3.5 Wetlands

This chapter describes the existing wetlands in the study areas for the two project areas, including the potential for impacts to these wetlands. The land area within a quarter-mile of each of the site boundaries was selected as the study area for review of wetlands that could be impacted by development of the action alternatives (further described in Section 3.5.2.1). The environmental review determined that there would be no significant unavoidable adverse impacts to wetlands in the study area or down-basin from the Alternative 1 or Alternative 2 sites during construction or operation of any of the alternatives.

3.5.1 Regulatory Context

Wetlands are subject to a variety of federal, state, and local regulations that will apply to any future development or facility operation at the action alternative sites. Federal laws regulating wetlands include sections 404 and 401 of the Clean Water Act (United States Code, Title 33, Chapter 1344 and 1251 [33 USC 1344 and 1251]) and the Navigable Waters Protection Rule (33 CFR Part 328). Washington State laws and programs designed to control the loss of wetland acreage include the State Environmental Policy Act (SEPA) and Section 401 of the Clean Water Act (administered in Washington by Ecology, as mandated by the Washington State Water Pollution Control Act). In addition, Washington State laws include the state Hydraulic Code (Washington Administrative Code [WAC] 220-660), the Growth Management Act (GMA), and the Shoreline Management Act (SMA). City of Kirkland and City of Woodinville municipal codes specify wetland categories, required buffer widths, development standards, and mitigation requirements for critical areas in their jurisdictions. Federal, state, and county regulations require mitigation for impacts on wetlands.

3.5.1.1 Treaty Rights

The Washington Department of Fish and Wildlife (WDFW) coordinates with tribal governments when approving Hydraulic Project Approval (HPA) applications under the 1989 State/Tribal Centennial Accord and the 2012 State/Tribal Relations Act (Chapter 122, Laws of 2012). WDFW consults and cooperates with the Tribes consistent with their mission to protect, preserve, and enhance Washington's environment, and promote the wise management of Washington's land, air, and water for the benefit of current and future generations (WDFW 2023e). WDFW administers the HPA program under the state Hydraulic Code (WAC 220-660), which was specifically designed to protect fish life. An HPA is required for projects that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

As part of the Clean Water Act Section 404 process described below, the U.S. Army Corps of Engineers (USACE) coordinates with tribal governments when approving Nationwide Permit applications (see next section) and coordinates with tribal parties on any comments received as part of the permit approval process.

3.5.1.2 Federal Regulations

3.5.1.2.1 Clean Water Act Sections 404 and 401

Section 404 of the federal Clean Water Act regulates the placement or removal of soil or other fill, grading, or alteration (hydrologic or vegetative) in waters of the United States, including wetlands and streams (33 USC 1344). The Seattle District of the USACE administers the permitting program under the act. The permits include the Nationwide Permit (NWP), a general permit for projects involving small areas of fill, grading, or alteration, and individual permits for projects that require larger areas of wetland disturbance. The USACE does not regulate wetland buffers.

Section 401 of the Clean Water Act requires that proposed dredge (removal) and fill activities permitted under Section 404 be reviewed and certified to ensure that such activities meet state water quality standards. State 401 certification is administered by Ecology for all Section 404 permits. State 401 certification is granted without the need for a separate permit from Ecology for projects that qualify for a Section 404 NWP, meet specific 401 certification conditions of the NWP, and meet Ecology 401 General Conditions. If that is not the case, an Individual 401 Water Quality Certification permit is required by Ecology.

3.5.1.3 State Regulations

3.5.1.3.1 State Hydraulic Code (WAC 220-660)

WDFW administers the HPA program under the state Hydraulic Code, which was specifically designed to protect fish life. An HPA is required for projects that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state.

WDFW coordinates with tribal governments when approving HPA applications under the 1989 State/Tribal Centennial Accord and the 2012 State/Tribal Relations Act (Chapter 122, Laws of 2012), as described above in Section 3.5.1.1.

3.5.1.3.2 Growth Management Act and the State Environmental Policy Act

The Growth Management Act (GMA) is comprised of state statutes which require cities and counties to develop a comprehensive plan to manage population growth. The comprehensive planning process includes the prioritization of the environment through a goal stating that planning efforts must “protect the environment and enhance the state’s high quality of life, including air and water quality, and the availability of water. The State Environmental Policy Act (SEPA), enacted in 1971, outlines a process intended to ensure that environmental impacts are evaluated and disclosed during decision-making by state and local agencies. Environmental review is required for any proposal that involves a government action, as defined in the SEPA Rules (WAC 197-11) and that is neither statutorily nor categorically exempt from the threshold determination provisions of SEPA (RCW 43.21.c) (WAC 197-11-800).

