



Bus Rapid Transit

I-405 corridor

Hazardous Materials Technical Memorandum

September 2020

Consultant Quality Control Form

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Summary

This Hazardous Materials Technical Memorandum identifies potentially contaminated areas and sites of concern on or near the sites of the I-405 Bus Rapid Transit project components so that these areas can be avoided, or the effects of the contamination mitigated. This memorandum also identifies likely hazardous materials to be used and wastes to be generated during construction or operation of the project. This memorandum summarizes the research that was conducted to identify both current and historic land uses in the project vicinity with known or potential releases of hazardous materials. Mitigation measures to address potential adverse impacts are also identified, as appropriate.

The research identified that three of the project components (the Burien Transit Center and Roadway Improvements, Tukwila International Boulevard BRT Station and Roadway Improvements, and a portion of the South Renton Transit Center and Roadway Improvements) are in areas mapped by the Washington State Department of Ecology for predicted arsenic levels in soils that are above Model Toxics Control Act cleanup levels as a result of historic air pollution from a former copper smelter in Tacoma. The research also identified existing contamination on two project component sites: the Burien Transit Center and the proposed South Renton Transit Center. On the South Renton Transit Center site, the existing buildings were identified as a potential source of hazardous materials. Further evaluation of those buildings will be needed prior to demolition for the presence of hazardous materials such as lead paint, asbestos-containing building materials, underground fuel oil tanks, and mercury- or polychlorinated biphenyl-containing electrical components. Hazardous materials should be removed following Washington State Department of Ecology and Puget Sound Clean Air Agency rules and regulations prior to building demolition.

In addition, 22 sites of concern were identified within the one-eighth-mile study area around each of the seven project components. Based on the potential to encounter hazardous materials from these sites during construction, these sites were categorized as low, moderate, and high-risk sites of concern.

Prior to construction, procedures to identify, characterize, manage, handle, store, and dispose of contaminated soil and groundwater encountered during construction activities would be incorporated into project specifications. Best management practices for controlling hazardous materials during project construction (including those in the *Tacoma Smelter Plume Model Remedies Guidance*), operations, and maintenance would be implemented as part of the project, including commitments to adhere to applicable regulations. The project would also include measures called for in remediation plans for acquired properties with contamination. No long-term adverse impacts are expected to occur as a result of ongoing activities at the project components.

Table of Contents

1	INTRODUCTION.....	1
1.1	Overview	1
1.2	Purpose of technical memorandum.....	3
2	PROJECT DESCRIPTION.....	3
2.1	I-405 BRT operations	3
2.2	Project components.....	3
2.2.1	Burien Transit Center and Roadway Improvements.....	3
2.2.2	Tukwila International Boulevard BRT Station and Roadway Improvements	6
2.2.3	South Renton Transit Center and Roadway Improvements	8
2.2.4	Bellevue Transit Center and Off-site Layover	12
2.2.5	Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage ...	14
2.2.6	Brickyard Station and Roadway Improvements.....	17
2.2.7	Lynnwood City Center Transit Station BRT and Roadway Improvements	19
3	METHODOLOGY.....	23
3.1	Regulatory context	23
3.1.1	Federal	23
3.1.2	State	24
3.2	Study areas	24
3.3	Data sources	24
3.3.1	Geologic and groundwater review	25
3.3.2	Historic and existing land use review.....	25
3.3.3	Regulatory database evaluation	25
3.3.4	Site reconnaissance	26
3.4	Impact assessment	26
3.4.1	Construction impacts	26
3.4.2	Long-term impacts	27
4	EXISTING CONDITIONS.....	28
4.1	Regional geology, hydrogeology, and water supply	28
4.1.1	Burien and Tukwila study areas.....	28
4.1.2	Renton study area	28
4.1.3	Bellevue, Kirkland, and Bothell study areas	29
4.1.4	Lynnwood study area.....	29

4.2 Historic and existing land use review 29

 4.2.1 Historical regional contamination..... 29

 4.2.2 Historical records review..... 31

 4.2.3 Government environmental database findings 33

 4.2.4 Site reconnaissance 36

 4.2.5 Previous Environmental Site Assessments 37

5 ENVIRONMENTAL IMPACTS..... 46

 5.1 Construction impacts 46

 5.1.1 All project components 46

 5.1.2 Tacoma Smelter Plume 46

 5.1.3 Burien Transit Center and Roadway Improvements..... 49

 5.1.4 South Renton Transit Center and Roadway Improvements 49

 5.2 Long-term impacts..... 50

6 MITIGATION MEASURES..... 51

7 REFERENCES..... 52

Figures

Figure 1-1 I-405 Bus Rapid Transit Project 2

Figure 2-1 Burien Transit Center and Roadway Improvements..... 4

Figure 2-2 Tukwila International Boulevard BRT Station and Roadway Improvements 7

Figure 2-3 South Renton Transit Center and Roadway Improvements 9

Figure 2-4 Bellevue Transit Center and Off-site Layover..... 13

Figure 2-5 Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage 15

Figure 2-6 Brickyard Station and Roadway Improvements..... 18

Figure 2-7 Lynnwood City Center Transit Station BRT and Roadway Improvements 20

Figure 2-8 Lynnwood City Center Transit Station BRT and Roadway Improvements:
Poplar Way Loop Ramp Roadway Improvements..... 21

Figure 4-1 I-405 BRT Corridor and the Tacoma Smelter Plume Map..... 30

Figure 4-2 Hazardous materials release sites near the Burien Transit Center and
Roadway Improvements project component 38

Figure 4-3 Hazardous materials release sites near the Tukwila International Boulevard
Station BRT Station and Roadway Improvements project component..... 39

Figure 4-4 Hazardous materials release sites near the South Renton Park-and-Ride and Roadway Improvements project component 40

Figure 4-5 Hazardous materials release sites near the Bellevue Transit Center and Off-site Layover project component..... 41

Figure 4-6 Hazardous materials release sites near the Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage project component..... 42

Figure 4-7 Hazardous materials release sites near the Brickyard Station and Roadway Improvements project component 43

Figure 4-8 Hazardous materials release sites near the Lynnwood City Center Transit Station BRT and Roadway Improvements project component..... 44

Figure 4-9 Hazardous materials release sites near the Lynnwood City Center Transit Station BRT and Roadway Improvements project component: Poplar Way Roadway Improvements 45

Tables

Table 4-1 Leaking underground storage tank sites and hazardous material release sites 34

Table 5-1 Low, moderate, and high-risk sites near I-405 BRT project components 47

Appendices

Appendix A Photo Log Sheets

Appendix B EDR Reports (submitted separately as electronic files)

Acronyms and Abbreviations

BAT	business access and transit
BRT	bus rapid transit
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CFR	Code of Federal Regulations
Ecology	Washington State Department of Ecology
EDR	Environmental Data Resources, Inc.
ESA	Environmental Site Assessment
ETL	express toll lane
LUST	leaking underground storage tank
MTCA	Model Toxics Control Act
PAHs	polycyclic aromatic hydrocarbons
ppm	parts per million
Project	I-405 Bus Rapid Transit Project
SR	State Route
TSP	transit signal priority
TVM	ticket vending machine
USC	United States Code
USGS	United States Geological Survey
UST	underground storage tank
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

1 INTRODUCTION

1.1 Overview

The I-405 Bus Rapid Transit (BRT) Project would provide BRT service, primarily operating in managed and bus-only lanes within the I-405 and State Route (SR) 518 corridors for 37 miles between Lynnwood and Burien. The project alignment as well as proposed transit stations and park-and-ride garages are shown in **Figure 1-1**. The new BRT service is planned to operate as two high-capacity transit lines, inter-connecting at the Bellevue Transit Center near the future Bellevue Downtown Link light rail station. The north BRT line would operate between the Bellevue Transit Center and the Lynnwood City Center transit center, and the south BRT line would operate between the Bellevue Transit Center and the Burien Transit Center. Together, the I-405 BRT lines (north and south) would serve 11 stations, including one new transit center in Renton and one new park-and-ride garage in Kirkland. In addition, a park-and-ride lot would be constructed to increase park-and-ride capacity in the I-405 corridor (NE 44th Street, Renton).

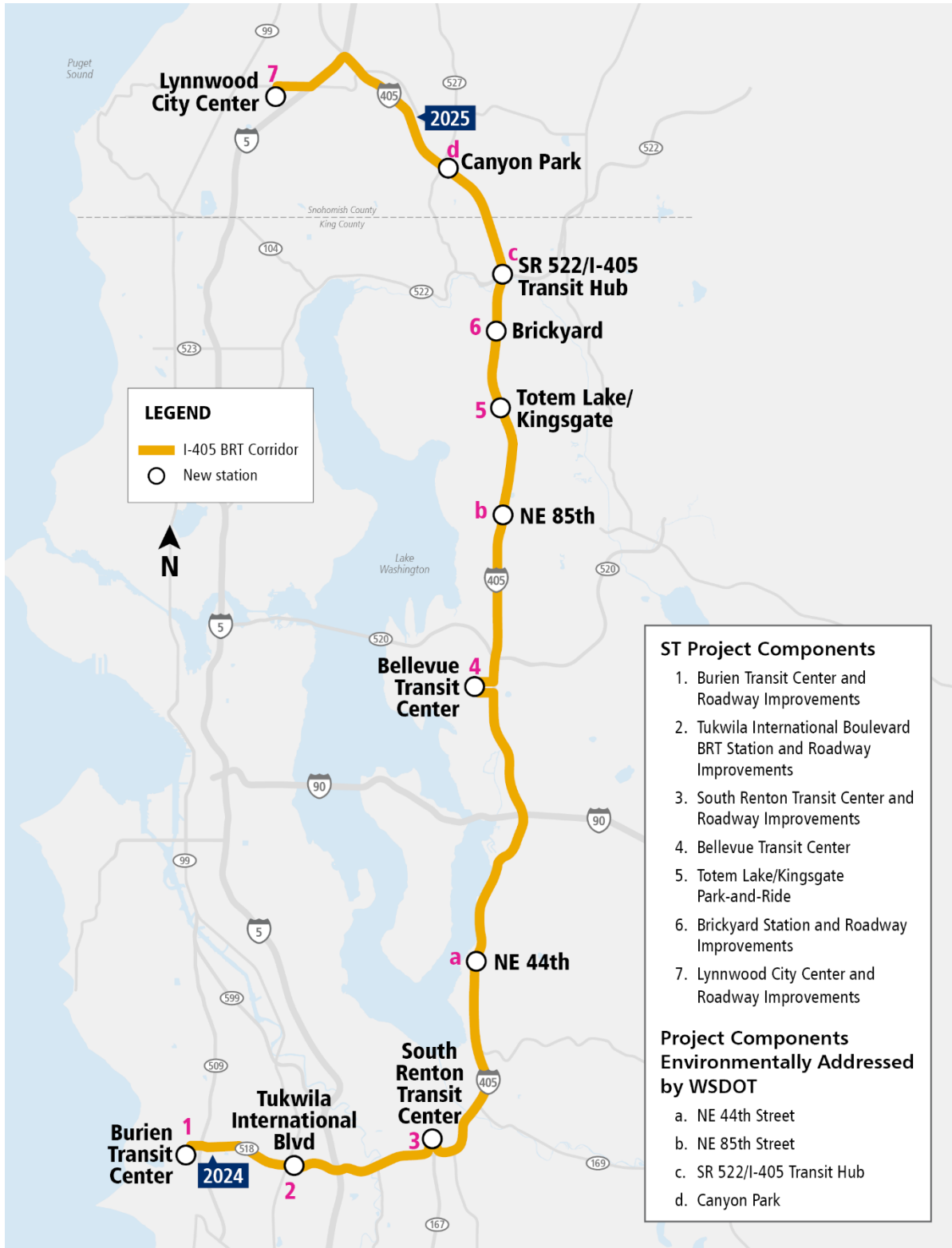
In large part, the project would operate in express toll lanes (ETLs) along I-405, including segments of existing ETLs and segments of ETLs that the Washington State Department of Transportation (WSDOT) will construct between Bellevue and Tukwila (WSDOT 2018) and between Canyon Park and Brickyard. Along SR 518, the project would operate primarily in general-purpose lanes, with bus-only lanes approaching and leaving the BRT station. Buses would move along local arterial roads to access transit facilities in Burien, Renton, Bellevue, and Lynnwood. It should be noted that WSDOT, in partnership with Sound Transit, has completed the environmental analysis, including evaluation of hazardous materials, for:

- NE 44th Street Station and Park-and- Ride
- NE 85th Street Station
- SR 522/I-405 Transit Hub
- Canyon Park Station

This document does not provide any additional information about these four locations.

Figure 1-1 shows all BRT project components, including the four locations with environmental analysis completed by WSDOT, for reference, and also shows the following project components for which Sound Transit is completing environmental analysis and which are discussed in this memorandum:

- Burien Transit Center and Roadway Improvements
- Tukwila International Boulevard BRT Station and Roadway Improvements
- South Renton Transit Center and Roadway Improvements
- Bellevue Transit Center and Off-site Layover
- Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage
- Brickyard Station and Roadway Improvements
- Lynnwood City Center Transit Station BRT and Roadway Improvements



SOURCE: Sound Transit 2019

Figure 1-1 I-405 Bus Rapid Transit Project

1.2 Purpose of technical memorandum

The purpose of this Hazardous Materials Technical Memorandum is to identify the following:

- Potentially contaminated areas or sites of concern on or within 0.125 mile of the I-405 BRT Project components (including associated roadway improvements, retaining walls, stormwater facilities, and fish passage culverts) so that these areas can be avoided or the adverse impacts of encountering or disturbing the contamination can be mitigated as needed; and
- Likely hazardous materials to be used and wastes to be generated during construction or operation and how those would be managed or addressed.

2 PROJECT DESCRIPTION

2.1 I-405 BRT operations

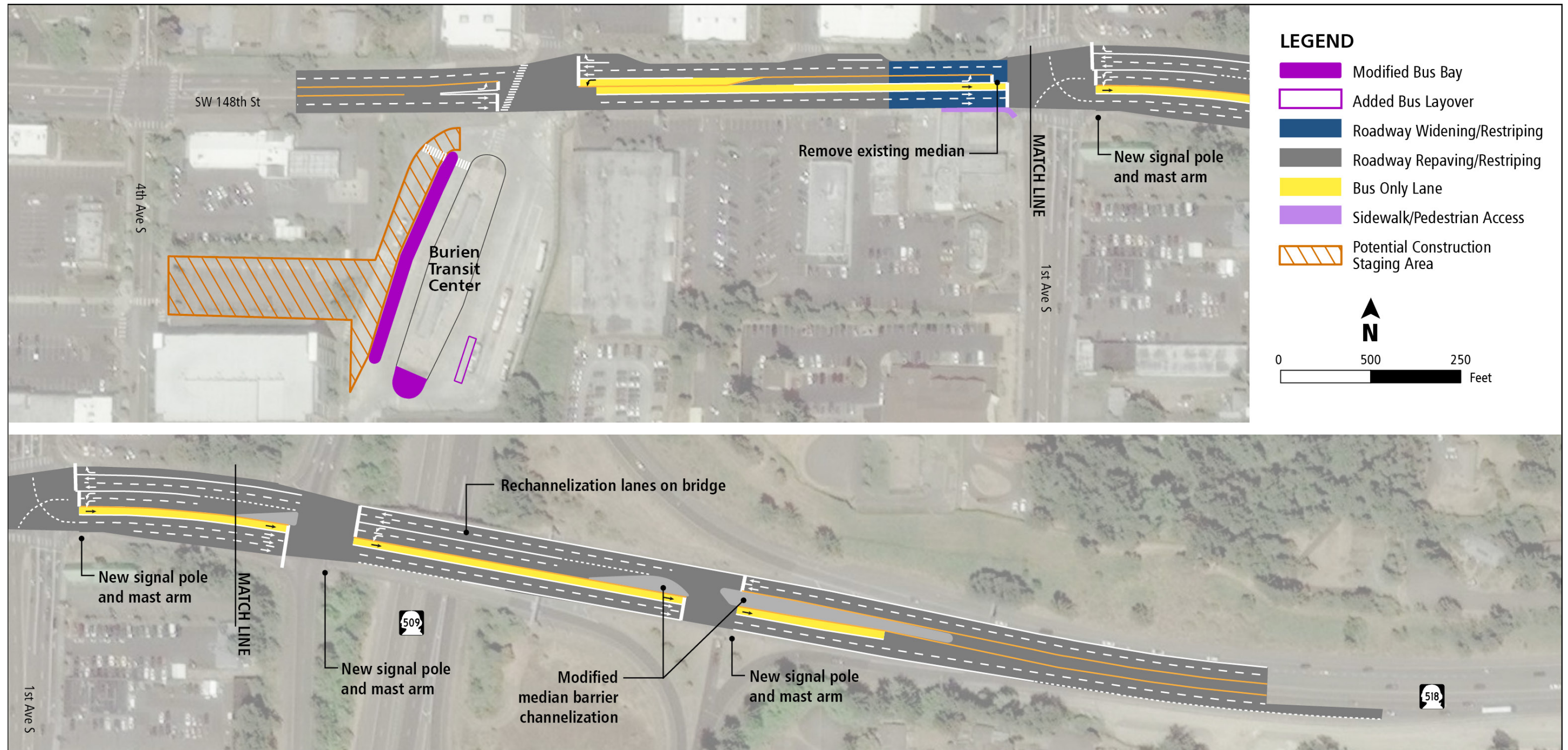
The new BRT service is planned to operate as two high-capacity transit lines, inter-connecting at the Bellevue Transit Center near the future Bellevue Downtown Link light rail station. The north BRT line would operate between the Bellevue Transit Center and the Lynnwood City Center transit center, and the south BRT line would operate between the Bellevue Transit Center and the Burien Transit Center. BRT service would have 10-minute headways during peak periods and 15-minute headways the remainder of the day and on weekends. Assuming a similar pattern to the Sound Transit Express and Sound Transit service standards, peak periods would be from 6 a.m. to 9 a.m. and from 3 p.m. to 6 p.m. on weekdays. During peak periods when travel time has more variation, the level of bus service could vary to maintain 10-minute headway service. The span of service would be 19 hours on weekdays and Saturday and up to 17 hours on Sundays.

