# 4.5 Visual and Aesthetic Resources

## 4.5.1 Summary

Table 4.5-1 shows how many homes would have reduced visual quality under each alternative. Measures like the ones suggested in Section 4.5.5, Potential Mitigation Measures, would reduce the number of impacts.

TABLE 4.5-1
**Number of Residences with Reduced Visual Quality for Each Alternative (range with options)**

| Alternative | Residences |
|---|---|
| **Preferred** | **290** (290-290) |
| **SR 99** | **260** (245-315) |
| **SR 99 to I-5** | **175** (160-175) |
| **I-5 to SR 99** | **375** (375-415) |

**Note:** The estimated number of residences indicated is a proxy for number of sensitive viewers that could be impacted.

Key findings of the analysis include:

- There are approximately 5 miles of mature vegetation along I-5 (between S 212th Street and S 317th Street) that effectively screen views of the freeway from adjacent residential areas, serve as a backdrop to some residential areas, and contribute to the character of the I-5 corridor. The Preferred Alternative would remove substantial amounts of this vegetation along approximately 2.2 miles of this area. It would impact more sensitive viewers than other alternatives until revegetation matured enough to provide effective screening along parts of the alignment.
- The SR 99 Alternative would impact the second most sensitive viewers in residences on both sides of SR 99. The loss of vegetation along parts of the route (landscaping within medians and trees west of SR 99) would impact sensitive (residential) viewers, and in some areas the elevated guideway would intrude on views that residents have of Puget Sound and the Olympic Mountains.
- The SR 99 to I-5 Alternative would impact the fewest sensitive viewers.

**Sensitive Viewers**

Sensitive viewers are those for which the landscape contributes to their enjoyment of their activity and aesthetic of their living environment. Park users or residents are more sensitive to change in the landscape than office workers or motorists.

## 4.5.2 Introduction

This section analyzes potential FWLE visual quality changes to the surrounding area and their effects on sensitive viewers, predominantly residents. Additional information is available in Appendix G5, Visual and Aesthetic Resources Technical Report.

Visual and aesthetic environments are the landscape's visible natural and cultural features that contribute to the public's appreciation and enjoyment of their surroundings. The visual environment includes both the built and natural environments, whether solitary landmarks (such as buildings, trees, and bodies of water) or entire landscapes. Impacts are assessed in terms of the extent to which the project's presence would change the visual character and quality of the environment.

The analysis in this section is based generally on methodology developed by the Federal Highway Administration (FHWA) to assess potential impacts associated with transportation projects. The guidance is described in Appendix G5, Visual and Aesthetic Resources Technical Report. The FHWA recently published new guidelines for visual impact assessment of highway projects that suggested some changes to the previous methodology. This Final EIS does not use the new guidelines because the methods used in the Draft EIS adequately characterize visual quality, identify potential impacts to visual quality, and compare alternatives. This evaluation identifies the project's potential to change the study area's existing visual quality. It compares the number of adjacent residential units oriented toward the area of potential changes by alternative. Additional factors—view blockage of Puget Sound, the Olympic Mountains, and Mt. Rainier, and impacts associated with light and glare—were assessed qualitatively.

To help identify views, describe the affected environment, and assess impacts, the analysis divides the corridor into three landscape units, each of which is an identifiable and distinct geographic area (Exhibits 4.5-1, 4.5-2, and 4.5-3). Sound Transit also evaluated the FWLE alternatives for consistency with the plans, policies, and ordinances of the cities of SeaTac, Des Moines, Kent, and Federal Way related to visual or aesthetic resources and/or scenic views. No protected views from specific locations, linear features (such as highways), or view corridors applicable to the FWLE were identified.