3.5.1.3.3 Shoreline Management Act

The SMA (Chapter 90.58 RCW) requires local jurisdictions with shorelines to develop and implement Shoreline Master Programs. The SMA is intended "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." Shoreline jurisdiction includes all marine waters, streams, and rivers with greater than 20 cubic feet per second mean annual flow, lakes 20 acres or larger, upland areas called shorelands that extend 200 feet landward from the edge of these waters, biological wetland and river deltas connected to these water bodies, and some or all of the 100-year floodplain, including all wetlands.

3.5.1.4 Local Laws, Plans, and Policies

3.5.1.4.1 City of Kirkland

The City of Kirkland regulates critical areas under its jurisdiction including wetlands, streams, minor lakes, fish, and wildlife habitat conservation areas (FWHCAs), geologically hazardous areas, and frequently flooded areas (City of Kirkland Zoning Code [KZC] Chapter 85 and Chapter 90). In addition, KZC Chapters 85 and 90 specify exemptions, development standards, and permitting procedures for proposed modifications to critical areas and associated buffers. Those standards include provisions for mitigation sequencing requirements (e.g., impact avoidance, minimization, and rectification) and providing compensatory mitigation for unavoidable permanent impacts on critical areas.

Kirkland regulates wetlands and their buffers within its jurisdiction as critical areas (KZC 90.55). Wetlands help store and convey flood and storm water, support base stream flow and recharge groundwater, provide erosion control and shoreline protection, improve water quality, provide fish and wildlife habitat, and provide cultural and socioeconomic values. The primary purpose of wetland regulations is to achieve a goal of no net loss of wetland functions, value, and acreage, which, where possible, includes enhancing and restoring wetlands. Kirkland rates wetlands according to the Washington State Wetland Rating System for Western Washington: 2014 Update (KZC 90.55; Hruby 2014). Wetlands are rated as Category I, II, III, or IV, according to the level of function they provide and how highly they score on the Ecology wetland rating system; Category I denotes the highest level of function and Category IV the lowest. Standard buffer widths defined in KZC 90.55.1 are based on the wetland rating and habitat score.

3.5.1.4.2 City of Woodinville

The City of Woodinville) regulates wetlands, FWHCAs, geologically sensitive areas, frequently flooded areas, and critical aquifer recharge areas (CARAs) under its jurisdiction (City of Woodinville Municipal Code [WMC] Chapter 21.51). WMC standards also include provisions for mitigation sequencing requirements and providing compensatory mitigation for unavoidable permanent impacts on critical areas.

Woodinville regulates wetlands and their buffers within its jurisdiction as critical areas (WMC 21.51.300 through WMC 21.51.340). Woodinville also rates wetlands according to the Washington State Wetland Rating System for Western Washington: 2014 Update (WMC 21.51.300; Hruby 2014). Standard buffer widths defined in WMC Table 21.51.310(1) are based on the wetland rating and habitat score.

3.5.1.4.3 King County

King County regulates wetlands, aquatic areas (e.g., streams), wildlife habitat conservation areas, wildlife habitat networks, landslide hazard areas, seismic hazard areas, critical aquifer recharge areas and adjacent buffers within its jurisdiction, according to the King County Code (KCC) outlined in Title 21A. The proposed project alternatives are within the jurisdictions of the City of Kirkland and the City of Woodinville, but the KCC is summarized here for reference.

King County regulates wetlands and their buffers within its jurisdiction as critical areas (KCC 21A.24.318). In addition, KCC 21A.24.325 specifies exemptions, development standards, and permitting procedures for proposed modifications to critical areas and associated buffers. Those standards include provisions for mitigation sequencing requirements which are consistent with the previously described jurisdictions. King County rates wetlands according to the Washington State Wetland Rating System for Western Washington: 2014 Update (KCC 21A.24.318; Hruby 2014), also consistent with the previously described jurisdictions.

3.5.2 Affected Environment

3.5.2.1 Study Area

The land area within quarter-mile of each of the site boundaries was selected as the study area for review of wetlands that could be impacted by development of the action alternatives (Figure 3.5-1 and Figure 3.5-2). These areas were determined to be appropriate areas to account for all potential impacts from the action alternatives. Wetlands outside of the study areas are not anticipated to experience any effects from the proposed alternatives due to being a sufficient distance from the sites. There are no wetlands mapped within regulated shoreline in the proposed project alternative study areas.