2.2 Project components

All project components would include a proposed BRT-branded (Stride) uniquely identifiable pylon (decorative column) at the transit station to alert BRT riders to the service access point. The pylon may be internally illuminated to be identifiable in the evening and during hours of less light. In addition, all project components would likely include ticket vending machines (TVMs), security cameras, and real-time bus information signs at stations for passengers. These are considered to be standard elements for all project components.

2.2.1 Burien Transit Center and Roadway Improvements

Figure 2-1 provides a graphic representation of the proposed Burien Transit Center and associated roadway improvements.



SOURCE: Sound Transit 2020

Figure 2-1 Burien Transit Center and Roadway Improvements

To access the Burien Transit Center, westbound vehicles would turn left into the existing transit center driveway access, circulate south around the main transit center island and then west to the west transit center island. Within the Burien Transit Center, the existing main transit center island would be extended approximately 20 feet south to provide additional bus bay capacity; the height of this transit center island would remain at 6 inches. The west transit center island would be reconstructed to provide 9-inch-high platforms and would be lengthened to the south approximately 60 feet and to the north approximately 50 feet; the northern portion would also be shifted slightly to be angled to the east. The BRT service would use the northern portion of the west transit center island. The station would include a BRT-branded shelter and benches, in addition to the amenities at all project component stations.

New crosswalks may be added at the northern end of the west transit center island, one connecting the pedestrian path from the sidewalk on SW 148th Street to the west transit center island and a second extending east to connect to the main transit center island. The BRT vehicles would use the layover area in the Burien Transit Center. This project component may add one layover space to the southwest portion of the existing layover area. To exit the Burien Transit Center, BRT vehicles would circulate around the transit center islands to the existing driveway access and then turn right to travel eastbound on SW 148th Street.

To improve transit speed and reliability, a bus-only lane would be added east of the transit center entrance for eastbound buses along SW 148th Street that would extend east across the SR 509/SR 518 interchange and along SR 518 for approximately 400 feet. For westbound buses, a new bus-only left-turn pocket would be added beginning approximately 240 feet east of the transit center driveway access. Between 1st Avenue S and the Burien Transit Center, the bus-only lane and the bus-only left-turn pocket on SW 148th Street would be accommodated by converting the center two-way turn lane and, in the southeast section, slightly widening the existing roadway. Between the Burien Transit Center and 1st Avenue S, driveways would become right-in/right-out only. To accommodate the eastbound bus-only lane on the SR 518 bridge over SR 509, the existing lane striping would be rechannelized. Transit signal priority (TSP) would be added to the existing traffic signals at the intersection of SW 148th Street and 1st Avenue S, at the intersection of SW 148th Street and the SR 509 southbound on- and off-ramps, and at the intersection of SR 518.

2.2.1.1 Utilities and connections

Anticipated utilities needed to serve the BRT station include electric power, communications, and possibly water, which would be connected to utilities currently available in the transit center site or within SW 148th Street.

For this project component, all stormwater would be collected underground and detention would be provided as required. For the Burien Transit Center, flow control and water quality treatment would meet the requirements of the *King County Surface Water Design Manual* (King County 2016) and agreements between the King County Metro Transit Division, the property owner, and the City of Burien Public Works Department. Roadway modifications to SW 148th Street would comply with City of Burien requirements, which follow the *King County Surface Water Design Manual*, for flow control and water quality treatment. Stormwater facilities would ultimately tie into the existing conveyance systems. For the roadway modifications along SR 518, stormwater would meet the requirements of WSDOT's *Highway Runoff Manual* (WSDOT 2019) for flow control and water quality treatment. Stormwater facilities also would ultimately tie into the existing conveyance systems.

2.2.1.2 Site work

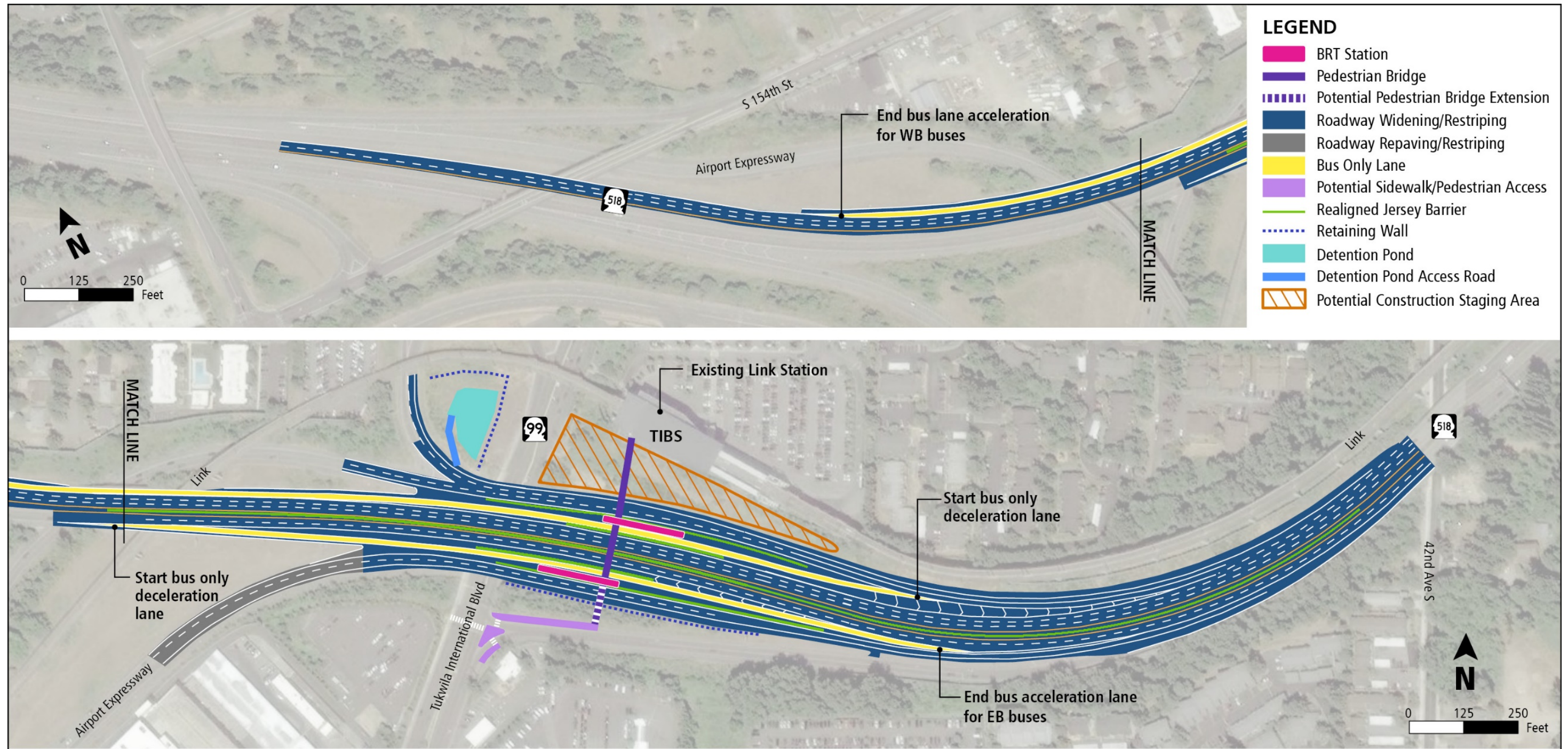
It is anticipated that the contractor would stage the necessary construction equipment and materials within the Burien Transit Center, including potentially using adjacent parking areas also owned by King County Metro.

2.2.2 Tukwila International Boulevard BRT Station and Roadway Improvements

Figure 2-2 provides a graphic representation of the proposed Tukwila International Boulevard BRT Station, the new pedestrian bridge, and associated roadway improvements. The proposed BRT station would be accessed by a new pedestrian bridge that would be constructed from the mezzanine level of the Tukwila International Boulevard Link light rail station and extended south across SR 518, connecting to the eastbound and westbound BRT station platforms. The walking surface of the pedestrian bridge would be level with the mezzanine floor level of the Link station and roughly level with the existing Tukwila International Boulevard bridge over SR 518. From the pedestrian bridge, access down to each BRT station platform would be provided by stairs and an elevator. The pedestrian bridge is also anticipated to extend to the south and connect at grade to an existing sidewalk on the eastbound on-ramp to SR 518 that connects to sidewalks on Tukwila International Boulevard.

The proposed BRT station (eastbound and westbound station platforms) would be located at-grade within the SR 518 right-of-way in an existing area between the SR 518 travel lanes and the on- and off-ramps to SR 518. In addition to the standard elements, the BRT station would include a branded shelter, benches, and raised platforms (approximately 9 inches) for level or near-level passenger boarding. Approaching both the east and westbound BRT station platforms, bus-only lanes would be added (for a total length of approximately 1,900 feet eastbound and 2,800 feet westbound) to allow BRT vehicles to safely decelerate to pick up/drop off at the station platform and accelerate from the station platforms and merge back onto SR 518 with general-purpose traffic. The addition of these bus-only lanes would require realigning the center jersey barrier, regrading, and repaving a portion of the existing SR 518 travel lanes and ramps to and from the interchange of SR 518 with Tukwila International Boulevard. In the westbound direction, the bus-only lane would also require widening the existing westbound SR 518 bridge that passes over the SR 518 off-ramp heading south to Airport Expressway.

A new retaining wall for fill would be constructed along the west side of the eastbound bus-only deceleration lane for approximately 900 feet, with a maximum fill elevation of 6 feet. On the south side of SR 518, adjacent to eastbound SR 518, there would be a new retaining wall for a length of approximately 730 feet, with a maximum height of 10 feet.



SOURCE: Sound Transit 2020

Figure 2-2 Tukwila International Boulevard BRT Station and Roadway Improvements

2.2.2.1 Utilities and connections

Anticipated utilities needed to serve the BRT station include electric power, communications, and possibly water, which would be connected to utilities currently available in or near SR 518 right-of-way.

Additionally, a stormwater detention facility would be constructed inside the westbound SR 518 off-ramp loop. The detention pond would include an adjacent retaining wall with a maximum height of 11 feet. Stormwater would be collected underground and detention would be provided as required. Flow control and water quality treatment would be provided as required by WSDOT's *Highway Runoff Manual* (WSDOT 2019), and stormwater facilities would ultimately tie into the existing conveyance systems.

2.2.2.2 Site work

During construction, dewatering is anticipated near the Tukwila International Boulevard BRT Station area for construction of new retaining walls.

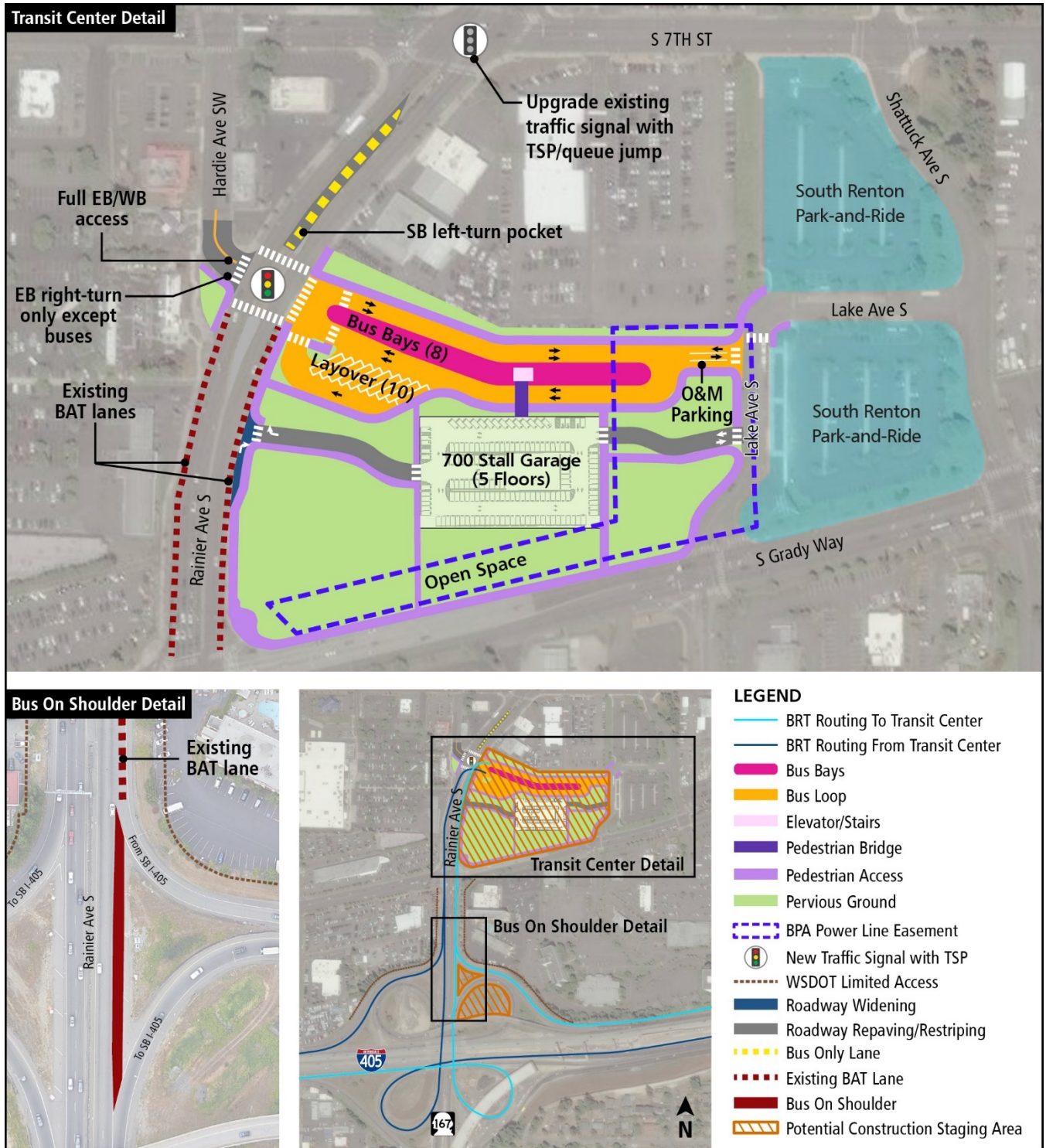
For this project component, the contractor would be expected to stage the necessary construction equipment and materials within the existing right-of-way for SR 518, likely in the area between westbound SR 518 and the existing Tukwila International Boulevard Link light rail station, outside of the active travel lanes and the on- and off-ramps.

2.2.3 South Renton Transit Center and Roadway Improvements

Figure 2-3 provides a graphic representation of the proposed South Renton Transit Center and Roadway Improvements.

The South Renton Transit Center would be located on the north side of I-405, in the northeast corner of the intersection of S Grady Way and Rainier Avenue S. This new transit facility would be developed on an 8.3-acre site. Facilities at the South Renton Transit Center would include the following:

- A new transit center island with eight 120-foot active bus bays with operational space provided for both BRT and other bus transit service (operated by King County Metro, with the assumption that they will use 6 active bays) using this facility. In addition to the standard elements, the BRT station in the transit center island could include a branded BRT shelter (if the entire transit center island is covered by a single, large shelter there would only be the pylon) and 9-inch raised platforms for near-level passenger boarding.
- Ten bus layover bays in the bus loop area.
- A 700-stall, 5-floor park-and-ride garage with drop-off and pick-up stalls on the first floor. Access to the park-and-ride garage would be from a separate right-turn-only entrance and exit from Rainier Avenue S, located south of the access to the transit center bus loop. A second access to the park-and-ride garage would be from Lake Avenue S; this access would not be restricted to right-in/right-out turns.



SOURCE: Sound Transit 2020

Figure 2-3 South Renton Transit Center and Roadway Improvements

- From the third floor of the park-and-ride garage, a pedestrian bridge would potentially connect the garage to a staircase and elevator connecting to the middle of the transit center island.
- Pedestrian access to the transit center site would be from the existing and reconstructed sidewalks along Rainier Avenue S and S Grady Way. A new sidewalk would be constructed along the eastern side of the transit center, along the frontage of Lake Avenue S. Pedestrian sidewalks would also be constructed within the transit center site along the north and south sides of the bus loop, from Rainier Avenue S and Lake Avenue S to the park-and-ride garage, from S Grady Way north into the site, and between the park-and-ride garage and the bus loop.

