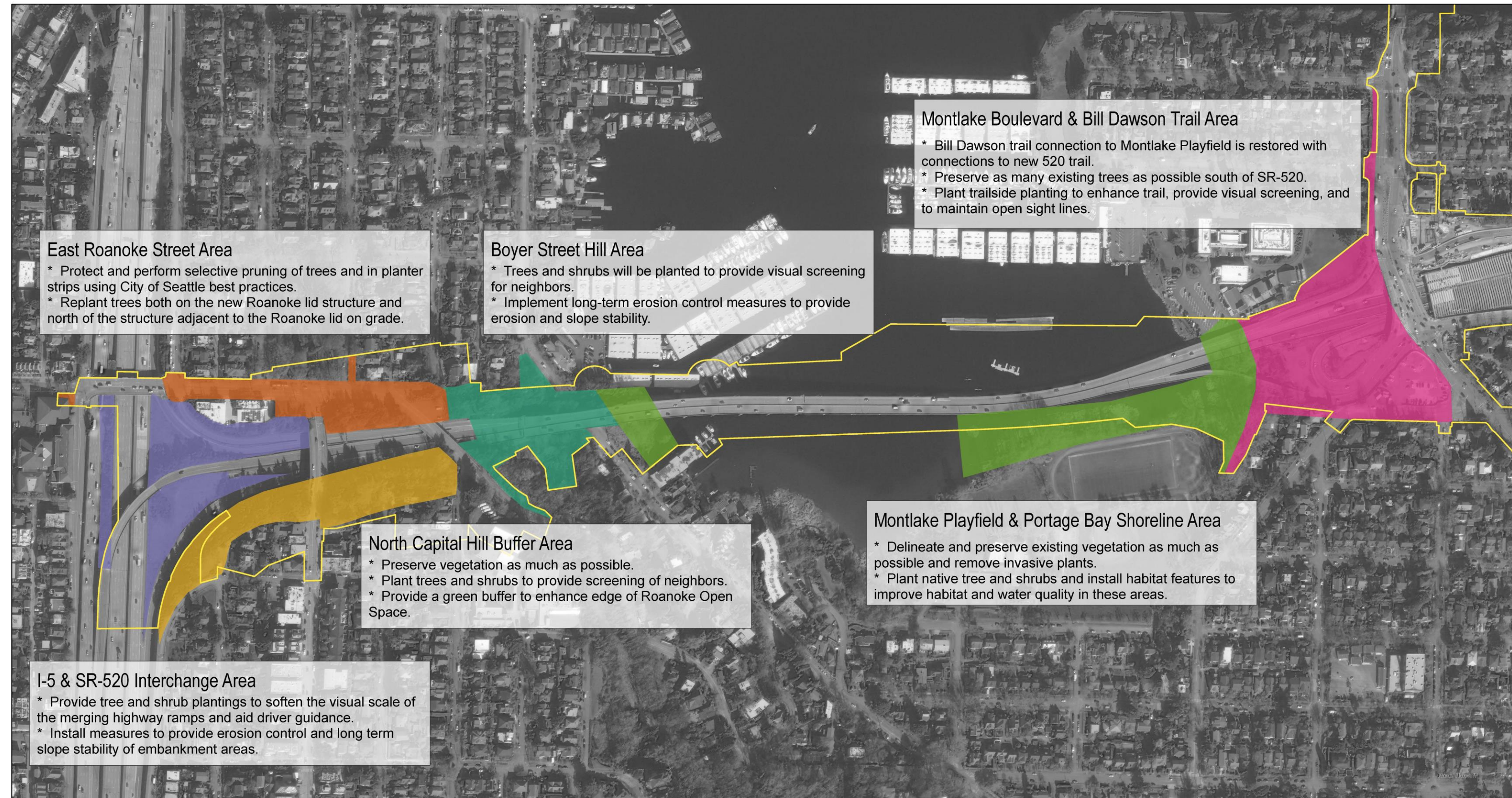
The I-5 and SR 520 interchange landscape area is approximately 4 acres, of which most tree and shrub area vegetation was removed as part of the SR 520/I-5 Express Lanes Connection Project. The SR 520 Portage Bay Bridge and Roanoke Lid Project will connect with new ramps and ramp alignments

constructed as part of the SR 520/I-5 Express Lanes Connection Project. Permanent landscape restoration will not be undertaken during the SR 520/I-5 Express Lanes Connection Project to allow use of these areas for construction and staging. Vegetation within this area was primarily grass with thickets of shrubs and a mix of planted and volunteer trees on the embankments adjacent to ramps transitioning up and down to the grade of each highway. Trees were also removed for construction of stormwater treatment facilities in the I-5 median area between the E Roanoke St overpass and the I-5 connection ramps.

Landscaping Goals and Requirements

The goal of the landscape within embankment areas and median of the interchange areas is to soften the visual scale of the merging highway facilities, help guide drivers, and provide long term slope stability of embankment areas. For steeper slopes, erosion control measures will be implemented to provide erosion control between construction phases. Planting of the median will entail planting of new trees, shrubs, groundcover, and seeding of the stormwater swale. While grass was previously part of the aesthetic of this interchange area, trees and shrub areas will be prioritized to maximize the tree canopy.