3.5.2.2 No Action Alternative and Alternative 1

The site for the No Action Alternative and Alternative 1 is at 11724 NE 60th Street in Kirkland (Figures 2-2, 2-3 and 2-4). The site for the No Action Alternative and Alternative 1 includes a bioswale with a surface water connection to a contributing area of the existing Houghton RTS. Because this is a stormwater facility and not a mapped wetland, this feature is not discussed in this chapter despite its potential to provide habitat benefits. Although stormwater features can look and provide functions that are like those provided by wetlands, they are not regulated as wetlands by any regulatory body. Regulations that protect stormwater are described in Section 3.3, Water.

As part of maintenance work at the Houghton Closed Landfill, site visits were conducted to investigate any potential wetland areas at the Alternative 1 site on August 14 and September 3, 2024. Wetland biologists observed hydric soil indicators on the upper plateau area on top of the landfill cap. No primary indicators of wetland hydrology were observed during this time, so the initial site visits were inconclusive. Shallow groundwater monitoring then occurred in October and November of 2024 to evaluate the site for the presence or absence of wetland hydrology. Results did not indicate the presence of wetland hydrology in the area. Based on these investigations, the area in question does not fulfill the criteria for a jurisdictional wetland. As such, this area is not discussed further in this chapter. If a positive jurisdictional determination

of the potential wetland area is made in the future, King County would comply with all applicable environmental regulations.

The City of Kirkland maps a wetland in the central, western portion of the study area (see Figure 3.5-1). This wetland is mapped in an area of lawn with a forested perimeter. Yarrow Creek may include riverine wetlands, but these wetlands are presumed to be within the stream channel. As a result, this area is described in Section 3.3, Water, and Section 3.6, Vegetation, Fish, and Wildlife. The functions of wetlands within the channel will be adequately evaluated for impacts and described appropriately in the relevant chapters.

Legend

- Ditch
- Streams
- Waterbody
- Wetland (City of Kirkland)
- Stormwater Pond
- Bioretention Swale
- Alternative Location
- 0.25-mile Study Area

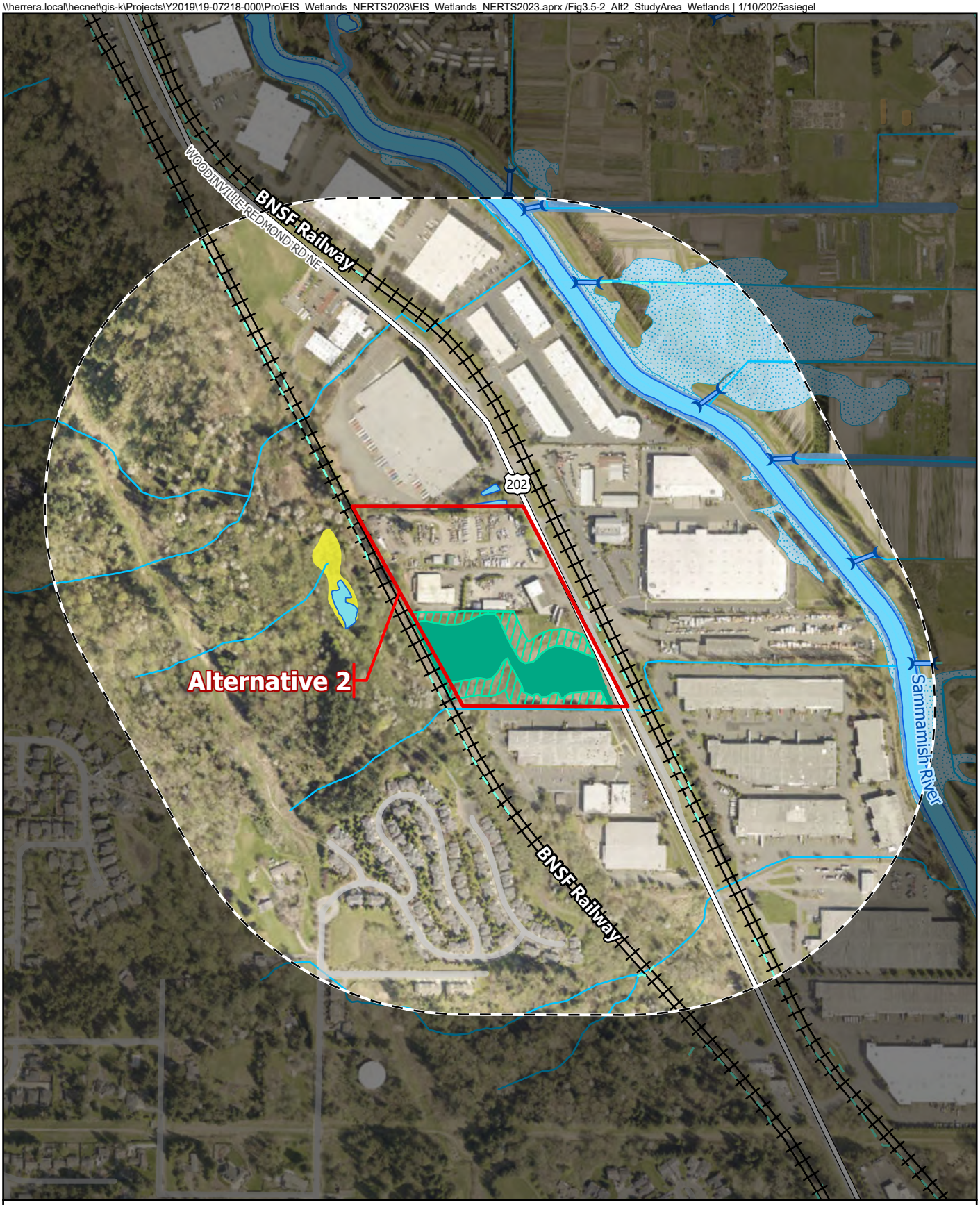
Figure 3.5-1. Study Area for Review of Wetlands for Action Alternative 1.