To access the South Renton Transit Center from I-405, BRT vehicles heading in a westerly direction (southbound) on I-405 would use the exit onto SR 167 N/Rainier Avenue S into an existing northbound, curbside business access and transit (BAT) lane. BRT buses would stay in the existing BAT lane across S Grady Way along Rainier Avenue S. BRT vehicles heading in an easterly direction (northbound) on I-405 would access the South Renton Transit Center using the existing exit onto SR 167 N/Rainier Avenue S. To improve transit speed and reliability, northbound BRT vehicles would use a new short section of a bus-only, bus-on-shoulder lane on northbound SR 167 that would be constructed starting at the existing loop ramp from SR 167 to southbound I-405 and extending north approximately 200 feet to connect with the existing BAT lane.

Once across S Grady Way, BRT vehicles heading northbound would turn right into the transit center's bus loop from a new signalized intersection at Rainier Avenue S and Hardie Avenue SW. This new intersection would also be the exit point for buses leaving the transit center and would be the primary ingress and egress location for the buses. Within this intersection, the existing raised, landscaped median in Rainier Avenue S would be removed to allow for turning movements, and crosswalks would be provided at each of the four roadway crossings. North of this intersection, the existing center median within Rainier Avenue S would be removed for a new southbound bus-only left-turn pocket that would allow buses to turn left into the transit center; a small section of a center median may remain at the southern end of the bus-only left-turn pocket. At the connection to Rainier Avenue S, Hardie Avenue SW would be reconstructed to realign the southbound lane adjacent to the northbound lane. This shift would require removing the northern portion of an existing raised, landscaped island. In place of the existing southbound lane on Hardie Avenue SW, a landscaped curb would be constructed, connecting with the remaining portion of the existing island. For general-purpose traffic, the southbound lane on Hardie Avenue SW would be right-turn only. Buses on Hardie Avenue SW would be able to travel through the intersection into the transit center.

A secondary bus access into the transit center's bus loop would be from the east side of the site from Lake Avenue S. This secondary access would also provide connectivity to the bus bays and layover spaces at the existing South Renton Park-and-Ride located just east of the South Renton Transit Center. Access from Lake Avenue S provides bus circulation and access from S Grady Way, Shattuck Avenue S, and S 7th Street. Parking for operation and maintenance vehicles would be located parallel to the Lake Avenue S access to the bus loop.

In the southern portion (adjacent to S Grady Way) and the eastern portion of the site (adjacent to Lake Avenue S) there is an existing Bonneville Power Administration power line easement. Along the south boundary, the easement is approximately 100 feet in width. In the eastern portion of the site the easement is approximately 200 feet in width. Prior to the start of

construction, Sound Transit would coordinate with the Bonneville Power Administration, and utility providers as needed, to ensure construction activities would not interfere with their facilities and service. Once constructed, the transit facilities would not alter, affect, or interfere with this existing 240 kilovolt transmission line across the site. The easement area under the transmission lines would primarily be green space (where existing pavement would be removed) or would consist of ground-level improvements, such as the driveway into the park-and-ride garage off of Lake Avenue S and the eastern portion of the transit loop. In addition, the existing sculpture located at the northeast corner of the intersection of Rainier Avenue S and S Grady Way, adjacent to the southwest corner of the transit center site, would remain.

BRT vehicles leaving the South Renton Transit Center would turn left onto Rainier Avenue S into an existing, southbound curbside BAT lane and then onto either northbound or southbound I-405 using existing on-ramps. Signal-timing improvements would be made, including adding TSP to the traffic signal at the intersection of S Grady Way and southbound SR 167 and at Rainier Avenue S and SW 7th Street.

2.2.3.1 Utilities and connections

Anticipated utilities to serve this project component include electric power (transmission and distribution), storm drainage, sanitary sewer, water, public agency telecommunications, and commercial telecommunications. Electric power and telecommunications would be tied into utilities currently available near the project component, such as either from S Grady Way or Rainier Avenue S. Electrical service would be coordinated with the local electrical service provider (Puget Sound Energy) who would extend service to the site. Construction within the existing power line easement would be limited to equipment that would not interfere with the high voltage, overhead power lines. Potential conflicts may exist between existing utilities and structure foundations, which would require relocating the existing utilities.

For this project component, stormwater within the transit center site would be collected underground and detention would be provided either above grade or below grade as required. Currently, three compost amended biofiltration swales are proposed on-site upstream of existing catch basins and would tie into the existing catch basins. Flow control and water quality treatment would be provided as required by the *City of Renton Surface Water Design Manual* (City of Renton 2017). Stormwater facilities would ultimately tie into existing conveyance systems. Within the Rainier Avenue S/SR 167 right-of-way, stormwater would be collected underground and detention would be provided either above grade or below grade as required. Flow control and water quality treatment would be provided as required by WSDOT's *Highway Runoff Manual* (WSDOT 2019), and stormwater facilities would tie into the existing conveyance systems.

2.2.3.2 Site work

For construction of the South Renton Transit Center, the contractor would likely stage the necessary equipment and materials on the site. For construction of the bus-on-shoulder lane along SR 167, the contractor may stage equipment and materials in the area to the east of SR 167, within the existing, unpaved right-of-way for I-405.

Dewatering is potentially anticipated at the South Renton Transit Center depending on the type of foundation used for the parking garage.

Prior to construction, the existing buildings on-site would be removed and properly disposed of and on-site remediation would be completed as identified in the Phase II Environmental Site Assessment (Shannon & Wilson 2018). The site would be cleared and graded as needed for the proposed transit center features and to provide adequate drainage.

Concrete paving would be used for all driveways and bus and large maintenance vehicle parking areas. Limited areas of asphalt paving would be provided in areas trafficked by personal vehicles. A retaining wall with a maximum height of 5 feet would be constructed along the northern edge of the site. The site would be equipped with lighting to support operations and as needed for security. Landscaping would be provided in designated areas and in accordance with City of Renton requirements, including regulations relating to maintenance and irrigation.

2.2.4 Bellevue Transit Center and Off-site Layover

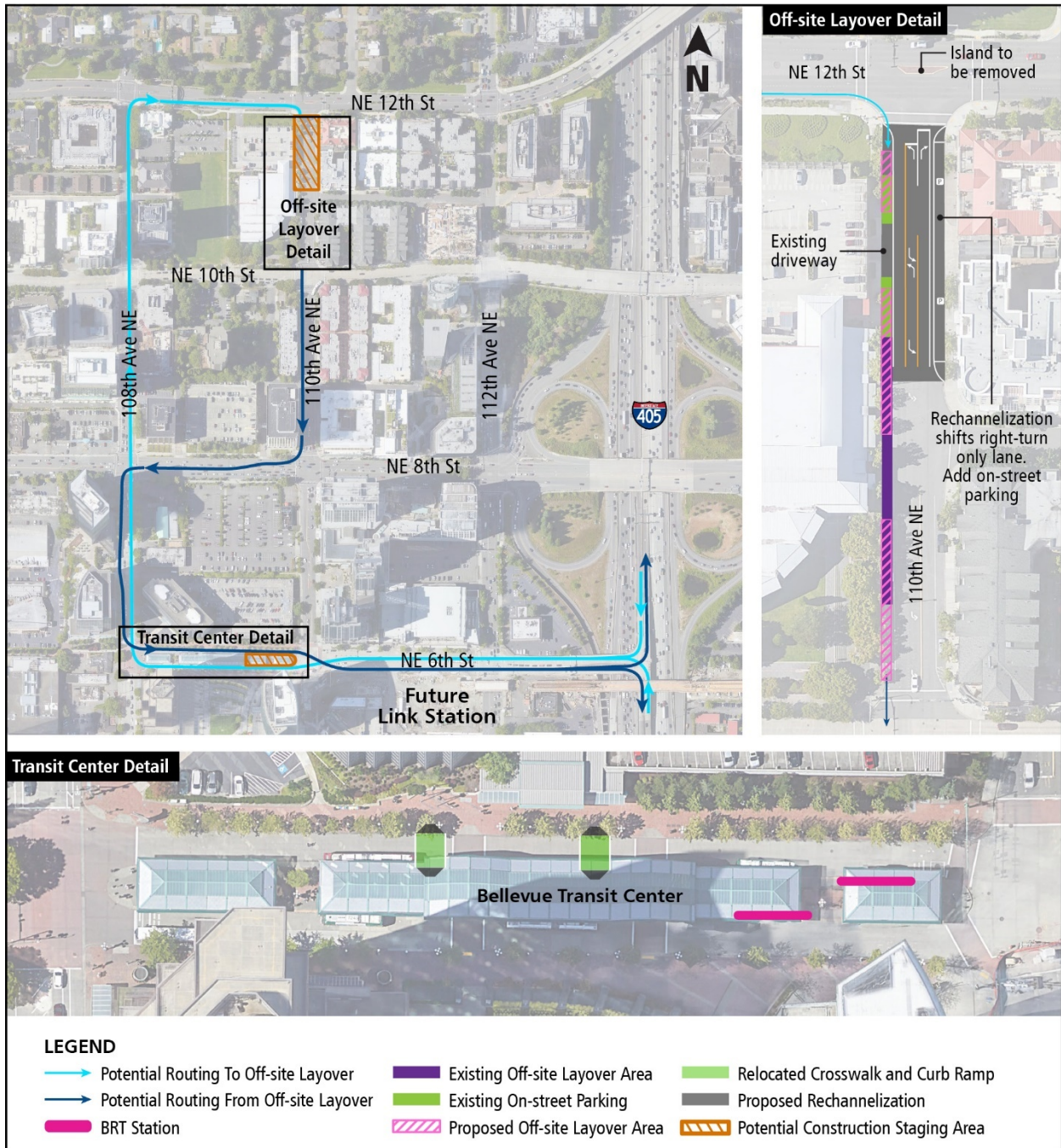
Figure 2-4 provides a graphic representation of the proposed Bellevue Transit Center improvements, off-site layover space, and potential BRT routing to and from the improvements and I-405.

At the Bellevue Transit Center, two existing bus bays would be modified with the standard station elements for the BRT service. The existing height of the transit center island would remain, as would the shelter over the transit center island; a BRT-branded pylon would be installed to identify the bays used for the BRT service. On the north side of the transit center island, two existing crosswalks across NE 6th Street would be relocated (shifted slightly west from their current locations). To maintain Americans with Disability Act accessibility at these relocated crosswalks, the existing curb ramps on the transit center island and on the north side of NE 6th Street would be re-graded. This regrading would be coordinated with the City of Bellevue's Downtown Bellevue Exceptional Intermodal Connections project to raise the intersections east and west of the transit center (City of Bellevue 2020).

The BRT vehicles would have on-street layover along 110th Avenue NE in front of the Bellevue Library, which is less than one-half mile north of the transit center. To access the layover space from the transit center, BRT vehicles would be anticipated to turn right onto 108th Avenue NE, then right onto NE 12th Street, and then right onto 110th Avenue NE.

In the northern portion of 110th Avenue NE, the roadway cross-section would be modified. On the west side of 110th Avenue NE the existing on-street parking would be removed to provide additional bus layover capacity north and south of the existing driveway into the library parking garage. The one existing southbound through lane would remain. In the northbound direction, the rechannelization includes shifting the right-turn-only lane slightly west to provide on-street parking spaces along the east side of the street to replace what was removed along the west side of the street. Through re-striping, the existing painted median would be replaced with a left-turn-only pocket from 110th Avenue NE to NE 12th Street. No changes to the existing sidewalks are proposed. The existing raised island in the middle of the intersection of 110th Avenue NE and NE 12th Street would be removed. In the southern portion of 110th Avenue NE, the existing bus layover space just north of NE 10th Street would remain.

From the layover space, BRT vehicles would be anticipated to access the Bellevue Transit Center by heading south on 110th Avenue NE, turning right onto NE 8th Street, left onto 108th Avenue NE, and then left onto NE 6th Street into the transit center.



SOURCE: Sound Transit 2020

Figure 2-4 Bellevue Transit Center and Off-site Layover

2.2.4.1 Utilities and connections

Anticipated utilities needed to serve the BRT station include electric power, communications, and possibly water, which would be connected to utilities currently available in the transit center site.

For this project component, flow control and water quality treatment would be provided as required by the City of Bellevue. Stormwater would ultimately tie into the existing conveyance systems. For the work at the Bellevue Transit Center, the contractor would likely stage the necessary equipment and materials all within the existing transit center.

2.2.4.2 Site work

For the layover area, construction staging would be expected within the existing right-of-way for 110th Avenue NE. Off-site staging areas are not anticipated.

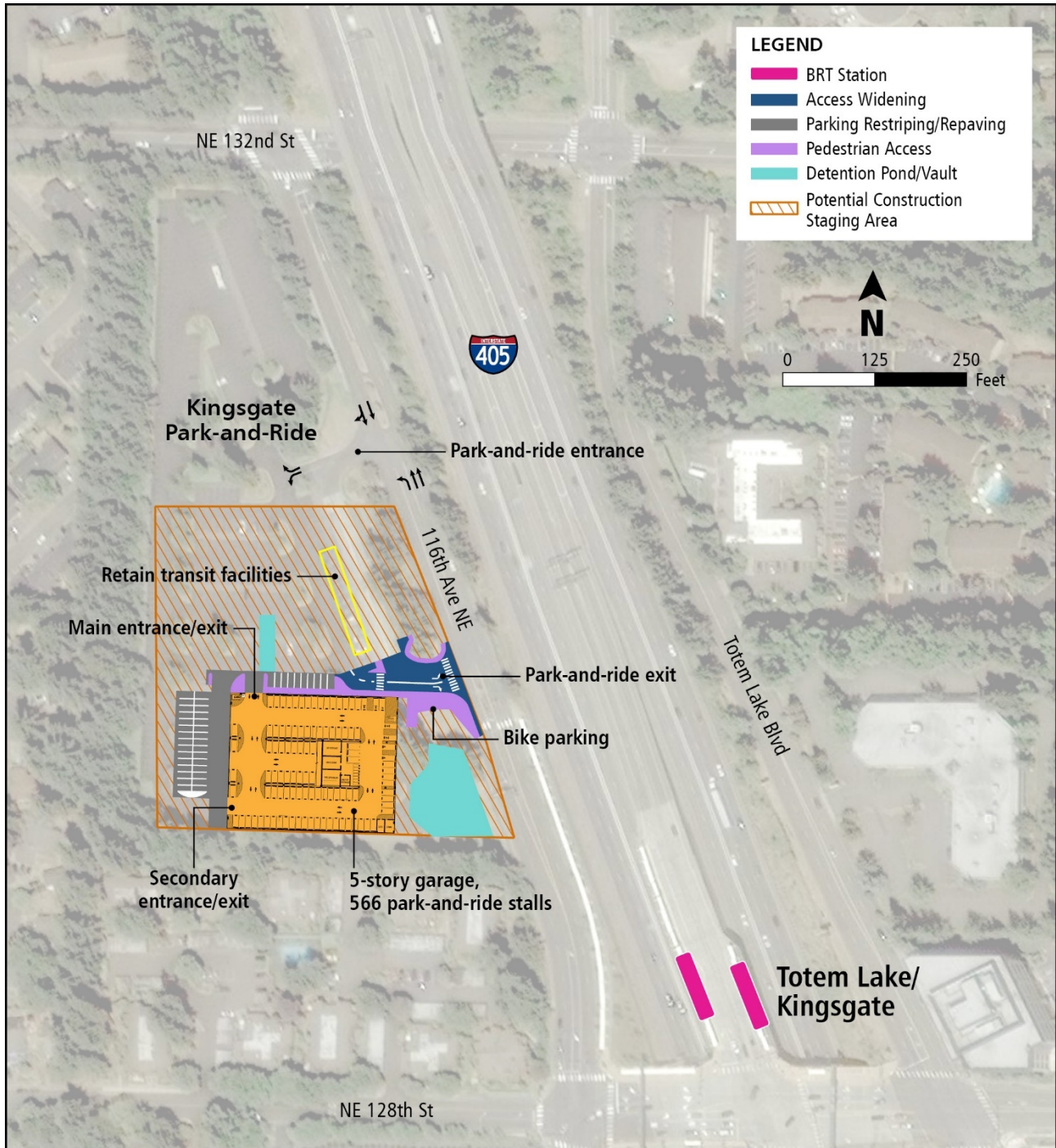
2.2.5 Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage

Figure 2-5 provides a graphic representation of the proposed Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage.

The existing Totem Lake Freeway Station is located on the in-line direct access ramps that extend from the center of I-405 up to the NE 128th Street overcrossing of I-405 (on the north side of NE 128th Street). For the Totem Lake/Kingsgate BRT Station, one bay of each existing station pair would be transformed into a BRT station with the standard station elements. TVMs may be installed at the station platform or they may just be located at the Kingsgate Park-and-Ride Garage. At this station, the existing 6-inch height of the platforms and the existing shelter over the station platforms would remain. TSP would be added at the intersection of the in-line ramp terminal and NE 128th Street.

The existing Kingsgate Park-and-Ride lot is located west of the Totem Lake/Kingsgate Station along 116th Avenue NE. The Kingsgate Park-and-Ride site is approximately 8 acres in size and consists of 502 surface park-and-ride spaces and an existing bus transit loop currently used by Sound Transit express routes, several King County Metro routes, and one Community Transit route. The site is owned by WSDOT, considered to be right-of-way for I-405, and is operated and maintained by King County Metro.