**Factors that Contribute to Visual Quality**

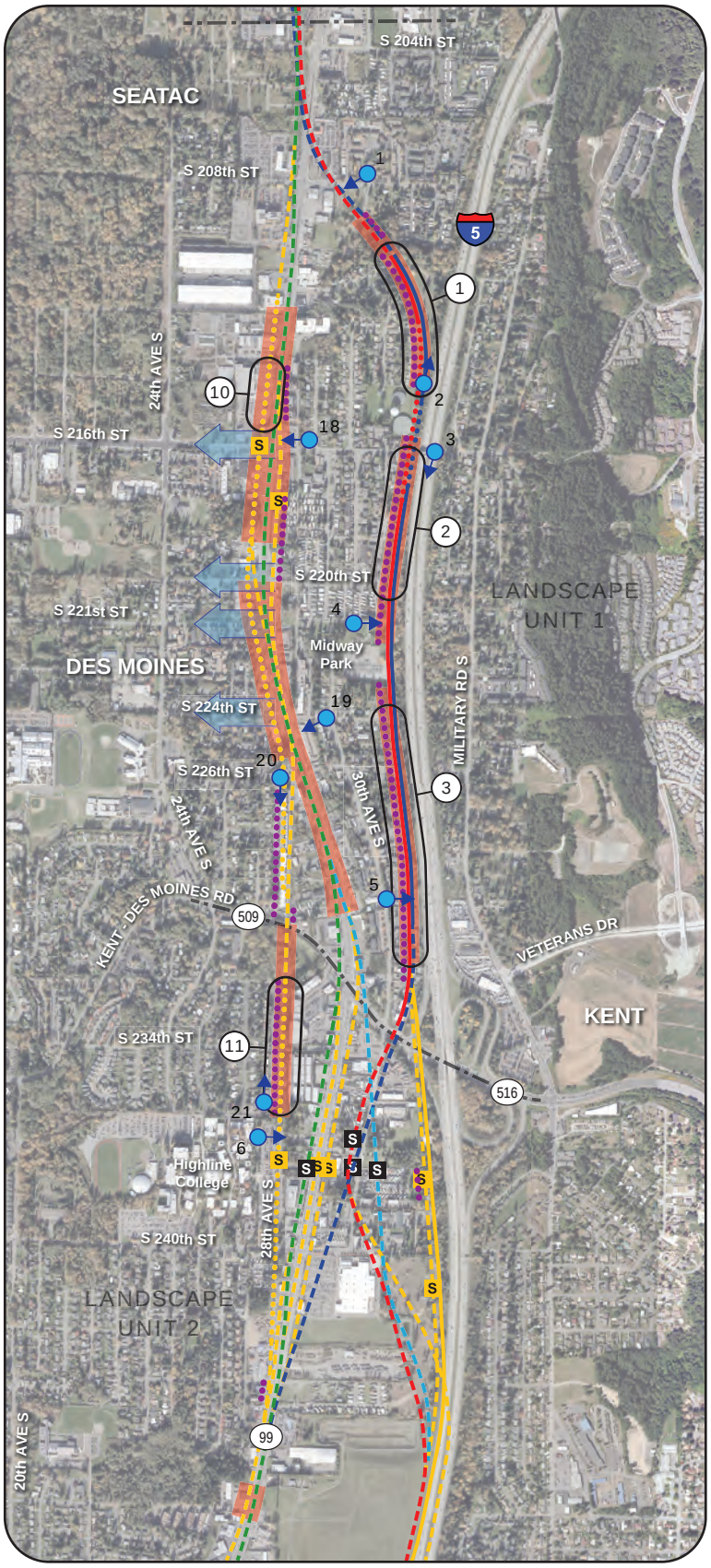
**Vividness** is the degree of drama, memorability, or distinctiveness of the landscape components. Four elements generally contribute to vividness: landform, vegetation, water features, and human-made elements.

**Intactness** is a measure of the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. Two elements—development and encroachment—usually determine the degree of intactness.

**Unity** is the degree of visual coherence and compositional harmony of the landscape when it is considered as a whole. High unity frequently attests to the careful design of individual components and their relationship in the landscape.

**Study Area**

The study area for visual and aesthetic resources is the viewshed of the alternatives being evaluated. It varies from about 200 to 500 feet from the alternatives, depending on intervening vegetation, terrain, and buildings.