N
PLAN

SCALE: 1" = 850'-0"

0 425 850 Feet

King County



Legend

- Culvert
- Ditch
- Streams
- FEMA 100-Year Floodplain
- Waterbody

NWI Wetland

- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine Wetland

Delineated Wetands

- Wetland
- 79.8ft Wetland Buffer

- Alternative Location
- 0.25-mile Study Area

Figure 3.5-2. Study Area for Review of Wetlands for Action Alternative 2.

N
PLAN

SCALE: 1" = 850'-0"

0 425 850 Feet

King County

3.5.2.3 Alternative 2

The site for Alternative 2–Woodinville is located in the 15000 block of Woodinville-Redmond Road NE in Woodinville on six King County tax parcels 1526059086, 5711600010, 5711600020, 5711600030, 1526059094, and 1526059095 (Figure 2-5).

Biologists from Shockey Planning Group (SPG), Inc. delineated one wetland in the study area (Wetland A) on parcels 1526059094 and 1526059095 in 2012 (Shockey 2013). At that time, the wetland was approximately 1.0 acres (Shockey 2013). The City of Woodinville shows the location and extent of Wetland A, Alternative 2 on its critical areas map (City of Woodinville 2016). Over time, the presence, size, and category of the wetland may change. Wetlands are subject to change in response to disturbance, changes in hydrologic regimes, and other environmental factors. Due to the dynamic nature of wetlands, delineations are required to be conducted within a period of five years prior to any permit applications and proposed alterations (WMC 21.51.300(3)(c)). SPG rated Wetland A using the 2004 version of the Department of Ecology's *Washington State Wetland Rating System for Western Washington* (Hruby 2004).

SPG found that Wetland A originated from a groundwater seep in the northwest corner of Parcel 1526059094. The groundwater then flowed east across the properties, where it eventually exited the southeast corner of Parcel 1526059095 via a drainage ditch parallel to Woodinville-Redmond Road. The wetland was dominated by a hydrophytic, palustrine emergent plant community which included reed canarygrass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), common velvetgrass (*Holcus lanatus*), and tall buttercup (*Ranunculus acris*). Sitka willow (*Salix sitchensis*), hardhack (*Spiraea douglasii*), and Himalayan blackberry (*Rubus armeniacus*) were also present. Hydric soils were present and satisfied the criteria for the hydric soil indicator, Sandy Redox. SPG rated Wetland A as a Category IV wetland, which requires a 40-foot buffer width according to current standard buffer widths shown in WMC Table 21.51.310(1). Category IV is the lowest possible rating for wetlands, meaning this wetland provided the lowest level of hydrologic, water quality, and wildlife functions as defined by the rating tool when it was delineated in 2012.

Altmann Oliver Associates, LLC (Altmann) conducted an updated delineation of Wetland A on May 22, 2024 (Figure 3.5-2). Altmann included more area within Wetland A as compared to the 2012 delineation. Altmann categorized the wetland as a Category IV slope wetland. The King County SWD project team then conducted a peer review of the Altmann delineation. As part of that review, two biologists visited the site on October 30th, 2024. KCSWD Team biologists concurred with the wetland boundary identified by Altmann's delineation. KCSWD Team biologists observed small depressions (1 to 5 feet in diameter) within the wetland which trapped surface water. These features fulfill the criteria for a depressional hydrogeomorphic (HGM) wetland class. As a result, the KCSWD Team characterized Wetland A as a slope/depressional wetland, which requires use of the depressional wetland rating form (Hruby 2014).