This project component includes adding 400 park-and-ride spaces at the Kingsgate site by constructing a garage structure in the southern portion of the existing surface park-and-ride lot to create a total of approximately 900 park-and-ride spaces on the site. Sound Transit would construct a 5-story park-and-ride garage with approximately 566 park-and-ride stalls. The 566 park-and-ride stalls would replace 166 surface park-and-ride spaces that would be displaced by the garage and would provide an additional 400 park-and-ride spaces. The park-and-ride garage would be equipped with lighting to support operations and as needed for safety and security. Landscaping would be provided in designated areas in accordance with City of Kirkland and Sound Transit requirements, including maintenance and irrigation. Security cameras are anticipated to be used in the vicinity of the garage structure.



SOURCE: Sound Transit 2020

Figure 2-5 Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage

Access to the Kingsgate site would continue to be through two driveways from 116th Avenue NE, and the existing on-site circulation would not change. The northern driveway along 116th Avenue NE would remain as is and would continue to be the only entrance to the park-and-ride lot, with vehicles southbound on 116th Avenue NE turning right and vehicles northbound on 116th Avenue NE turning left. To access the park-and-ride garage, vehicles from 116th Avenue NE would use this northern driveway and then circulate through the surface park-and-ride aisles to the main garage entrance/exit on the northwest corner of the structure or the secondary access on the southwest corner of the structure.

Vehicles exiting the garage would turn right immediately past the proposed single row of park-and-ride stalls located along the northern side of the garage, drive along the aisle, and exit the site using the southern driveway to 116th Avenue NE. The existing southern driveway would be shifted slightly north to accommodate the garage structure. This shift in the driveway location would result in a slight modification to the existing bus loop, located just north, that uses this driveway. The existing bus loop would remain on-site. The two lanes of this driveway would continue to be one right-turn-only and one left-turn-only to exit the site. Asphalt paving would be provided in areas trafficked by personal vehicles. Additional work within the Kingsgate site includes providing sidewalks for pedestrian access from 116th Avenue NE along the north side of the garage to the main entrance. This sidewalk would connect to the existing crosswalk across 116th Avenue NE to the covered walkway along the east side that continues south and then east to connect to the Totem Lake/Kingsgate Station.

2.2.5.1 Utilities and connections

Anticipated utilities to serve this project component include electric power (transmission and distribution), storm drainage, sanitary sewer, water, public agency telecommunications, and commercial telecommunications. Electric power and telecommunications would be tied into utilities currently available near the project component. Electrical service would be coordinated with the local electrical service provider (Puget Sound Energy) who would extend service to the site from 116th Avenue NE. Potential conflicts may exist between existing utilities and the proposed garage structure foundation, which would require relocation of the existing utilities.

For this project component (both the Totem Lake Station and the Kingsgate Park-and-Ride Garage), stormwater would be collected underground and detention would be provided either above grade or below grade as required. Stormwater management facilities would include modifications to the existing detention pond in the southeast corner of the site, a bioretention swale along the south side of the garage, and a detention vault that would be located underground, below the surface park-and-ride stalls (**Figure 2-5**). Flow control and water quality treatment would be provided as required by WSDOT's *Highway Runoff Manual* (WSDOT 2019). Stormwater would ultimately tie into the existing conveyance systems.

2.2.5.2 Site work

For the work at the Totem Lake Station and the Kingsgate Park-and-Ride, the contractor would likely stage the necessary equipment and materials on the Kingsgate site. The Kingsgate Park-and-Ride lot was constructed with Federal Highway Administration funds. A requirement of this funding is to maintain the existing 502 park-and-ride stalls associated with the lot. During construction of the Kingsgate Park-and-Ride Garage, a number of the existing surface stalls within the footprint of the garage and areas needed for construction staging would be inaccessible. Prior to construction, nearby temporary parking spaces would be identified for use

as temporary replacement parking during construction. These temporary parking spaces are anticipated to be from existing, nearby properties with underused parking that could be leased through temporary construction easements.

Prior to construction, the southern portion of the Kingsgate Park-and-Ride lot where the garage would be located would be cleared of existing trees/vegetation and pavement, and would be graded as needed for the garage structure and the drainage vault. The existing trees along the southern and western site boundary would remain, as would the existing raised berm along the western site boundary.

Concrete paving would be used for all driveways and bus and large maintenance vehicle parking areas. Asphalt paving would be provided in areas trafficked by personal vehicles. The park-and-ride garage would be equipped with lighting to support operations and as needed for safety and security. Landscaping would be provided in designated areas in accordance with City of Kirkland requirements, including maintenance and irrigation.

2.2.6 Brickyard Station and Roadway Improvements

Figure 2-6 provides a graphic representation of the proposed Brickyard Station, the new pedestrian bridge, and associated roadway improvements.

The proposed new BRT station (northbound and southbound station platforms) would be located at-grade within the center of the I-405 roadway and right-of-way. A bus-only lane would be added in both the northbound and southbound direction (for a total length of approximately 4,000 feet southbound and 3,000 feet northbound), to allow BRT vehicles to safely decelerate to pick up/drop off at the BRT station platform and to accelerate from the station platforms and merge into I-405 traffic. The addition of these northbound and southbound bus-only lanes and the BRT station platforms would require realigning and widening the existing I-405 roadway to the east and west. The BRT station would include a branded shelter, benches, and raised platforms for level or near-level passenger boarding, in addition to the standard elements.

A pedestrian bridge over I-405 would connect the two BRT station platforms and would connect the BRT station to the Brickyard Park-and-Ride lot to the west. Between the I-405 roadway surface and the bottom of the pedestrian bridge, the proposed vertical clearance would be approximately 17.5 feet. From each BRT station platform, access to the pedestrian bridge would be provided by stairs and at least one elevator. Stairs and an elevator would be provided from the pedestrian bridge to access the Brickyard Park-and-Ride lot. Although funding is not currently available, WSDOT, Bothell, Kirkland, and Sound Transit are currently considering an extension of this pedestrian bridge to the east side of I-405, with a stairway and ramp, and possibly an elevator, connecting to 116th Avenue NE.



SOURCE: Sound Transit 2020

Figure 2-6 Brickyard Station and Roadway Improvements

2.2.6.1 Utilities and connections

Anticipated utilities needed to serve the BRT station include electric power, public agency telecommunications and commercial telecommunications, and water, which would be tied into utilities currently available near the project component.

Stormwater would be collected underground and detention would be provided as required. Flow control and water quality treatment would be provided as required by WSDOT's *Highway Runoff Manual* (WSDOT 2019), and stormwater facilities would ultimately tie into the existing conveyance systems. Near the BRT station platforms, where the I-405 widening would be greatest, new noise walls may be needed along the east side of I-405. New retaining walls would be constructed along the east and west sides of I-405 for approximately 1,110 feet in the northbound direction and 465 feet in the southbound direction, with a maximum height of 6 feet.

2.2.6.2 Site work

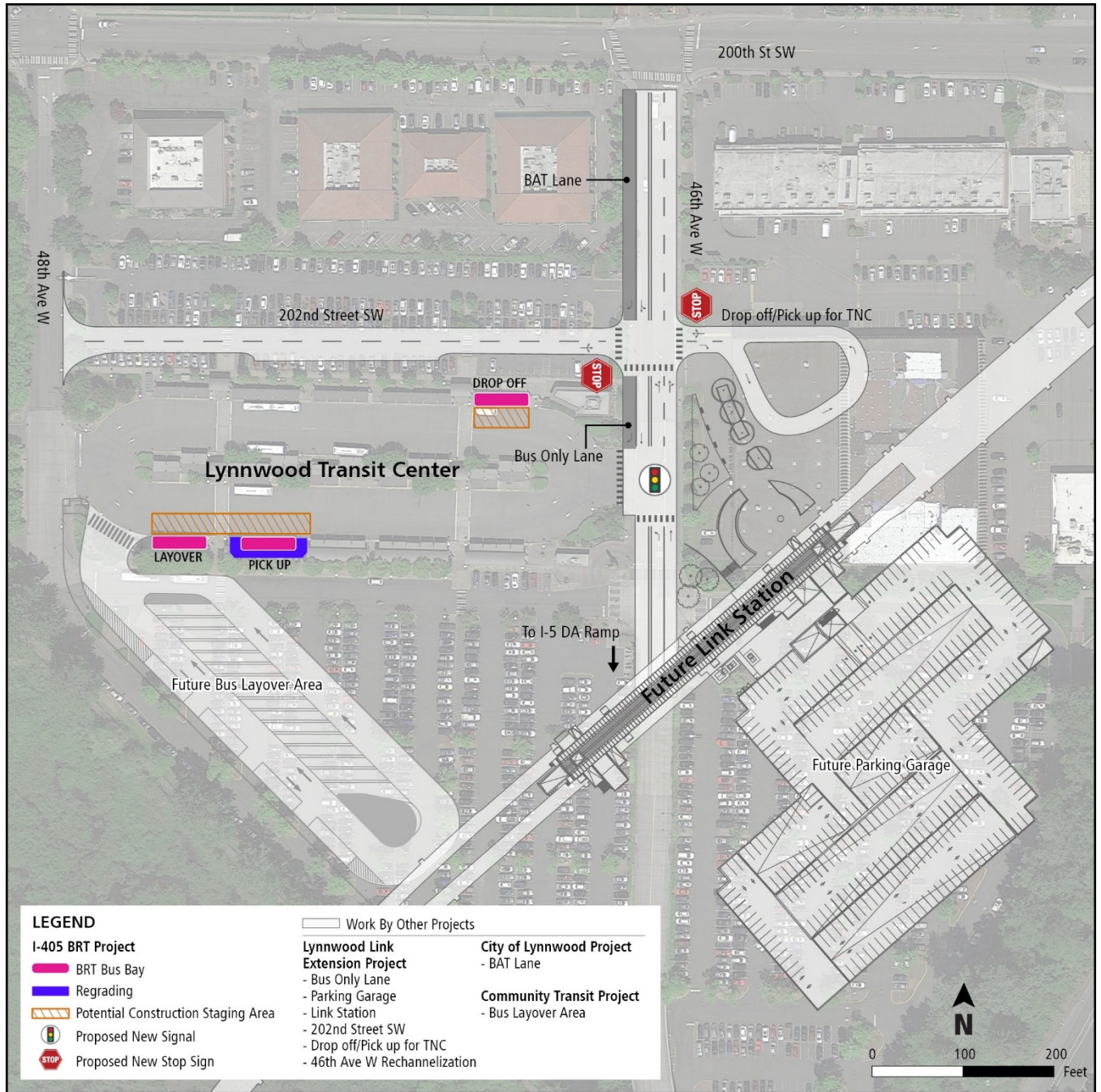
For this project component, the contractor would be expected to stage the necessary construction equipment and materials within the existing right-of-way for I-405 and, potentially, the Brickyard Park-and-Ride lot.

2.2.7 Lynnwood City Center Transit Station BRT and Roadway Improvements

Figure 2-7 provides a graphic representation of the proposed Lynnwood City Center Transit Station BRT and Roadway Improvements. **Figure 2-7** also shows the Lynnwood Link light rail station, transit center bus layover area, and roadway improvements that will be constructed as part of Sound Transit's Lynnwood Link Extension project. **Figure 2-8** shows the proposed roadway improvements that would be constructed as part of the I-405 BRT Project on Poplar Way and the loop ramp onto I-5 northbound.

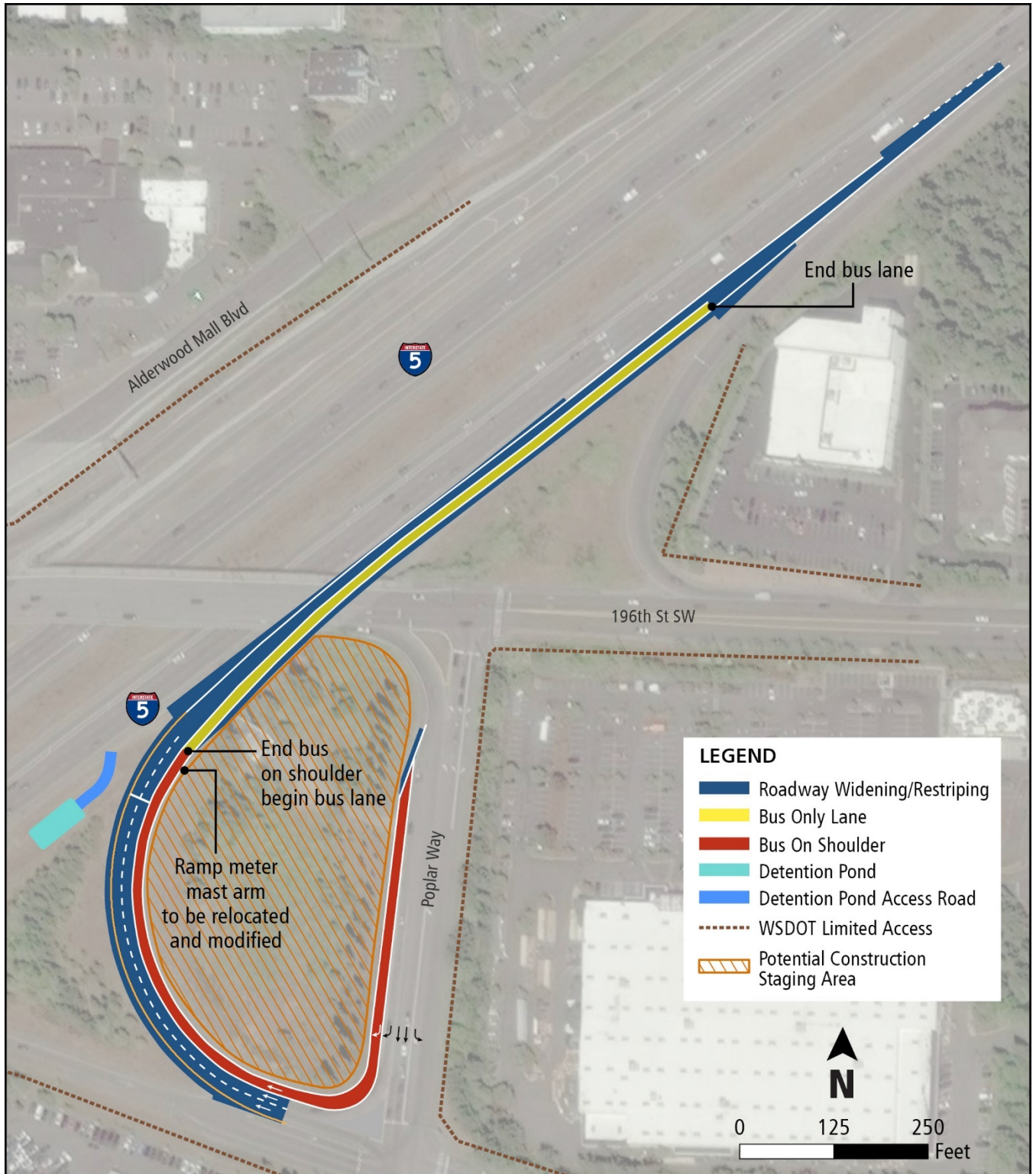
BRT buses would access the Lynnwood City Center Transit Station by using the existing Alderwood Mall Boulevard exit from I-5 south, traveling along 196th Street SW, turning left at 44th Avenue W, right at 200th Street SW, left onto 46th Avenue W, and then into the transit center. Along this routing, TSP would be added to existing traffic signals. To improve access to and from the transit center, modifications would be made at two intersections along 46th Avenue W. The first intersection, just north of the transit center, would include two northbound and two southbound lanes with stop signs controlling the east and west legs of the intersection. The second intersection, at the entrance to the transit center, would be modified to include a new traffic signal and to include crosswalks.

At the existing Lynnwood City Center Transit Station, one bay in the northeast portion of the transit center loop would be modified to accommodate the BRT service as a drop-off bay with a 6 to 9 inch curb height. In the southwest portion of the transit center loop, one bay would be modified to accommodate BRT pick up and one bay would be converted to a layover space. At the BRT pick-up bay, in addition to the standard station elements, the platform and adjacent area would be re-graded for near-level passenger boarding. The existing shelters over the bays would remain.



SOURCE: Sound Transit 2020

Figure 2-7 Lynnwood City Center Transit Station BRT and Roadway Improvements



SOURCE: Sound Transit 2020

Figure 2-8 Lynnwood City Center Transit Station BRT and Roadway Improvements: Poplar Way Loop Ramp Roadway Improvements

Leaving the transit center, BRT vehicles would follow the same routing to 196th Street SW and then would use the Poplar Way on-ramp to access I-5 north and then I-405 south. Along Poplar Way (south of 196th Street SW) and the I-5 northbound on-ramp, the roadway and ramp would be widened for a bus-only bus-on-shoulder lane for BRT vehicles to use to bypass congestion.

Leaving the transit center, BRT vehicles would follow the same routing to 196th Street SW and then would use the Poplar Way on-ramp to access I-5 north and then I-405 south. Along Poplar Way (south of 196th Street SW) and the I-5 northbound on-ramp, the roadway and ramp would be widened for a bus-only lane for BRT vehicles to use to bypass congestion. The existing ramp meter mast arm would be relocated and modified.