Exhibit A-1: Project Area Map and Management Areas



SR 520 - Portage Bay Bridge and Roanoke Lid Project
Tree and Vegetation Management and Protection Plan

June 2022

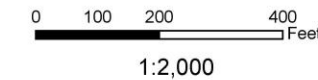


Exhibit A-2: I-5 Interchange, Roanoke, and Boyer Area Map



SR 520 - Portage Bay Bridge and Roanoke Lid Project
 Tree and Vegetation Management and Protection Plan

June 2022

- | | | | | |
|--|---|--|---|---|
| ■ Trees to remain on private property in Seattle jurisdiction | ▲ Other trees removed by project in Seattle Right of Way | ● Seattle Street Trees | □ Limits of Construction | ■ Area Regulated By SMC 25.09 Environmental Critical Areas Ordinance |
| ◆ Trees to remain in WSDOT Right of Way | ▲ Other trees to remain in Seattle Right of Way | ● Exceptional Trees | □ Seattle Right of Way | ■ 200 ft Shoreline Jurisdiction |
| ◆ Trees removed by project in WSDOT Right of Way | | □ WSDOT Right of Way | | |

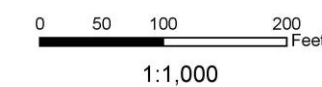
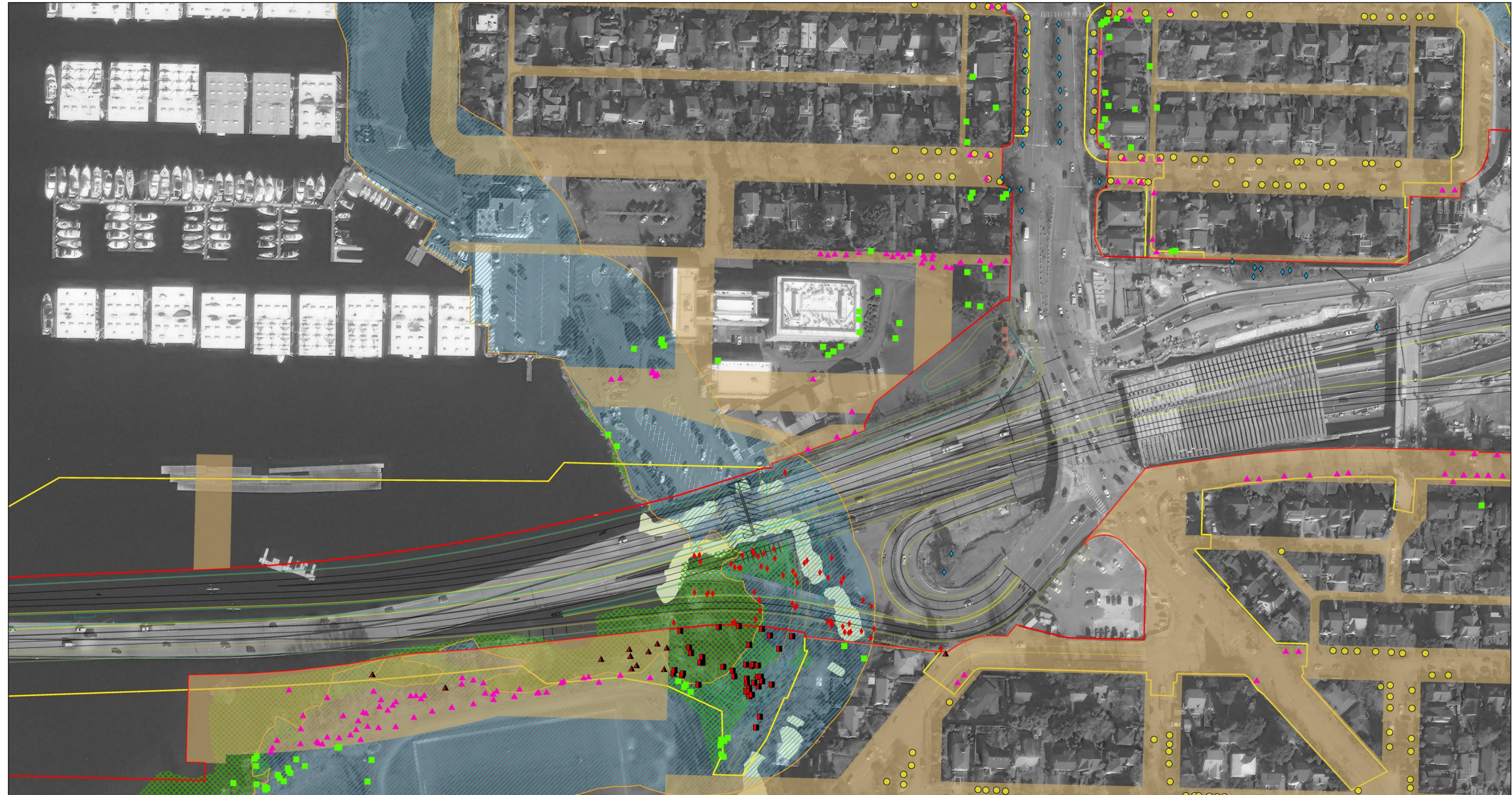


Exhibit A-3: Portage Bay and Montlake Area Map



SR 520 - Portage Bay Bridge and Roanoke Lid Project
Tree and Vegetation Management and Protection Plan

June 2022

- | | | | | |
|---|--|--|--|--|
|  Trees to remain on private property in Seattle jurisdiction |  Other trees removed by project in Seattle Right of Way |  Seattle Street Trees |  Limits of Construction |  Area Regulated By SMC 25.09 Environmental Critical Areas Ordinance |
|  Trees to remain in WSDOT Right of Way |  Other trees to remain in Seattle Right of Way |  Exceptional Trees |  Seattle Right of Way |  200 ft Shoreline Jurisdiction |
|  Trees removed by project in WSDOT Right of Way | |  WSDOT Right of Way |  Wetlands | |