Due to the difference in HGM class, the KCSWD Team conducted a revised wetland rating for Wetland A. According to the rating, the wetland is classified as a Category III wetland with a habitat score of 3. Per WMC 21.52.310(1), the standard buffer width of a Category III wetland is 60 feet. If the proposed project does not apply minimized impact standards (such as directing lights away from wetlands and locating

activity that generates noise away from wetlands) (WMC 21.51.310(2)), the buffer is increased by 33 percent, which results in a 79.8-foot buffer width. Altmann's report accurately reports a 10-foot building setback. Figure 3.5-2 shows the regulatory buffer for Wetland A. This buffer is trimmed to exclude existing paved surfaces which do not provide water quality, hydrology, or habitat functions of an intact buffer. Per WMC 21.51.310(4), existing roads or structures in buffers may result in a modification to the minimum required buffer width. This buffer width modification will be subject to City of Woodinville approval in the event the Alternative 2 site is selected and work within the buffer is proposed. Additional details on the KCSWD Team review of the Altmann delineation are included in the revised NERTS Critical Areas Assessment in Appendix D.

The National Wetlands Inventory (NWI) and the City of Woodinville map a wetland west of the railway line adjacent to the Alternative 2 site. The King County SWD Team biologists also observed these additional, forested wetland areas to the west of the railway line from offsite. These wetlands are up-basin of the project area.

The NWI also maps a freshwater emergent wetland on the eastern bank of the Sammamish River, along the southeastern boundary of the study area for Alternative 2 (USFWS 2023) (Figure 3.5-2). King County (2023) maps a riverine wetland between Woodinville-Redmond Road and the western bank of the Sammamish River. However, based on aerial imagery from 2021, the area mapped as wetland consists of impervious surfaces, industrial buildings, and associated infrastructure (King County 2023b). The Woodinville critical areas map depicts one wetland approximately 240 feet west of Parcel 5711600010 (City of Woodinville 2016). NWI also maps several riverine wetlands associated with streams throughout the study area. It is presumed that any wetland areas are within the stream channels for these streams. Impacts to these resources are therefore evaluated in the Water and Vegetation, Fish, and Wildlife Sections.

3.5.3 Environmental Impacts

3.5.3.1 No Action Alternative

This section describes the Alternative 1 and Alternative 2 sites under the No Action Alternative. Specific details for each action alternative site are discussed below.

3.5.3.1.1 No Action Alternative and Alternative 1 Site

3.5.3.1.1.1. Impacts from Construction

Under the No Action Alternative, no construction activities would occur on the existing Houghton RTS site other than occasional maintenance activities as needed. No direct construction impacts to existing wetlands are anticipated on or adjacent to the site.

Only minor maintenance and no major construction activities would occur under the No Action Alternative. No indirect impacts to existing wetlands are anticipated on or adjacent to the site.

3.5.3.1.1.2. Impacts from Operation

Under the No Action Alternative, continued use of existing stormwater management features on the existing Houghton RTS site may be subject to unmitigated discharges to the Kirkland stormwater system and ultimately Yarrow Creek and other down-basin wetlands, including the wetland mapped to the west of the project site within the study area. Furthermore, groundwater and stormwater quality may be impacted by spills, leaks, landfill gas, and/or leachate from the existing transfer station. It is expected that these direct operational impacts would be negligible since the existing transfer station would continue to comply with standard water quality permits, plans, and manuals. This compliance is designed to ensure the avoidance of down-basin impacts from operational activities.

3.5.3.1.2 Alternative 2 Site

3.5.3.1.2.1. Impacts from Construction

Under the No Action Alternative, no project-related activities would occur on or adjacent to the Alternative 2 site and the properties would continue their current uses. The properties could be subject to future development proposals, consistent with WMC. Because the site is zoned Tourist/Industrial (T/I zone), a range of potential facilities could be proposed which could seek to alter or impact existing wetlands. Without a specific proposal, future impacts associated with construction are uncertain.

Under the No Action Alternative, no construction activities would occur on the Alternative 2 site as part of project activities. On the southern parcels of the site, where wetlands are located, it is expected that these wetlands will continue to function in their current condition.

3.5.3.1.2.2. Impacts from Operation

Under the No Action Alternative, the existing businesses, including construction material vendors (Northwest Utilities, Inc., Appian Construction), appliance suppliers (Kemcor, Inc., Northwest Cascade Bathroom Supply Store), auto restoration (Racecraft), and aircraft processing (ASKO Processing) would remain in operation at the Alternative 2 site. There is the potential for these properties to change ownership, land use, or zoning in the future. However, it is expected that there would be minimal direct operational impacts to existing wetlands on or adjacent to the Alternative 2 site, presuming the commercial users follow applicable regulations to prevent impacts to wetlands from operational activities.