2.2.7.1 Utilities and connections

Anticipated utilities include electric power, storm drainage, public agency telecommunications, and commercial telecommunications. Electric power and telecommunications would be tied into utilities currently available near the project component.

At the Lynnwood Transit Center, stormwater would be collected underground and detention would be provided as required. Flow control and water quality treatment would be provided as required by the *Washington State Department of Ecology Stormwater Management Manual for Western Washington* (Ecology 2019c). Stormwater would ultimately tie into the existing conveyance systems. For the Poplar Way ramp modifications, stormwater flow control and water quality treatment would be provided as required by WSDOT's *Highway Runoff Manual* (WSDOT 2019).

2.2.7.2 Site work

For construction at the Lynnwood City Center Transit Station, the contractor would likely stage the necessary equipment and materials within the transit center. For construction of the bus-only lane along Poplar Way and the I-5 on-ramp, the contractor may stage equipment and materials in the existing, unpaved right-of-way within the center of the Poplar Way loop ramp onto I-5.

3 METHODOLOGY

A hazardous material is any media such as soil, groundwater, or building materials that contain concentrations of chemicals above any state or federally regulated contaminant cleanup levels. Hazardous materials may include pesticides, herbicides, toxic metals, chemicals, volatile chemicals, explosives, or low-level radioactive wastes. Hazardous materials can be classified in different categories based on laws and regulations that define their characteristics and use. These categories include hazardous waste, dangerous waste, hazardous substances, and toxic substances. Generally, hazardous waste is a waste with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous wastes can be liquids, solids, contained gases, or sludges. They can be the by-products of manufacturing processes or simply discarded commercial products such as cleaning fluids or pesticides. Hazardous wastes fall into two groups: listed wastes and characteristic wastes. For this analysis, the term “hazardous materials” is intended to describe all types of contaminated or hazardous media, including dangerous waste per the Washington Administrative Code (WAC) 173-303-070 through WAC 173-303-100), hazardous waste (40 Code of Federal Regulations [CFR] 261), problem waste (WAC 173-304), hazardous substances (42 United States Code [USC] 9601[14] and 40 CFR 116), and petroleum products.

3.1 Regulatory context

The federal and state policies and regulations applicable to hazardous materials are listed below.

3.1.1 Federal

- All Appropriate Inquiries, 40 CFR Part 312
- Clean Air Act
- Clean Water Act, 33 USC Section 1251, et seq.
- Comprehensive Environmental Response, Compensation and Liability Act, 42 USC 9601, et seq.
- National Emission Standards for Hazardous Air Pollutants, 40 CFR Parts 61 to 71
- Oil Pollution Prevention, 40 CFR Part 112
- Occupational Safety and Health Act, 29 USC 651 et seq.
- Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 USC 6901 et seq.
- Safe Drinking Water Act, 42 USC 300f et seq.
- Superfund Amendments and Reauthorization Act
- Toxic Substances Control Act, 15 USC 2601-2629
- Water Pollution Control Act, 33 USC 1251 et seq.

3.1.2 State

- Dangerous Waste Regulations, WAC 173-303
- General Occupational Health Standards, WAC 296-62
- Hazardous Waste Operations, WAC 296-843
- Minimum Standards for Construction and Maintenance of Wells, WAC 173-160A
- Model Toxics Control Act (MTCA) Cleanup Regulation, WAC 173-340
- Safety Standards for Construction Work, WAC 296-155
- Sediment Management Standards, WAC Chapter 173-204
- Solid Waste Handling Standards, WAC 173-350
- Underground Storage Tank Regulations, WAC 173-360
- State Environmental Policy Act, WAC 197-11
- Water Quality Standards for Groundwaters of the State of Washington, WAC 173-200
- Water Quality Standards for Surface Waters of the State of Washington, WAC 173-201A
- Water Pollution Control, Chapter 90.48 Revised Code of Washington
- Washington Contingency Planning and Facility Oil Handling Standards Regulations, WAC 173-180
- Washington Industrial Safety and Health Act, Chapter 49.17 Revised Code of Washington

3.2 Study areas

For the analysis of hazardous materials related to known or potential prior releases, individual study areas were defined around each component, with an area of 0.125 mile around the footprint of each (including roadway modifications, stormwater facilities, fish passage culverts, and retaining walls). This distance from the project components was considered to be the maximum area in which soils and groundwater containing hazardous materials could intersect with the project footprint, either existing directly on-site or having possibly migrated to the site. For the purposes of this report, there are seven geographically discrete study areas corresponding to the project components described in Section 2. The evaluation of sites was similar to a Phase I Environmental Site Assessment (ESA) per ASTM E1527-13.

3.3 Data sources

The data sources listed below were used in this assessment and include government mapping and databases, an environmental database report specific to the study areas, previous site investigations, and a field reconnaissance.

3.3.1 Geologic and groundwater review

Geologic and groundwater conditions in the study areas were identified through a review of the following:

- United States Geological Survey (USGS) geologic mapping
- Washington State Department of Ecology (Ecology) well logs
- Natural Resources Conservation Service recent soil survey
- Ecology's database of known groundwater contamination sites

Drinking water sources were identified through local water district and municipal records.

3.3.2 Historic and existing land use review

Historical use information was reviewed to develop an understanding of the previous uses of the project sites and nearby properties to help identify likelihood of past uses creating environmental conditions with regard to hazardous materials that could impact the project. In addition to looking at existing land uses, analysts researched the historical land uses of the project sites and adjacent properties to evaluate those uses known or suspected to be associated with potential contamination. This evaluation included a search of local, state, and federal regulatory databases to identify sites that currently or previously handled, stored, transported, released, or disposed of hazardous or regulated waste, as these sites would be potential sources of hazardous materials contamination. The assessment determined past and current property uses and ownership, as well as conditions that may be indicative of releases or potential releases of hazardous substances in the project area.

Available historical aerial photographs and USGS topographic maps were reviewed to provide an understanding of past occupants, businesses, or land uses. Historical mapping files were provided by Environmental Data Resources, Inc. (EDR), which are included electronically in Appendix B. Existing land uses were identified based on aerial imagery and the site reconnaissance described in Section 3.3.4.

3.3.3 Regulatory database evaluation

The U.S. Environmental Protection Agency and Ecology develop and maintain databases to track the status of sites reported to have either a release of chemicals to the environment or a potential for release due to chemical handling activities. The databases identify each site location, the hazardous-material-related activity performed, and the status of regulatory follow-up performed to date. To complete the review of these records, the services of a professional environmental data retrieval service was retained. The data sources include the following environmental agency records:

- Federal National Priorities List Site List
- Superfund Program Comprehensive Environmental Response, Compensation and Liability Act Information

- Federal RCRA Information System
- Washington State Confirmed and Suspected Contaminated Sites List
- Washington State Hazardous Sites List
- Washington State Independent Cleanup Reports List
- Washington State Landfill or Solid Waste Site Lists
- Washington State Leaking Underground Storage Tank (UST) Lists
- Washington State Registered UST Lists
- Washington State Department of Ecology Online Database of Cleanup Sites

Database records were provided by EDR and search results are included in Appendix B, which is provided electronically.

3.3.4 Site reconnaissance

A site reconnaissance of properties within the study areas was conducted on November 1, 8, and 11, 2019, to verify database information and identify potential sources of contamination not identified in the database review. The site examination consisted of observing the areas immediately surrounding project construction locations and visually assessing the areas within the study areas for evidence of hazardous materials. The survey was intended to identify visual evidence of past or current practices that could lead to soil impacts, groundwater contamination, or both. The site reconnaissance was conducted by driving and walking the length of the project and visually identifying evidence of chemical containers or drums, large spills and leaks, distressed vegetation, and USTs or other hazardous material storage containers, as appropriate. All observations were conducted from public areas or rights-of-way.

3.4 Impact assessment

The following describes the methodology used to identify potential long-term and construction impacts from the I-405 BRT Project.

3.4.1 Construction impacts

The analysis considered impacts to human health and the environment as a result of possible release of contaminants or alteration of contaminant migration pathways during construction activities. The primary impacts of hazardous materials identified could affect construction, since potential releases could pose health and safety threats to the general public. All of the resources listed above documenting known and potential hazardous material contamination were reviewed to identify whether hazardous material contamination was known to exist on the project site and the likelihood that construction might encounter those materials. The analysis involved consideration of historic and current land uses to identify potential risks related to undocumented releases, the project construction footprint and methods, as well as maximum

excavation depths, designs, and techniques. The analysis also involved consideration of hazardous materials typically used during construction and their potential impacts.

3.4.2 Long-term impacts

For hazardous materials, the potential long-term impact from the ongoing BRT operations were considered, along with the likelihood for these actions to result in significant adverse impacts. Design features that would minimize the risk of hazardous material releases from the facility, whether currently proposed for the project or known regulatory requirements, were considered in this evaluation process.

3.4.2.1 Contaminated site screening and ranking

The evaluation process screened sites by eliminating those that would pose no risk (as described below) thus not warranting further investigation, and identifying those that the project would likely encounter during construction. A risk level was then applied, ranking the sites as low, moderate, or high with respect to a combination of: 1) likelihood of project interaction (impact), and 2) the complexity of that impact (e.g., localized versus widespread soil or groundwater contamination).

The following criteria were used to eliminate sites identified in the EDR report from further screening and focus the analysis on those sites listed that have a high likelihood of interacting with the project (EDR 2019a; 2019b; 2019c; 2019d; 2019e; 2019f, 2020):

- Sites listed in databases that documented a facility that uses hazardous materials or generates RCRA hazardous wastes as part of their business but do not document a release of hazardous materials into the environment, due to a very low likelihood of interaction with the project.
- Sites that have underground or aboveground fuel storage tanks with no documented releases of fuels or their chemical constituents into the environment, due to a very low likelihood of interaction with the project.
- Sites that are only listed in Ecology's database as having applied for and received coverage under Ecology's construction stormwater general permit, due to the single occurrence of regulatory involvement.

Low risk sites

Low risk sites were defined as those where the hazardous material concern is related to historical activities, but contamination has been remediated or the likelihood that contamination would be encountered during project construction and result in human health effects, cost increases, or construction delays is low.

Moderate risk sites

Moderate risk sites were defined as those where past or present land uses have used or stored hazardous materials; sites contaminated by known, adjacent contamination sources that would be acquired for project construction; or sites for which land use information was not sufficient to determine the likely presence of hazardous materials that could be encountered during project construction.

High-risk sites

High-risk sites were defined as those where contamination is known to exist from past or present uses and where all or a portion of the site (where contamination is known) would be acquired as part of the project; where contamination would be expected to be encountered during project construction; and where contamination would lead to extensive remediation in order for project construction to occur. High-risk sites may pose an adverse environmental impact if soil, groundwater, or sediment contamination were to be encountered during construction and not properly managed.

4 EXISTING CONDITIONS

The following describes the existing context of the study areas, which helped determine the likelihood of the project to encounter or disturb hazardous materials during construction. The discussion is organized generally by city area. All seven of the project study areas are outside of King County's Groundwater Management Areas (King County 2019a).

4.1 Regional geology, hydrogeology, and water supply

4.1.1 Burien and Tukwila study areas

Both of these study areas are characterized by the younger glacial deposits of the Vashon till and Vashon recessional outwash deposits (Booth and Waldron 2004). Both study areas receive their municipal water supply from the Cedar River watershed located in a remote, uninhabited area of the Cascade Mountains and is owned and managed by the City of Seattle (King County 2019b).

4.1.2 Renton study area

The Renton study area is characterized by alluvium consisting of sand and gravel deposited by the Cedar River (Mullineaux 1965). The primary source of the Renton municipal water supply is the Cedar Valley Aquifer, designated as a sole-source aquifer in 1988 by the U.S. Environmental Protection Agency. The aquifer boundaries correspond to the aerial extent of the post-Vashon alluvium of the lower Cedar River Valley (City of Renton 2012). This shallow aquifer is physically susceptible to contamination since there is no confining layer between the land surface and the water table to retard the downward migration of hazardous chemical spills or other releases of contaminants. In downtown Renton, the shallow aquifer is especially vulnerable to degradation due to the presence of numerous potential sources of contamination within the capture zone of the wellfield. In the vicinity of the wellfield constructed in downtown Renton, the aquifer consists of coarse-grained sediments deposited at the mouth of the prehistoric Cedar River during the last glacial period. The water table is approximately 23 feet from the surface, and the aquifer has an average thickness of 70 feet in the vicinity of the wellfield.

4.1.3 Bellevue, Kirkland, and Bothell study areas

The Bellevue study area is characterized by the younger glacial deposits of the Vashon till deposits, while the Kingsgate study area is characterized by the Vashon recessional outwash deposits (Yount, Minard, and Dembroff 1993). The Brickyard study area is characterized by the Vashon advanced outwash deposits (Yount, Minard, and Dembroff 1993). A geotechnical investigation was performed at the Kingsgate study area. The subsurface soils at the Totem Lake/Kingsgate Park-and-Ride site consist of 7.5 to 17 feet of medium dense to dense fill soils over dense to very dense advance outwash deposits (sand and gravel) over very stiff to hard fine-grained soils (glaciolacustrine). Groundwater was encountered in two of the borings, in the advance outwash deposit, at 16 and 25 feet below ground surface. All three receive their municipal water supply from the Cedar River and South Fork Tolt River watersheds in the Cascade Mountains, also owned and managed by the City of Seattle (Cascade Water Alliance 2019).

4.1.4 Lynnwood study area

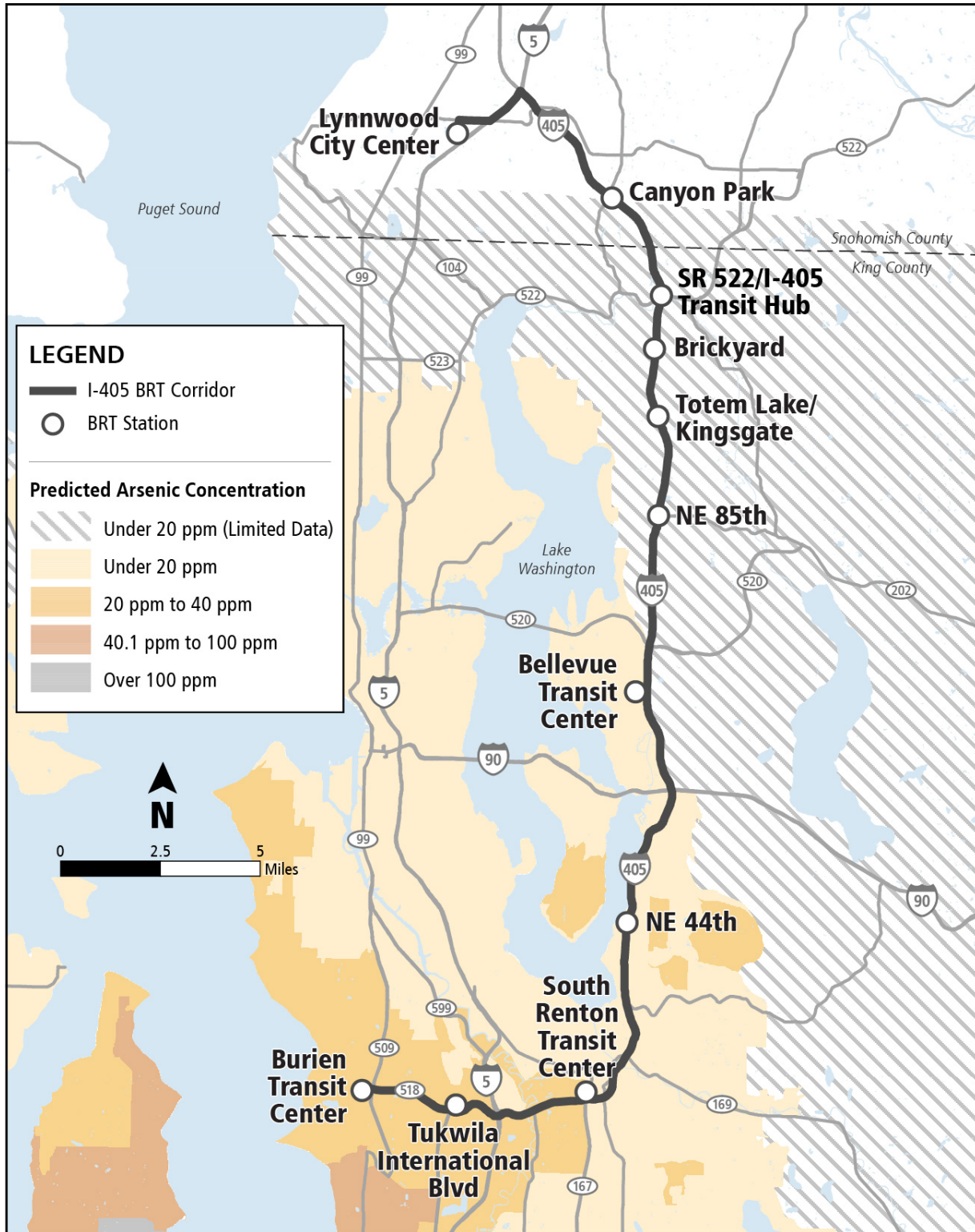
The Lynnwood study area is primarily Vashon till deposits with a portion characterized by Vashon recessional outwash deposits (Smith 1974), and the area receives its municipal water supply from the City of Everett's Spada Lake Reservoir, which is located at the headwaters of the Sultan River and the Sultan Basin Watershed in the west Cascade Mountains (City of Lynnwood 2019).

4.2 Historic and existing land use review

4.2.1 Historical regional contamination

The Asarco Company operated a copper smelter in Tacoma for almost 100 years and air pollution from the smelter settled on the surface soil of more than 1,000 square miles of the Puget Sound Basin (Ecology 2020b). Arsenic, lead, and other heavy metals are still in some soils as a result of this pollution. The MTCA cleanup regulation for arsenic is 20 parts per million (ppm). Areas where these levels may be exceeded pose a risk to human health and the environment and would be subject to cleanup requirements.

Ecology has mapped predicted concentrations of arsenic in soils as a result of the Tacoma smelter plume. **Figure 4-1** shows the I-405 BRT corridor and project components in relation to Ecology's Tacoma Smelter plume map (Ecology 2020c). According to this map, three project components are located in areas mapped as having predicted arsenic concentrations of 20 to 40 ppm. These project components are the Burien Transit Center and Roadway Improvements, the Tukwila International Boulevard BRT Station and Roadway Improvements, and a portion of the South Renton Transit Center and Roadway Improvements. The remaining project components are in areas mapped as having predicted arsenic concentrations of under 20 ppm, with limited data.



SOURCE: Ecology 2020c

Figure 4-1 I-405 BRT Corridor and the Tacoma Smelter Plume Map

4.2.2 Historical records review

4.2.2.1 Burien Transit Center and Roadway Improvements

The earliest available aerial photographs of the study area for the Burien Transit Center and Roadway Improvements project component, from 1936, show the north-south and east-west major arterial surface street network with alignments similar to today, but without the state freeway system. The area around the Burien Transit Center was in active agricultural production. By 1965, the semi-rural land use had been replaced with single-family residential, and commercial and light industrial supporting the nearby airport. The current Fred Meyer grocery store northeast of the transit center had been constructed. By 1977, the SR 518-SR 509 interchange had been constructed in its current configuration and the area around the transit center was dominated by surface parking. In 1980, commercial development had extended west of the SR 518-SR 509 interchange and the SR 509 southbound exit ramp at S 146th Street had been realigned to its current configuration. By 2006, the Safeway grocery store immediately north of the transit center had been rebuilt to its current configuration. In 2009, the Burien Transit Center had been constructed and was in service.

4.2.2.2 Tukwila International Boulevard BRT Station and Roadway Improvements

The earliest available aerial photographs of the study area for the Tukwila International Boulevard BRT Station and Roadway Improvements project component, from 1936, show the north-south and east-west major arterial surface street network with alignments similar to today but without the state freeway system. The aerial photograph in 1936 was purposely obscured south of the intersection of Tukwila International Boulevard and S 154th Street (Southcenter Boulevard) likely due to construction of Seattle-Tacoma International Airport. The area north of S 154th Street was semi-rural surrounded by active agricultural production. By 1943, single-family housing was beginning to replace the semi-rural character. By 1956, the commercial development in the northwest quadrant of the Tukwila International Boulevard and S 154th Street intersection had been constructed. By 1968, the semi-rural land use had been replaced with single-family residential, and commercial and light industrial supporting the nearby airport. The SR 518-Tukwila International Boulevard interchange had been constructed but not in its current configuration. The Bonney-Watson cemetery on the west side of Tukwila International Boulevard had been laid out in its current configuration. By 1971, the Airport Expressway interchange with SR 518 had been constructed in its current alignment, and the SR 518-Tukwila International Boulevard interchange was being reconstructed to its current configuration. By 2006, the area south of SR 518 was dominated by surface parking, and the Sound Transit Red Line to the airport was under construction and was completed by 2009, including the Tukwila International Boulevard Link light rail station. By 2013, the biggest change was the construction of the Sea-Tac Airport rental car facility south of SR 518.

4.2.2.3 South Renton Transit Center and Roadway Improvements

The earliest available aerial photographs of the study area for the South Renton Transit Center and Roadway Improvements project component, from 1936, show the north-south and east-west major arterial surface street network with alignments similar to today but without the state and interstate freeway system. SW Grady Way terminated into the west side of Rainier Avenue S. Immediately north of SW Grady Way were the tracks of the former Northern Pacific Railroad; these railroad tracks were in the southern portion of the parcel to be developed for the South Renton Transit Center, which was undeveloped in 1936. By 1943, SW Grady Way had

been extended east of Rainier Avenue S and the railroad tracks were still present. The lot for the transit center remained undeveloped. By 1965, major changes to the project area had occurred, including the I-405-Rainier Avenue S cloverleaf interchange, commercial development northeast of the interchange, widening of Rainier Avenue S to four lanes north of SW Grady Way, and limited commercial development in the parcel proposed for the transit center. By 1968, there was a commercial use of the western half of the parcel proposed for the transit center, including a building and associated parking. By 1977, the entire parcel had been developed with two buildings and surface parking. The rail lines had been removed and the southern boundary of the parcel is SW Grady Way. In 1980, the parcel to the immediate east of the proposed transit center was being developed for the South Renton Park-and-Ride lot. No major changes were noted between 1985 and 2017.

4.2.2.4 Bellevue Transit Center and Off-site Layover

The earliest available aerial photographs of the study area for the Bellevue Transit Center project component, from 1943, show the major north-south and east-west arterial surface street network with alignments along the section lines and without surface connecting streets and without the state and interstate freeway system. The land use was rural with many plots in active agriculture. By 1965, substantial changes had occurred with the development of Bellevue as a suburban city. The cloverleaf interchange for I-405 and NE 8th Street had been constructed as well as a majority of the current surface street network. Portions of the area around the future Bellevue Transit Center had been developed. By 1985, the construction of the Bellevue Transit Center had begun, and by 1990 the transit center is in operation. By 2006, the dedicated overpass and extension of NE 6th Street to the center of I-405 had been completed. No substantial changes were evident between 2006 and 2017.

4.2.2.5 Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage

The earliest available aerial photographs of the study area for the Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage project component, from 1941, show the major north-south and east-west arterial surface street network with alignments along the section lines and without surface connecting streets and without the state and interstate freeway system. The land use was rural with many plots in active agriculture. By 1952, there was an increase in semi-rural residential uses, but the park-and-ride area remained in active agricultural use with rural residential. In 1965, the initial lanes of the I-405 and NE 124th Street interchange had been constructed but not to their current configuration. The park-and-ride area remained in active agricultural use with rural residential. By 1973, I-405 had been widened to two lanes in each direction and the interchange at NE 124th Street had been reconfigured. Large-scale commercial development had been built immediately east of the interchange. The park-and-ride area remained in rural residential uses, but active agricultural uses appears to have ceased. By 1980, the southern connection of 116th Avenue NE with 120th Avenue NE at NE 124th Street had been constructed. The Kingsgate Park-and-Ride lot had been constructed at its current location. Multi-family residential had been constructed immediately south of the park-and-ride lot along NE 128th Street. By 2006, this neighborhood of Kirkland had been built out to its current conditions, including the I-405 interchange with NE 124th Street. Between 2013 and 2017, the large retail complex east of the I-405 interchange had been rebuilt to its current configuration.

4.2.2.6 Brickyard Station and Roadway Improvements

The earliest available aerial photographs of the study area for the Brickyard Station and Roadway Improvements project component, from 1941, showed a limited surface street network consisting of the north-south oriented 112th Avenue NE and the southwest-northeast oriented Juanita Woodinville Way NE as the two established roads without surface connecting streets and without the interstate freeway system. The high voltage electrical corridor was visible. The Brickyard Park-and-Ride area was in active agricultural use. By 1952, the area around the Brickyard Park-and-Ride has been cleared of more trees and a larger area was in active agricultural use. In 1965, the initial lanes of the I-405 and Juanita Woodinville Way NE interchange had been constructed but not to their current configuration. The park-and-ride area remained in active agricultural use with rural residential. By 1968 the areas southeast and southwest of the Brickyard Park-and-Ride lot were being developed into suburban single-family residences. Additional travel lanes were in place on I-405. By 1978, the buildout of the local street network east and west of Juanita Woodinville Way NE was completed and the Brickyard Park-and-Ride lot had been constructed. By 1985, single-family residential housing was beginning to be built north of the I-405 and Juanita Woodinville Way NE interchange and the Brickyard Park-and-Ride has been expanded on its south side to almost fill the interchange gore it resides within. By 2006, full residential buildout around the interchange was complete, and Cedar Park Christian School has been constructed northwest of the interchange. By 2013, a second park-and-ride lot had been constructed south of the original park-and-ride lot.

4.2.2.7 Lynnwood City Center Transit Station BRT and Roadway Improvements

The earliest available aerial photographs of the study area for the Lynnwood City Center Transit Station BRT and Roadway Improvements project component, from 1941, showed a limited surface street network with alignments along the section lines and without surface connecting streets and without the interstate freeway system. The Lynnwood Park-and-Ride area was undeveloped forest land. By 1952, the beginning of suburban development was occurring with scattered residential development and increased surface street construction. The park-and-ride area remained undeveloped. By 1968, I-5 had been constructed with the current interchanges in the project area. The park-and-ride area remained undeveloped through the late 1970s as clearing and grading were occurring in 1980. By 1990, the park-and-ride lot was in full operation, but the current transit center had not been built to the immediate north of the park-and-ride lot. By 2006, the current transit center had been constructed as well as the dedicated bus ramp to the I-5 median. No substantial changes were noted through 2017.

4.2.3 Government environmental database findings

The database search results for the seven study areas identified a total of 164 mapped sites that have a prior regulatory action reported within the government environmental database records (EDR 2019a, 2019b, 2019c, 2019d, 2019e, 2019f, 2020). Two sites are project component areas; the Burien Transit Center and the Sound Ford site that is the site for the proposed South Renton Transit Center.

Many of the database listings do not identify a release to the environment related to the site or indicate an environmental violation occurred on the site; the listing is related to a reporting requirement for the materials handled, stored, or treated on-site. Many sites were found to have

multiple listings in different databases. The complete database lists are included in the EDR reports, which are provided electronically as Appendix B.

Of the 164 sites noted above, 22 of them are associated with either leaking underground storage tanks (LUSTs) or hazardous waste release sites not associated with LUSTs. **Table 4-1** lists those 22 sites, and their locations are shown in **Figure 4-2** through **Figure 4-8**. These sites were identified as having the highest probability to impact the project during construction because of their proximity to areas where construction activities would occur. Eight of the 22 sites have received no further action letters from Ecology following cleanup operations on-site. A “no further action” letter indicates no contamination remains above the applicable cleanup levels outlined in the state’s law, the MTCA. Even with completed cleanup operations at these eight sites, low levels of contamination—below cleanup levels—may still be present.

Table 4-1 Leaking underground storage tank sites and hazardous material release sites

Count	Ecology cleanup site ID	Site name	Street address	Chemicals of concern	Media contaminated ¹	Site cleanup status
Burien Transit Center and Roadway Improvements						
1	6012	BBC Dodge	14650 1st Ave S Burien, WA	Petroleum products-unspecified; petroleum-gasoline	Soil – C; Groundwater - B	Cleanup started
2	12380	Burien Transit Center	14900 4th Ave SW; 209 SW 148th St Burien, WA	Benzene; petroleum-gasoline	Soil – C	Awaiting cleanup
3	5626	ARCO 01166	14653 1st Ave S Burien, WA	Benzene; lead; non-halogenated solvents; petroleum-gasoline	Soil – C; Groundwater – C	Cleanup started
4	10810	Shell 29	14848 1st Ave S Burien, WA	Benzene; petroleum-gasoline	Soil – C; Groundwater – C	Cleanup started
5	9143	Circle K 1478	14605 1st Ave S Burien, WA	Benzene; non-halogenated solvents; petroleum-gasoline	Soil – C	Cleanup started
6	12470	Burien Honda Midas	15010 1st Ave S Burien, WA	Petroleum-other	Soil – RB	No further action
7	8659	USA Station 116	303 SW 148th St Burien, WA	Benzene; non-halogenated solvents; petroleum-gasoline	Soil – C; Groundwater – C	Cleanup started
8	10990	Exxon 76969	14807 1st Ave S Burien WA	Benzene; non-halogenated solvents; petroleum-diesel, petroleum-gasoline, petroleum-other	Soil – C; Groundwater – C	Cleanup started

Count	Ecology cleanup site ID	Site name	Street address	Chemicals of concern	Media contaminated ¹	Site cleanup status
Tukwila International Boulevard BRT Station and Roadway Improvements						
9	9148	WSP Tukwila	15666 Pacific Hwy S DOT Tukwila, WA	Benzene; petroleum-diesel; petroleum-gasoline; petroleum-other	Soil – S; RB; C	Cleanup started
South Renton Transit Center and Roadway Improvements						
10	6342	Sound Ford	750 Rainier Ave S Renton, WA	Benzene; petroleum-gasoline; petroleum-other	Soil – C; Groundwater – C	Cleanup started
11	5313	Texaco 632320402	509 S Grady Way Renton, WA	Benzene; lead; metals priority pollutants; pesticides-unspecified; petroleum-gasoline; petroleum-other	Soil – C; B; Groundwater – C	Cleanup started
12	8561	Brown Bear Car Wash	621 Rainier Ave S Renton, WA	Benzene; non-halogenated solvents; petroleum-gasoline	Soil – C; RB Groundwater – C; RB	Cleanup started
13	11155	USA Petroleum 115	765 Rainier Ave S Renton, WA	Benzene; other non-halogenated solvents; petroleum-gasoline	Soil – C; Groundwater – C	Cleanup started
14	10476	Chevron 99114	301 S Grady Way Renton, WA	Benzene; petroleum-gasoline	Soil – C; Groundwater – C	Cleanup started
15	9975	Renton Lincoln Mercury	201 S 7th St Renton, WA	Benzene; other non-halogenated organics; petroleum-gasoline; petroleum-other	Soil – RB; Groundwater – RB	No further action
16	2963	Les Schwab Tires Renton	710 Rainier Ave S Renton, WA	Petroleum products-unspecified	Soil – R	No further action
Bellevue Transit Center and Off-site Layover						
17	11545	Bravern Phase II	11111 NE 8th St Bellevue, WA	Arsenic; lead; mercury; metals-other; petroleum-other; polycyclic aromatic hydrocarbons	Soil – B; Groundwater – B	No further action
18	3227	Qwest Corp W00621	450 110th Ave NE Bellevue, WA	Metals priority pollutants; non-halogenated solvents; petroleum products-unspecified	Soil – B; C Groundwater – B; C	No further action

Count	Ecology cleanup site ID	Site name	Street address	Chemicals of concern	Media contaminated ¹	Site cleanup status
Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage (NONE)						
Brickyard Station and Roadway Improvements (NONE)						
Lynnwood City Center Transit Station BRT and Roadway Improvements						
19	8253	Lynnwood City I-5 and 196th St	I-5 and 196th St Lynnwood, WA	Non-halogenated solvents; petroleum-diesel; petroleum-other	Soil – RB	No further action
20	4853	19904 Poplar Way	19904 Poplar Way Lynnwood, WA	Petroleum products-unspecified	Soil – R	No further action
21	6340	Chevron 94953	20010 44th Ave W Lynnwood, WA	Benzene; petroleum-gasoline	Soil – C Groundwater – C	Cleanup started
22	5406	Lynnwood Shell	19930 44th Ave W Lynnwood, WA	Benzene; lead; metals-others; non-halogenated solvents; other non-halogenated organics; petroleum-diesel; petroleum-gasoline; petroleum-other	Soil – B; RB Groundwater – RB	No further action

SOURCES: EDR 2019a; 2019b; 2019c; 2019d; 2019e; 2019f; 2020; Ecology 2019a; Ecology 2020a

NOTE: ¹ Contamination Codes: B = Below Model Toxics Control Act Cleanup Level; C = Confirmed Above Cleanup Level; S = Suspected; R = Remediated; RB = Remediated Below

4.2.4 Site reconnaissance

A reconnaissance-level site visit of the hazardous materials study areas was conducted on November 1, 8, and 11, 2019. During the site reconnaissance, no additional sites with current uses where contaminants are assumed to be present were identified. Some of the release sites identified in **Table 4-1** have changed ownership and uses since being identified in the databases as a release site based upon the site reconnaissance. Appendix B presents representative photos of the areas visited as part of the site reconnaissance.

4.2.5 Previous Environmental Site Assessments

A prior ESA is known to have been conducted for the South Renton Transit Center site. As Sound Transit was proposing to purchase the identified South Renton Transit Center site, Shannon & Wilson completed a Phase I ESA in the fall of 2017 (Shannon & Wilson 2017). The Phase I ESA identified the following recognized environmental conditions for the property:

- The long history of auto repair activities and auto body shop activities that represent potential sources of localized subsurface contamination from petroleum products and solvents.
- Incomplete documentation of former underground storage tanks that were removed in 1989.
- No documentation of sub-floor hydraulic hoists that were removed in 1996 or 1997.
- Potential conduits for subsurface contamination, including floor drains, trench drains, oil-water separators, and alignment pits.
- Abandoned containers in the service shop of unknown substances.
- Former outdoor drum storage area that was used to store and consolidate waste paint thinner.
- Poor waste disposal practices within the used car building crawlspace.
- Evidence of spill around the waste oil aboveground storage tank.
- The presence of the former railroad line along the southern boundary of the parcel.
- A hazardous material release site (Chevron Station) immediately south of and across from S. Grady Way that may be upgradient to the South Renton Transit Center property.