3.5.3.1.3 Mitigation Measures

Under the No Action Alternative, the existing Houghton RTS at the Alternative 1 site and the industrial facilities at the Alternative 2 site would remain in operation.

To avoid potential wetlands impacts from ongoing transfer station operations, King County SWD would implement best management and engineering practices during operations and maintenance of existing environmental control systems, including stormwater and surface water systems. These systems are designed to prevent down-basin pollution resulting from site operation. Additional detail is provided in Section 3.3, Water.

3.5.3.1.4 Cumulative Impacts

Under the No Action Alternative, the existing Houghton RTS would remain in operation. Since there would be no changes to existing operations of the Houghton RTS, no contribution to cumulative impacts to existing wetlands are anticipated on or adjacent to the existing site. Transfer station activities and operations would contribute incrementally to the cumulative overall past, present, and likely future impacts on wetlands in the region due to ongoing development within King County.

3.5.3.2 Impacts Common to All Action Alternatives

This section describes the potential impacts and mitigation measures associated with wetlands within the study areas of the action alternative sites that are common to all action alternatives. It assumes that well-proven engineering methods and techniques would be implemented to design, construct, and operate each of the action alternatives and that the appropriate mitigation sequencing procedures would be followed for all wetlands to avoid all significant impacts.

3.5.3.2.1 Impacts from Construction

Under all action alternatives, construction activities would occur and require coverage under Ecology's Construction Stormwater General Permit (CSWGP). Minimal construction impacts to existing wetlands are anticipated on or adjacent to the action alternatives. These construction impacts are described below.

3.5.3.2.1.1. Direct Impacts

Construction effects on wetlands and other sensitive resources would be avoided by using required sediment and erosion control BMPs to prevent pollutants from affecting down-basin critical areas, including wetlands. These BMPs ensure that water with sediment or other pollutants that may be generated from construction activities does not travel downgradient to wetlands, thus preventing direct impacts. These sediment and erosion control BMPs are required to comply with the 2021 King County Surface Water Design Manual (SWDM) Core Requirement #5. Core Requirement #5, Construction Stormwater Pollution Prevention (CSWPP), contains both Erosion and Sediment Control (ESC) measures and Stormwater Pollution Prevention and Spill (SWPPS) measures. A list of the 13 ESC measures included in the 2021 King County SWDM are included below:

- Clearing limits
- Cover measures
- Perimeter protection
- Traffic area stabilization
- Sediment retention
- Surface water collection
- Dewatering control
- Dust control

- Flow control
- Control pollutants (also see SWPPS measures below)
- Protect existing and proposed flow control BMPs
- Maintain BMPs
- Manage the project

These ESC measures must be considered at every County project site, including all the proposed NERTS action alternatives. Details of ESC standards can be found in the Appendix D of the 2021 King County SWDM (King County Construction Stormwater Pollution Prevention Standards).

Similarly, SWPPS measures must be considered at every County project site, including all the NERTS action alternatives. Details of SWPPS standards can be found in the Appendix D of the 2021 King County SWDM (King County Construction Stormwater Pollution Prevention Standards). A list of the six SWPPS measures are included below:

1. Follow effective pollutant handling and disposal procedures
2. Provide cover and containment for materials, fuel, and other pollutants
3. Manage the project site to maximize pollutant control and minimize pollutant sources
4. Protect from spills and drips of petroleum products and other pollutants
5. Avoid overapplication or untimely application of chemicals and fertilizers
6. Prevent or treat contamination of stormwater runoff by pH modifying sources

The 2021 King County SPPM also includes construction BMPs for commercial, industrial, agricultural, public, and residential properties with commercial activities. Three construction BMPs relevant to protecting wetlands on all action alternatives include the deconstruction or demolition of buildings and building repair, remodeling, and construction BMPs. If impacts occur despite avoidance measures and BMPs, King County will comply with the appropriate mitigation sequencing, which is further described in Section 3.5.4. Mitigation sequencing prevents significant impacts to the environment when followed correctly. With the use of ESC measures, SWPPS standards, construction BMPs, and mitigation sequencing, direct construction impacts are expected to be insignificant.

3.5.3.2.1.2. Indirect Impacts

For all action alternatives, indirect construction impacts could include noise from construction equipment or construction equipment tracking mud, which could potentially affect wildlife species and habitats and watershed health within the study areas. By following minimization standards (WMC 21.51.3010(2)) and using dewatering control ESC measures outlined above, indirect construction impacts are expected to be minimal. Again, these measures prevent any sediment-ridden water from traveling downgradient and into sensitive areas like wetlands, thus avoiding impacts from these activities.