As a result of the Phase I findings, Shannon & Wilson completed a Phase II ESA for Sound Transit in the spring of 2018 (Shannon & Wilson 2018). The investigation identified petroleum impacts within soils and within groundwater at the western half of the transit center site. The contamination is likely associated with numerous former aboveground storage tanks and underground storage tanks. Evidence of petroleum contamination was encountered in the eastern half of the transit center site within “hotspots” but not associated with specific historical features. Five soil samples and 12 groundwater samples collected had one or more chemical constituents (metals, petroleum products, volatile organic compounds) that exceeded MTCA Method A cleanup levels. A single sample location for soil collected along the former rail corridor near S. Grady Way detected polycyclic aromatic hydrocarbons associated with creosote-preserved railroad ties. Based on the analytical data and field observations, the Phase II ESA identified the following constituents that would likely be in soil, soil vapor, and groundwater encountered during construction activities on the transit center site: petroleum hydrocarbons as diesel, gasoline, and motor oil; benzene, toluene, ethylbenzene, and total xylenes (BTEX); polycyclic aromatic hydrocarbons (PAHs); polychlorinated biphenyls; vinyl chloride; and metals including arsenic, chromium, and lead. This site has been assigned an Ecology Cleanup Site identification number 6342.



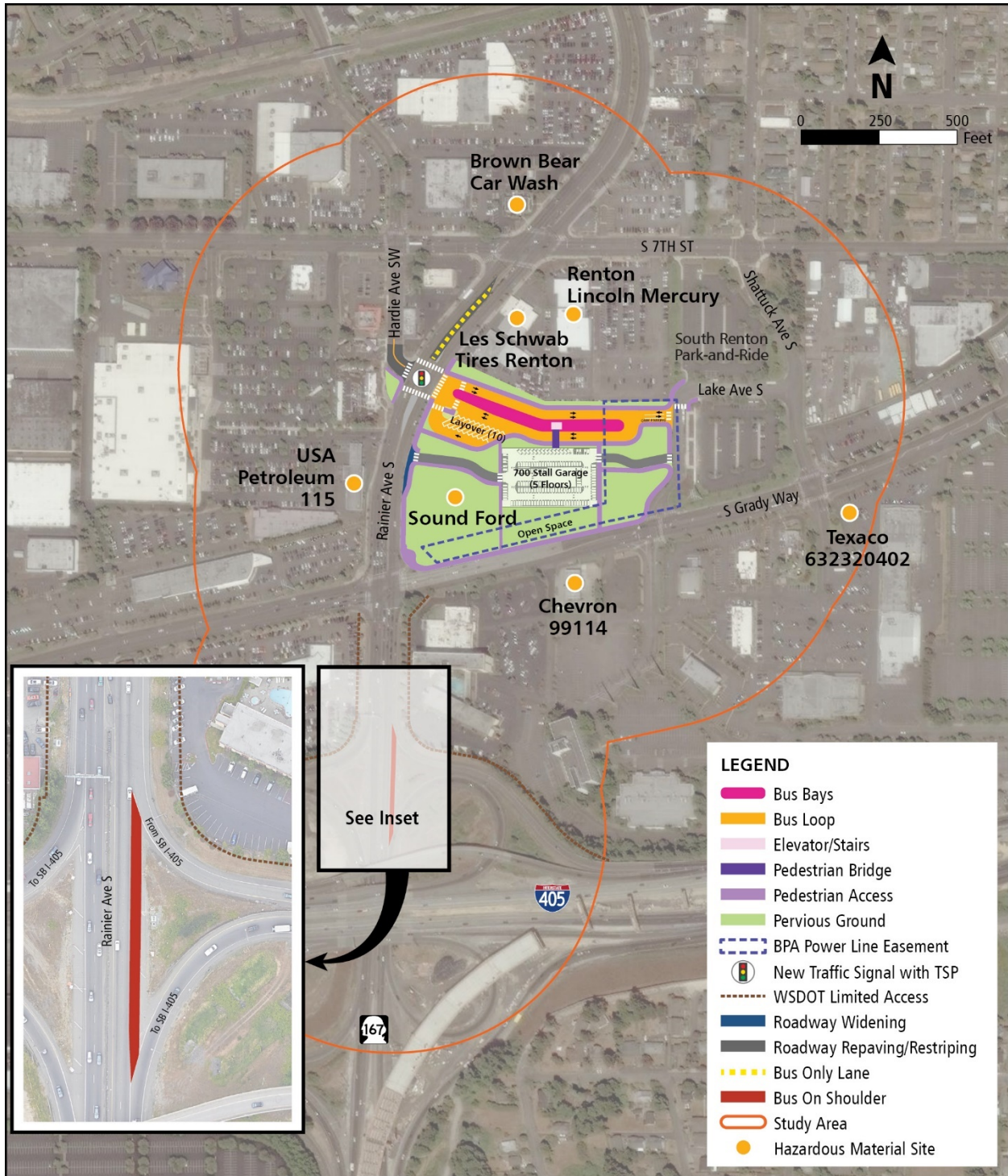
SOURCE: Sound Transit 2020

Figure 4-2 Hazardous materials release sites near the Burien Transit Center and Roadway Improvements project component



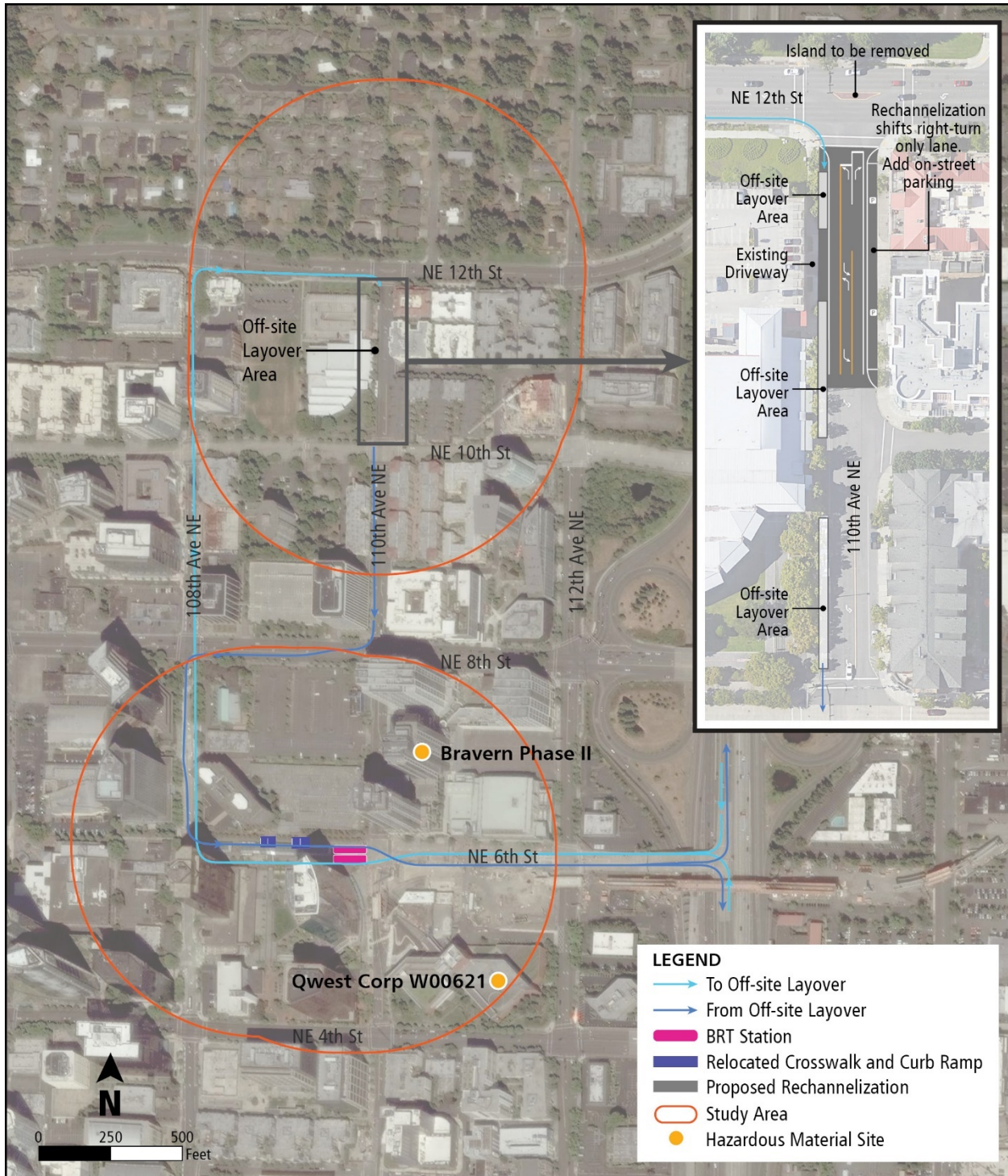
SOURCE: Sound Transit 2020

Figure 4-3 Hazardous materials release sites near the Tukwila International Boulevard Station BRT Station and Roadway Improvements project component



SOURCE: Sound Transit 2020

Figure 4-4 Hazardous materials release sites near the South Renton Park-and-Ride and Roadway Improvements project component



SOURCE: Sound Transit 2020

Figure 4-5 Hazardous materials release sites near the Bellevue Transit Center and Off-site Layover project component



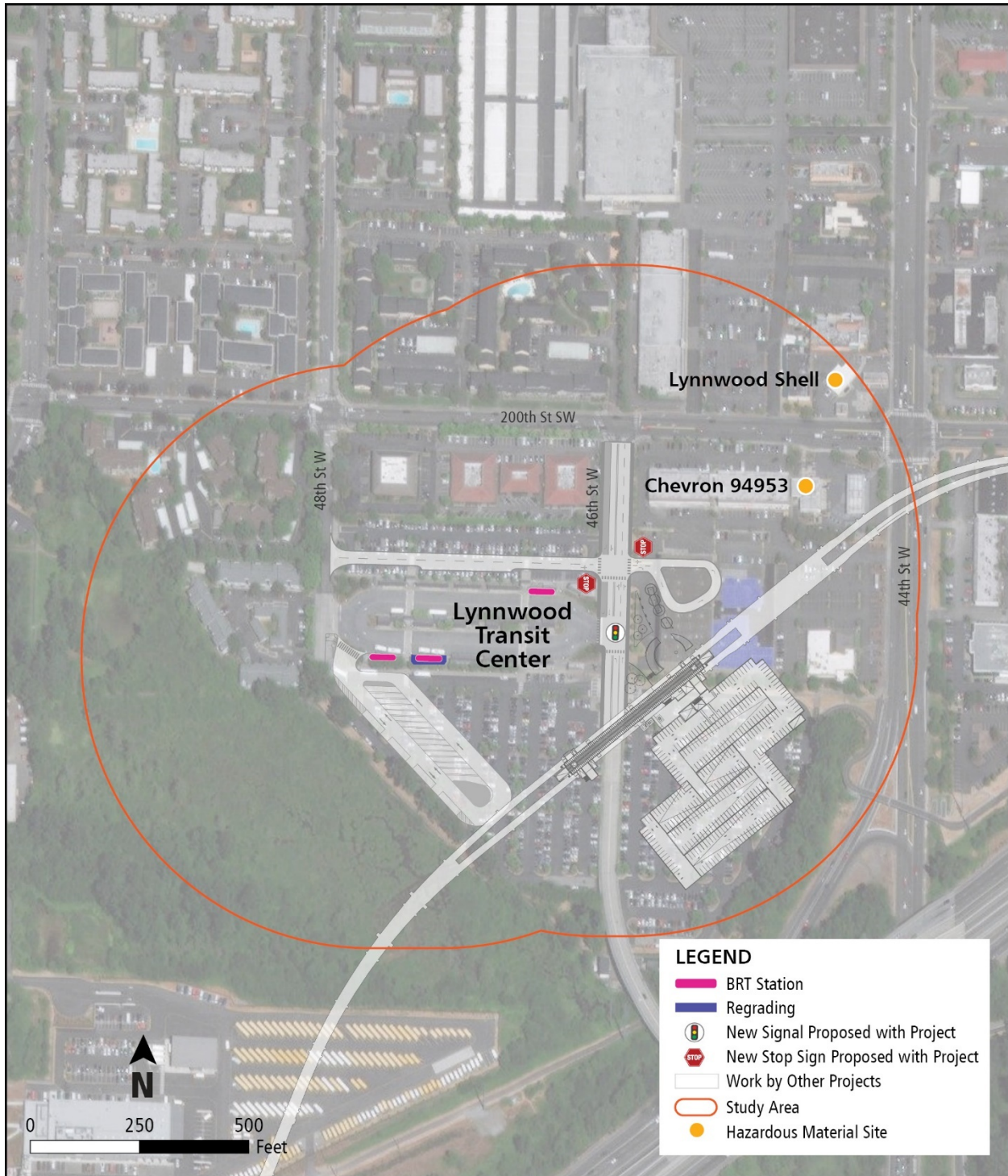
SOURCE: Sound Transit 2020

Figure 4-6 Hazardous materials release sites near the Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage project component



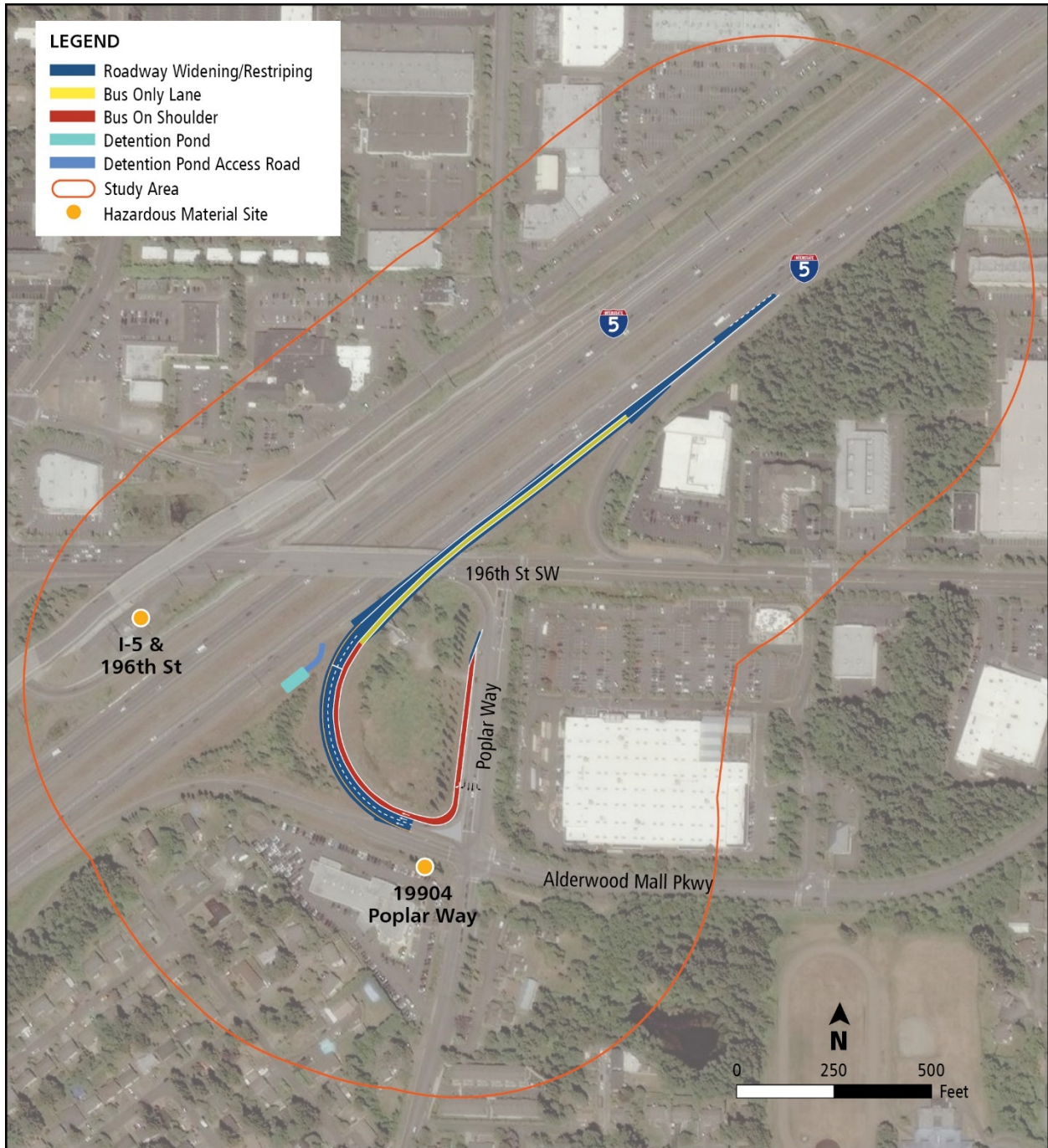
SOURCE: Sound Transit 2020

Figure 4-7 Hazardous materials release sites near the Brickyard Station and Roadway Improvements project component



SOURCE: Sound Transit 2020

Figure 4-8 Hazardous materials release sites near the Lynnwood City Center Transit Station BRT and Roadway Improvements project component



SOURCE: Sound Transit 2020

Figure 4-9 Hazardous materials release sites near the Lynnwood City Center Transit Station BRT and Roadway Improvements project component: Poplar Way Roadway Improvements

5 ENVIRONMENTAL IMPACTS

5.1 Construction impacts

5.1.1 All project components

During construction, relatively small quantities of fuels (including diesel, gasoline, and propane) for various pieces of small equipment would likely be stored at each project component site. If petroleum products are stored in quantities greater than 1,320 gallons, in containers with a capacity of 55-gallons or more, and a release could reasonably contact navigable waters, a written Spill Prevention Control and Countermeasures Plan would be prepared. The plan would also include inspections. Heavy equipment fueling would likely occur at each project component using an on-site fuel delivery provider. Other construction-related materials likely at each project component would include solvents and adhesives used in relatively small quantities.