3.5.3.2.2 Impacts from Operation

3.5.3.2.2.1. Direct Impacts

For all action alternatives, there is potential for light and noise disturbance, and surface water and stormwater pollution during routine operations. Light and noise disturbance can affect wildlife, which rely on wetlands and other sensitive areas for their life cycle. Impacts to wildlife are further discussed in Section 3.6, Vegetation, Fish, and Wildlife, of this EIS.

The increase in impervious surface areas from all action alternatives has the potential to impact wetlands down-basin from operational activities. Increased area of impervious surfaces and surface water pollution can generate polluted surface water flows which travel downgradient into wetlands.

There is potential for groundwater, surface water, and stormwater pollution during RTS operations. Sources of pollution may include, but are not limited to, the following:

- Refuse-impacted liquids leaking from waste receptacles, transfer trailers, or customer loads.
- Stormwater contact with refuse, dirt, grit, and/or dust derived from refuse handling or from litter.
- Exposure of stormwater to lubricants, fuels, tire particles, hydrocarbons, heavy metals, and other vehicle-associated pollutants as a result of road runoff, leaks, spills, and/or improper handling or storage.

Similar to the BMPs used during construction, design, and operations, source control BMPs would be used to avoid direct operational impacts from polluted surface waters, resulting in no significant impacts from operation. Design and operational source control BMPs may include, but are not limited to, the following:

- Brush barriers
- Buffer zones
- Inspections conducted by a certified erosion and sediment control lead
- Dust control
- Materials handling, storage, and containment procedures

BMPs are further described in the Washington Department of Transportation Temporary Erosion and Sediment Control Manual (WSDOT 2019).

3.5.3.2.2.2. Indirect Impacts

Current activities at the existing Houghton RTS in Kirkland and the industrial facilities at the Alternative 2 site have the potential to indirectly impact species and habitats adjacent to the action alternative sites.

It is expected that there would be an increase in traffic under all action alternatives, presenting a risk to local wildlife that utilize adjacent critical areas, including wetlands. The traffic poses a risk to wildlife traveling from one habitat patch to another, increasing the likelihood of mortality or injuries resulting from collisions with vehicles. The increase in traffic also has the potential to produce additional light, noise, and

pollutant loads in stormwater runoff, which could carry pollutants to downgradient habitats, including wetlands. Impacts to wildlife are further discussed in Section 3.6 of this EIS. BMPs are anticipated to avoid all significant negative impacts to wetlands from surface water flows.

3.5.3.2.3 Cumulative Impacts

Transfer station activities and operations would contribute incrementally to the cumulative overall past, present, and likely future impacts on critical areas in the region due to ongoing development within King County. Wetlands are a valuable ecological resource and any contribution to the reduction in overall wetland area should be avoided. Mitigation activities avoid long-term significant impacts if wetlands are disturbed, resulting in no significant cumulative impacts.

3.5.3.3 Alternative 1A

Impacts to critical areas under Alternative 1A includes the specific impacts listed below, as well as those that are common to all action alternatives.

3.5.3.3.1 Impacts from Construction

Because the development footprint is entirely within the existing property, no direct impacts to any wetlands, including the mapped wetland in the western portion of the study area, are anticipated. If existing waste areas are disturbed during construction, the appropriate environmental controls and BMPs will be used to contain any contamination in stormwater runoff, thus avoiding any down-basin contamination of wetlands. The handling of hazardous materials and surface waters are described in more detail in Section 3.4, Hazardous Materials, and Section 3.3, Water, respectively.

3.5.3.3.2 Impacts from Operation

Because the development footprint is entirely within the existing property, no additional direct impacts to wetlands are anticipated aside from those included under the 'Impacts Common to All Action Alternatives' Section. No impacts are anticipated to occur to down-basin wetlands or other waters, assuming the constructed project complies with requirements for design and operational source control BMPs.

3.5.3.3.3 Cumulative Impacts

Transfer station activities and operations would contribute incrementally to the cumulative overall past, present, and likely future impacts on wetlands in the region due to ongoing development within King County. Transfer station activities and operations would likely contribute incrementally to future impacts on wetlands in the region due to ongoing development within King County. Wetlands are protected by regulations listed in Section 3.5.1. Developers would be required to provide compensatory mitigation for unavoidable wetland impacts to ensure no net loss of wetland area or function. Mitigation activities avoid long-term significant impacts if wetlands are disturbed, resulting in no significant cumulative impacts.