For all project components, the low, moderate, and high-risk sites identified in **Table 5-1**, and unidentified contamination resulting from historical urban land use and roadway and parking operation, raise the potential of encountering contaminated materials during construction. Procedures to identify, characterize, manage, handle, store, and dispose of contaminated soil and groundwater encountered during construction activities would be incorporated into project specifications.

5.1.2 Tacoma Smelter Plume

As noted in Section 4.2.1, the Burien Transit Center and Roadway Improvements, the Tukwila International Boulevard BRT Station and Roadway Improvements, and a portion of the South Renton Transit Center and Roadway Improvements project components are located in areas mapped as having predicted arsenic concentrations of 20 to 40 ppm, which are above MCTA cleanup levels. Most of the land at these project components is already urban, developed areas that have been previously disturbed.

Prior to initiation of clearing and grading activities for these three project components, soils would be sampled and analyzed in accordance with Ecology's 2019 *Tacoma Smelter Plume Model Remedies Guidance* (Ecology 2020c). This would be in addition to the procedures noted in Section 5.1.1. If arsenic or lead above MCTA cleanup levels were encountered, cleanup would be coordinated with Ecology and remediation of those materials would occur as needed. A soil remediation plan would be prepared to minimize human exposure and for the proper removal and treatment or disposal of contaminated materials in soils or groundwater. The proposed soil remediation plan would be sent to Ecology for its concurrence that the plan would likely result in no further action under MCTA. Construction workers would be required to be trained in lead awareness, according to 29 CFR 1926.62(l) and also trained for arsenic awareness during excavation activities, according to 29 CFR 1910.1018(o). In addition, extra precautions would be taken to avoid dust, soil erosion, and water erosion during construction.

Table 5-1 Low, moderate, and high-risk sites near I-405 BRT project components

Count	Ecology clean site ID/ observed site ID	Site name	Site address	Site screening risk	Justification for site screening risk	Approximate distance from the site to the nearest project Improvement (feet)	Anticipated maximum excavation depth (feet)
Burien Transit Center and Roadway Improvements							
1	6012	BBC Dodge	14650 1st Ave S Burien, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	150	8 – retaining wall footings
2	12380	Burien Transit Center	14900 4th Ave SW; 209 SW 148th St Burien, WA	Moderate	Awaiting cleanup; presence of soil contamination	10	3 – standard platform
3	5626	ARCO 01166	14653 1st Ave S Burien, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	350	8 – retaining wall footings
4	10810	Shell 29	14848 1st Ave S Burien, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	600	4 – roadway pavement
5	9143	Circle K 1478	14605 1st Ave S Burien, WA	Moderate	Undergoing cleanup; presence of soil contamination	550	8 – retaining wall footings
6	12470	Burien Honda Midas	15010 1st Ave S Burien, WA	Low	Received no further action letter from Ecology	750	4 – roadway pavement
7	8659	USA Station 116	303 SW 148th St Burien, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	50	3 – standard platform
8	10990	Exxon 76969	14807 1st Ave S Burien, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	100	4 – roadway pavement
Tukwila International Boulevard BRT Station and Roadway Improvements							
9	9148	WSP Tukwila	15666 Pacific Hwy S DOT Seattle, WA	Moderate	Awaiting cleanup; presence of soil contamination	400	3 – standard platform
South Renton Transit Center and Roadway Improvements							
10	6342	Sound Ford	750 Rainier Ave S Renton, WA	High	Undergoing cleanup; presence of soil and groundwater contamination on-site and above MCLs	On-site	10 – on-site structures
11	5313	Texaco 632320402	509 S Grady Way Renton, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	700	10 – on-site structures
12	8561	Brown Bear Car Wash	621 Rainier Ave S Renton, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	800	10 – on-site structures
13	11155	USA Petroleum 115	765 Rainier Ave S Renton, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	175	10 – on-site structures

Count	Ecology clean site ID/ observed site ID	Site name	Site address	Site screening risk	Justification for site screening risk	Approximate distance from the site to the nearest project Improvement (feet)	Anticipated maximum excavation depth (feet)
14	10476	Chevron 99114	301 S Grady Way Renton, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	105	10 – on-site structures
15	9975	Renton Lincoln Mercury	201 S 7th St Renton, WA	Low	Received no further action letter from Ecology	200	10 – on-site structures
16	2963	Les Schwab Tires Renton	710 Rainier Ave S Renton, WA	Low	Received no further action letter from Ecology	200	10 – on-site structures
Bellevue Transit Center and Off-site Layover							
17	11545	Bravern Phase II	11111 NE 8th St Bellevue, WA	Low	Received no further action letter from Ecology	700	3 – standard platform
18	3227	Qwest Corp W00621	450 110th Ave NE Bellevue, WA	Low	Received no further action letter from Ecology	330	3 – standard platform
Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage (NONE)							
Brickyard Station and Roadway Improvements (NONE)							
Lynnwood City Center Transit Station BRT and Roadway Improvements							
19	8253	Lynnwood City I-5 and 196th St	I5 & 196th St Lynnwood, WA	Low	Received no further action letter from Ecology	400	4 – road widening
20	4853	19904 Poplar Way	19904 Poplar Way Lynnwood, WA	Low	Received no further action letter from Ecology	75	4 – road widening
21	6340	Chevron 94953	20010 44th Ave W Lynnwood, WA	Moderate	Undergoing cleanup; presence of soil and groundwater contamination	50	3 – standard platform
22	5406	Lynnwood Shell	19930 44th Ave W Lynnwood, WA	Low	Received no further action letter from Ecology	50	3 – standard platform

SOURCES: EDR 2019a; 2019b; 2019c; 2019d; 2019e; 2019f; EDR 2020; Ecology 2019a; Ecology 2020a

5.1.3 Burien Transit Center and Roadway Improvements

Contamination is known to exist at the Burien Transit Center. This site is listed with Ecology (Facility Site Id number 11133, Cleanup Site Id number 12380) as awaiting cleanup. According to Ecology records dating from 2011, contaminated soil was discovered on the northwest corner of the Burien Transit Center property during construction of a stormwater detention system associated with a new parking structure. On-site soils were contaminated with petroleum hydrocarbons as gasoline, diesel, and benzene. According to reports, a leaky joint from a former drain line associated with the adjacent gas station (USA Station 116) was the cause of the contamination. The drain line was sealed by the contractor approximately 20 feet south of the northern property boundary between the Burien Transit Center and USA Station 116. The remaining piping and approximately 50 cubic yards of contaminated soil were removed and sent off-site for disposal. Soil samples were collected from the sidewalls and bottom of the excavation, and analytical results indicated soils contaminated with petroleum hydrocarbons as gasoline and benzene remain at the bottom and east wall of the excavation. The report noted that during the excavation, the design limits of the stormwater detention system had been reached before all contaminated soil was removed and King County elected not to excavate further. An impermeable barrier was placed in the stormwater detention system to isolate contaminated soil in that area. Groundwater was not encountered during the excavation and it is not known whether groundwater beneath the site is contaminated. No other reports of excavation or remediation at the site were available for review in the Ecology database. Construction at the Burien Transit Center, particularly the northwestern portion of the site, would likely encounter petroleum hydrocarbons as gasoline and benzene contaminants in the soils. There is a potential for groundwater beneath the site to be impacted with petroleum hydrocarbons and benzene.

Seven other sites within 0.125 mile from the nearest project improvement are identified as hazardous material release sites. According to regional groundwater data, groundwater flow is to the west. Therefore, sites that have reported releases and are located adjacent to and/or hydraulically upgradient (east) of a project improvement have the potential to impact subsurface conditions. Based on these criteria, the sites that have the potential to be a source of contamination encountered during construction include the Exxon 76969, BBC Dodge, and USA Station 116. These sites have reported releases to soil, soil vapor, and groundwater from LUSTs and are undergoing cleanup or remediation. The contaminants of concern that may be encountered during construction of the Burien Transit Center and Roadway Improvements include petroleum hydrocarbons as gasoline and diesel; BTEX; non-halogenated solvents such as naphthalene; and lead.

One of the seven sites, Burien Honda Midas located 750 feet southeast of the transit center, is listed as having on-site soils impacted with petroleum. Voluntary cleanup was completed, and the site received a “no further action” letter from Ecology. Based on the case closure status, the distance and direction of this site to the Burien Transit Center and Roadway Improvements, and the fact that petroleum contamination impacted on-site soils only, the Burien Honda Midas site is unlikely to be a source of contamination encountered during project construction.

5.1.4 South Renton Transit Center and Roadway Improvements

Based on the prior Phase I and II ESAs discussed in Section 4.2.5, contamination is known to exist at this project component. Six additional sites have been identified in the vicinity of this project component, between 100 to 800 feet from the transit center. Two of the six sites, Renton Lincoln Mercury and Les Schwab Tires Renton, both 200 feet from the proposed transit center, have received a “no further action” letter from Ecology following cleanup activities. Even with

completed cleanup activities, contaminants may have migrated away from these sites and low levels of contamination below applicable cleanup levels may still be present. The remaining four sites are between 100 and 800 feet from the transit center and are undergoing remedial actions. All four sites are identified as having known groundwater contamination. These sites were assessed as having a Low to Moderate Risk of being a source for encountering hazardous materials during construction because of their proximity to areas where construction activities would likely occur and the fact that contamination could have migrated toward the project component, either in groundwater or vapor. The chemicals of concern listed at these sites were benzene, lead, metals-other, petroleum-other, PAHs, metals priority pollutants, non-halogenated solvents, petroleum-gasoline, and/or petroleum products-undefined.

In addition to the measures noted for all project components, prior to construction at the South Renton Transit Center site, Sound Transit would conduct pre-demolition asbestos and lead surveys for the existing structures to be removed. Sound Transit would also evaluate electrical components for the presence of electrical equipment containing polychlorinated biphenyls or mercury. If these materials are identified, Sound Transit would remove and dispose of them in accordance with Ecology and Puget Sound Clean Air Agency rules and regulations prior to demolition. Sound Transit would continue the ongoing coordination with Ecology during the cleanup and construction at the South Renton Transit Center.

If not managed properly, the potential exposure to contaminated materials disturbed during construction of the South Renton Transit Center could present a health and safety concern to the environment, including the Cedar Valley Sole Source Aquifer that the site is located in, as well as to construction workers and the public in the area. Anticipated construction activities that could result in encountering or disturbing hazardous materials in contaminated soils and groundwater include mass grading, excavations for building foundations (depth estimated at 10 feet), electrical pole foundations (approximately 8 feet deep), and utility connections (likely 6 to 8 feet deep). Most other areas would be covered with pavement or concrete slabs, which would only require excavating 4 feet deep during construction.

5.2 Long-term impacts

No long-term adverse impacts are expected to occur as a result of ongoing activities at the project components. The known and suspected hazardous material releases described above would be addressed as needed during construction and would not be expected to affect project operations over time. Cleanup activities at the Burien Transit Center and the South Renton Transit Center would be monitored and reported to Ecology as required by the MTCA.

The project is subject to Sound Transit's safety and security certification process, which includes an evaluation of hazardous materials used during construction, testing, and commissioning of facilities, as well as ongoing operations. Sound Transit has a policy to meet or exceed federal safety and security process requirements on all projects, which includes measures for controlling hazardous material usage during construction as well as operation and maintenance of the project. Operational risks related to the use, storage, generation, or disposal of hazardous materials would be integrated into a safety and security program or plan specific to the I-405 BRT Project.

The BRT stations, park-and-ride garages, and transit center would not store, use, or generate hazardous materials during operations. Sound Transit has an established program for responding to emergencies at its facilities, including a spill response and hazardous materials handling plan, and a spill response contractor on call 24/7 for spills to which Sound Transit staff might be unable to respond. Therefore, the potential of long-term recurring releases of hazardous materials from BRT facilities or operations would be low. Accidental spills or drips from vehicles parked in the park-and-ride garages could occur. For these instances, emergency spill cleanup kits would be staged at these locations. Wastes generated from cleanup activities would be removed and disposed of in accordance with state and federal regulations for the removal, treatment, or disposal of contaminated material.

Potential pollutants released on the ground at the BRT facilities as a result of routine bus operations, such as engine leaks or heavy metals from brake dust during driving or layover parking, would either stay on the site on the ground or could be washed by rain into stormwater that would be collected in the on-site stormwater treatment facilities. During ongoing roadway operations and maintenance, the stormwater treatment facilities constructed for, or existing near, the project components would collect, retain, and provide treatment to stormwater to remove potential pollutants deposited on roadways from vehicular traffic before releasing the stormwater off-site. This would also be a long-term benefit of the project as it would reduce hazardous materials in stormwater, groundwater, and soils.

6 MITIGATION MEASURES

Best management practices, including commitments to adhere to applicable regulations, are identified as part of the project, as described above. This includes measures for controlling hazardous materials planned for use within the context of constructing, operating, and maintaining the project. The project would also include measures called for in Ecology's *Tacoma Smelter Plume Model Remedies Guidance* and remediation plans for acquired properties with contamination. As a result, no mitigation measures are needed.

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APPENDIX A

Photo Log Sheets

Burien Transit Center and Roadway Improvements



This picture was taken standing at the south end of the transit center facing north toward the Burien Transit Center bus bays. The new BRT station platform would be located in the west transit center island (left side of this picture).

Burien Transit Center and Roadway Improvements



This picture was taken standing in front of 14650 1st Ave South. Formerly listed as BBC Dodge, this property is on SW 148th St, east of 1st Ave S and near the paving extents for the roadway modifications along SW 148th St. Current design plans show a retaining wall in front of this property on SW 148th St. Although this property is adjacent to elements of the Burien Transit Center project component, this property would not be impacted by the construction of this project component.

Tukwila International Boulevard BRT Station and Roadway Improvements



This picture was taken driving westbound on SR 518, passing the Tukwila International Boulevard Station SR 518 façade. The new BRT station platforms would be built on both sides of SR 518. Stairs and elevators would appear in this view, with a pedestrian bridge connecting the freeway station platforms to the existing Tukwila International Boulevard station. Roadway modifications, including lane configuration and widening, would occur in this area as well.

South Renton Transit Center and Roadway Improvements



This picture was taken standing in front of 750 Rainier Ave S, which is now vacant. The property was previously listed as Sound Collision Center. The location of this property is in the southwest quadrant of the proposed South Renton Transit Center Park-and-Ride garage structure and adjacent to the proposed green space on S Grady Way. The garage structure would have 5-floors and 700-stalls.

Bellevue Transit Center and Off-site Layover



This picture was taken standing at the northeast end of the Bellevue Transit Center facing south towards bus bay 6.

Bellevue Transit Center and Off-site Layover



This picture was taken standing in front of 317 112th Ave NE, standing on the corner of NE 4th St and 112th Ave NE facing south. This property is approximately one block away from the Bellevue Transit Center project component.

Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage



This picture was taken in front of 12412 116th Ave NE, facing the 76 gas station from the southwest. This property is a few blocks away from the location of the future Kingsgate Park-and-Ride Garage structure and would not be impacted by the project, as there is no construction occurring nearby.

Totem Lake/Kingsgate Station and Kingsgate Park-and-Ride Garage



This picture was taken standing at the south end of the existing Kingsgate Park-and-Ride lot. The lot currently consists of 502 surface parking stalls. The development of the Kingsgate Park-and-Ride Garage structure would add a net of 400 new park-and-ride stalls through the construction of a 5-story garage structure.

Lynnwood City Center Transit Station BRT and Roadway Improvements



This picture was taken in front of 19515 44th Ave W, facing 196th St SW where the future alignment of the BRT will be. The address was previously listed as Highline Cleaners, and is now a restaurant. This property is a few blocks away from the Lynnwood City Center transit station. This property will not be impacted by the project, as there is no construction occurring nearby.

Lynnwood City Center Transit Station BRT and Roadway Improvements



This picture was taken standing at the east end of the existing Lynnwood City Center transit center facing west towards the location of the future BRT station platforms. BRT buses would access the transit center using the existing bus driveway. One bay in the northeast portion of the transit center loop would be modified to accommodate the BRT service as a drop-off bay. Two bays in the southwest portion of the transit center loop would be modified to accommodate the BRT service as pick-up bays.

Lynnwood City Center Transit Station BRT and Roadway Improvements



This picture was taken driving northbound on the I-5 northbound on-ramp along Poplar Way, where the roadway and ramp would be widened for a bus-only lane for BRT vehicles to use to bypass congestion. Roadway modifications, including lane configuration and widening, would occur in this area.



APPENDIX B

EDR Reports
(submitted separately as electronic files)

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