3.5.3.4 Alternative 1B

Impacts under Alternative 1B are consistent with those described for Alternative 1A in Section 3.5.3.3.

3.5.3.5 Alternative 2

Impacts to wetlands under Alternative 2 include the specific impacts listed below, as well as those that are common to all action alternatives.

3.5.3.5.1 Impacts from Construction

Under Alternative 2, only minimal construction impacts to wetlands or wetland buffers onsite are anticipated. No impacts to offsite wetlands are anticipated. The project design will follow mitigation sequencing requirements to avoid and minimize impacts to wetlands to the greatest extent possible.

If unanticipated and unavoidable impacts result from construction activities, the appropriate mitigation measures will be taken to compensate for those impacts. See Section 3.5.4, Mitigation Measures, for more detail on mitigation. If mitigation measures are followed in accordance with critical areas requirements, all temporary and permanent impacts can be adequately compensated for so that the project results in no significant impacts to wetlands.

3.5.3.5.2 Impacts from Operation

Under Alternative 2, only minimal impacts to onsite wetlands are anticipated to result from the operation of the proposed facility, assuming the constructed project complies with requirements for design and operational source control BMPs. No impacts to offsite wetlands are anticipated. The project design will follow mitigation sequencing requirements to avoid and minimize impacts to wetlands to the greatest extent possible. If impacts are unavoidable, the appropriate mitigation measures will be taken to compensate for any impacts to wetlands, resulting in no significant impacts to wetlands.

3.5.3.5.3 Cumulative Impacts

Transfer station activities and operations under Alternative 2 are not anticipated to have significant cumulative impacts on wetlands. Future development within King County would likely contribute incrementally to small cumulative adverse impacts on wetlands. Wetlands are protected by regulations listed in Section 3.5.1. Developers would be required to provide compensatory mitigation for unavoidable wetland impacts to ensure no net loss of wetland area or function. Mitigation activities avoid long-term significant impacts if wetlands are disturbed, resulting in no significant cumulative impacts.

3.5.4 Mitigation Measures

No impacts to wetlands are anticipated as part of the No Action Alternative or Alternative 1. No significant impacts are anticipated as part of Alternative 2, but there is a wetland on the Alternative 2 site. Temporary disturbances to wetland or buffer vegetation could result from project construction access routes and staging areas. The project design team may also find it is impossible to accomplish project goals without

some impacts to the wetland, whether it be during construction or operation. If the project is unable to entirely avoid impacts to the wetland or its buffer, mitigation will be required.

WMC Chapter 21.51 specifies critical areas, required buffers, development standards, and mitigation requirements for critical areas in Woodinville. When an alteration to a wetland is proposed, such alteration shall be avoided, minimized, rectified, reduced, compensated for, and/or monitored as described in WAC 197-11-768. Woodinville designates a 60-foot buffer for Category III wetlands, such as the wetland on the Alternative 2 site. WMC 21.51.340 describes specific mitigation requirements for wetland and wetland buffers.

Any wetland mitigation measures would need to achieve equivalent or greater functions than the impacted wetland, including but not limited to habitat complexity and connectivity, flood reduction, and water quality improvement. When feasible, impacts should be mitigated on site (WMC 21.51.120(2)), and the wetland on the Alternative 2 site appears suitable for enhancement to improve conditions for all of those functions. If not feasible on-site, mitigation should occur within the same drainage basin as the impacts, so that ecological functions are replaced within the same system from which they were lost. Coordination with the City of Woodinville, the USACE, and Ecology would be required to ensure that any impacts were adequately mitigated for as part of project activities.

Mitigation efforts would need to be monitored after their construction for a pre-determined permit compliance period to ensure mitigation success. Through regular monitoring efforts, sites can be managed for an on-going basis, ensuring that any obstacles to the successful establishment of the site are proactively and adaptively managed. There is a risk that if not executed or maintained properly and in accordance with regulatory requirements, wetland mitigation activities would not adequately compensate for the loss of wetland functions resulting from the project. If pursuing a scenario in which wetland impacts occur, King County would guarantee a maintenance period adequate for establishment of the site, as would be required by permitting agencies.

Permanent signage and fencing may be required to delineate and protect the wetland and its buffer. Posting permanent signage and installing fences would protect plantings in natural habitat restoration areas from human activity. Ecological functions could be improved in upland areas by removing invasive plants and planting native vegetation. If mitigation occurs, a long-term management plan would be developed to meet requirements to ensure the project fulfills performance criteria which verify successful establishment of the site. If all required mitigation activities are performed, all significant impacts will be avoided.

3.5.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to wetlands are anticipated as part of any of the alternatives.