## Legend

**Preferred Alternative**
- Elevated
- At-Grade
- Trench

**SR 99 Alternative**
- Elevated

**SR 99 to I-5 Alternative**
- Elevated
- At-Grade
- Trench

**I-5 to SR 99 Alternative**
- Elevated
- At-Grade

**Options**
- Elevated
- At-Grade
- Trench

**Stations**
- S — Station for Alternatives
- S — Station for Options
- Landscape Unit Boundary
- Area with Views of Puget Sound, the Olympic Mountains, or Mt. Rainier
- Area with Concentration of Sensitive Viewers
- 5 — Key Observation Point and View Direction
- Average Visual Quality

*Note: The portions of alternative corridors not categorized as average visual quality are categorized as low. No areas along the alternative corridors were categorized as high visual quality.*

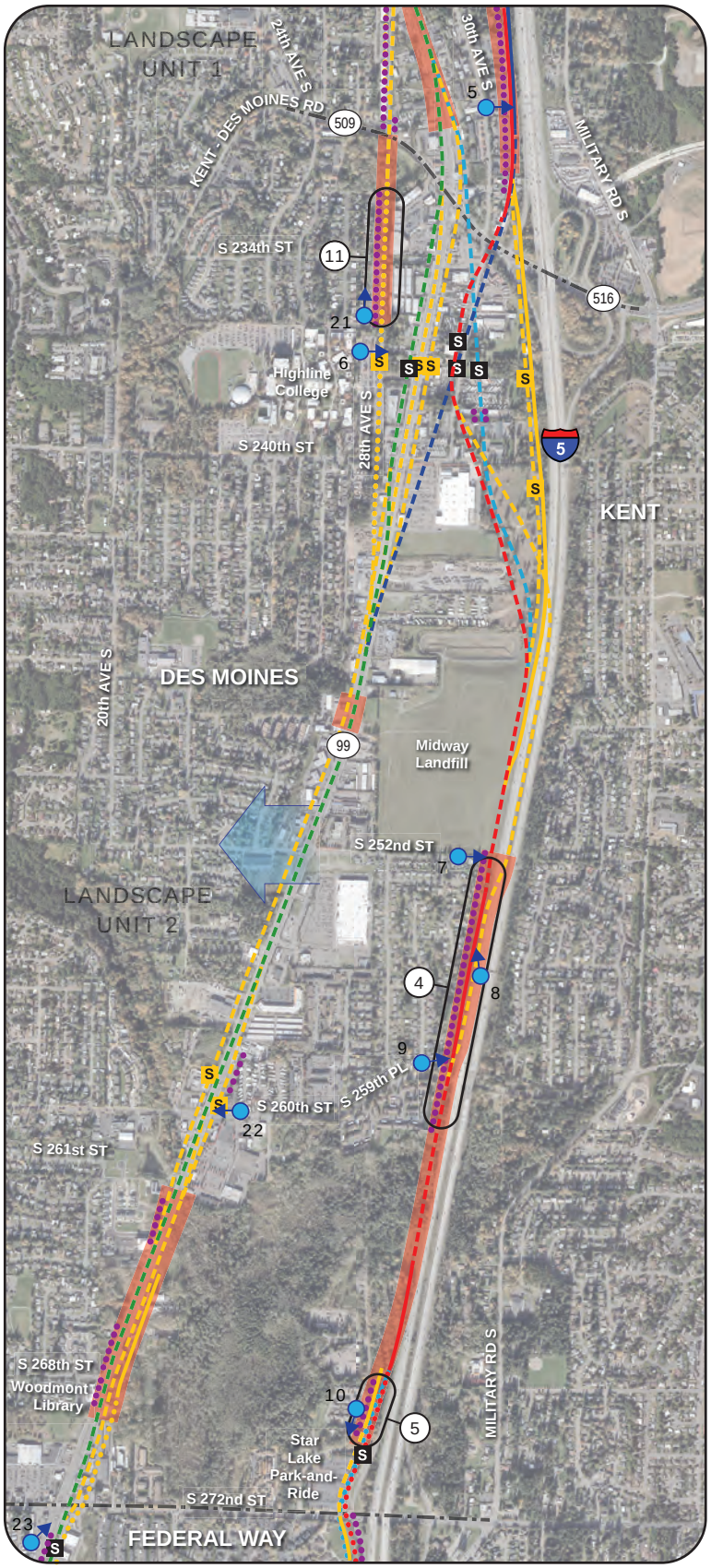
- 5 — General Location Where Visual Quality Would Be Lowered Adjacent to Areas with Concentration of Sensitive Viewers

*Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac, AeroMetric (2015).*

N

0 0.25 0.5 Mile

EXHIBIT 4.5-1
Visual Conditions in Landscape Unit 1
*Federal Way Link Extension*




## Legend

**Preferred Alternative**
- Elevated
- At-Grade
- Trench

**SR 99 Alternative**
- Elevated

**SR 99 to I-5 Alternative**
- Elevated
- At-Grade
- Trench

**I-5 to SR 99 Alternative**
- Elevated
- At-Grade

**Options**
- Elevated
- At-Grade
- Trench

**Stations**
- Station for Alternatives
- Station for Options
- Landscape Unit Boundary
- Area with Views of Puget Sound, the Olympic Mountains, or Mt. Rainier
- Area with Concentration of Sensitive Viewers
- Key Observation Point and View Direction
- Average Visual Quality

*Note: The portions of alternative corridors not categorized as average visual quality are categorized as low. No areas along the alternative corridors were categorized as high visual quality.*

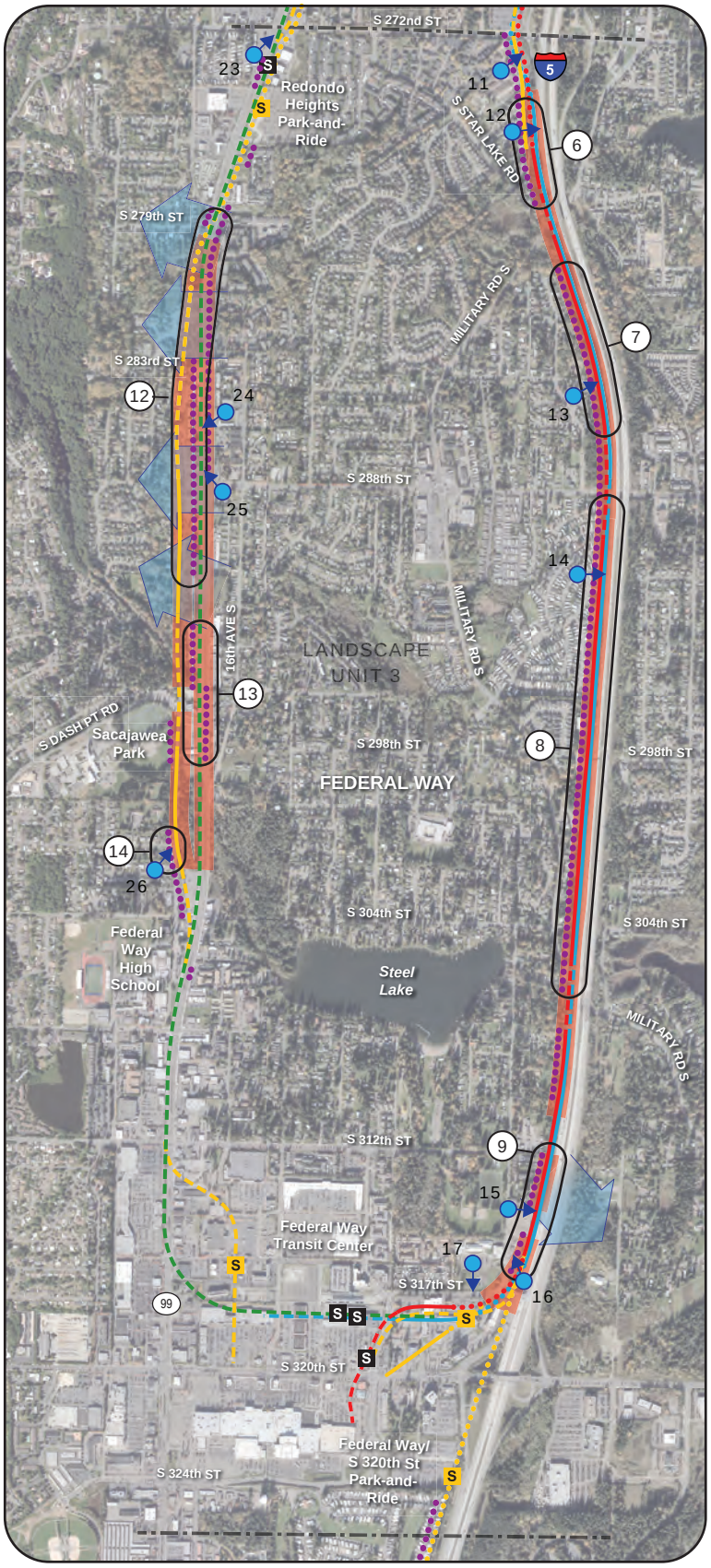
- General Location Where Visual Quality Would Be Lowered Adjacent to Areas with Concentration of Sensitive Viewers

*Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac, AeroMetric (2015).*

N

0 0.25 0.5 Mile

EXHIBIT 4.5-2
Visual Conditions in Landscape Unit 2
*Federal Way Link Extension*




## Legend

**Preferred Alternative**
- Elevated
- At-Grade
- Trench

**SR 99 Alternative**
- Elevated

**SR 99 to I-5 Alternative**
- Elevated
- At-Grade
- Trench

**I-5 to SR 99 Alternative**
- Elevated

**Options**
- Elevated
- At-Grade
- Trench

**Stations**
- S — Station for Alternatives
- S — Station for Options
- Landscape Unit Boundary
- Area with Views of Puget Sound, the Olympic Mountains, or Mt. Rainier
- Area with Concentration of Sensitive Viewers
- 5 — Key Observation Point and View Direction
- Average Visual Quality

*Note: The portions of alternative corridors not categorized as average visual quality are categorized as low. No areas along the alternative corridors were categorized as high visual quality.*

- 9 — General Location Where Visual Quality Would Be Lowered Adjacent to Areas with Concentration of Sensitive Viewers

*Data Sources: King County, Cities of Des Moines, Federal Way, Kent, SeaTac, AeroMetric (2015).*

N

0 0.25 0.5 Mile

EXHIBIT 4.5-3
Visual Conditions in Landscape Unit 3
*Federal Way Link Extension*

## 4.5.3 Affected Environment

The description of the affected environment focuses by landscape unit on the landscape character and visual quality, viewer sensitivity, and views of Puget Sound, the Olympic Mountains, and Mt. Rainier. During site visits and conversations with staff from affected cities, westward views of Puget Sound and the Olympic Mountains from parts of the SR 99 corridor and of Mt. Rainier from a portion of the I-5 corridor, while not specifically protected, were identified as important features to these communities. Exhibits 4.5-1 to 4.5-3 identify the general areas with such views that the project could affect.

*Landscape character* is an objective assessment of a landscape view that has various natural and human-built elements. The *visual quality* of a landscape view reflects how well its character-defining features are composed. *Vividness*, *intactness*, and *unity* determine the visual quality of landscape views.

*Visual quality categories* help assess how the project would change the visual environment. As a baseline, existing visual quality was categorized as low, average, or high (no areas of high visual quality were identified). See Exhibits 4.5-1, 4.5-2, and 4.5-3.

*Sensitive viewers* are people for whom the landscape view is important. They are likely to notice, and be concerned with, changes to the viewed landscape. Residents and park users are more sensitive to changes in landscapes than office workers or motorists.

**Visual Quality Categories**

**Low Visual Quality:** Areas with some combination of features that seem visually out of place, lack visual coherence, or do not have compositional harmony, and/or might contain eyesores.

**Average Visual Quality:** Areas with common or average landscapes that have a generally pleasant appearance but might lack enough distinctiveness, memorability, drama, and compositional harmony to place them in the high visual quality category. This is generally the most common category.

**High Visual Quality:** Areas that are exceptionally memorable, distinctive, unique (in a positive way), and/or intact—they can be natural, park-like, or urban (with urban areas displaying strong and consistent architectural and urban design considerations).

### 4.5.3.1 I-5 Corridor

I-5 greatly influences the character of views from adjacent areas. Its eight travel lanes, center divider, shoulder, cleared area adjacent to the shoulder, and vegetated areas beyond are typical of major interstate highways. Mature trees and vegetation, some in yards of residences and some within the right-of-way, screen most of the adjacent neighborhoods, primarily for about 5 miles between about S 212th Street and S 317th Street. Vegetation along the edge of I-5 also serves as a distinctive backdrop for many adjacent neighborhoods. The vegetated areas along this part of the I-5 corridor are not uncommon in the greater Seattle metropolitan area, but they offer visual relief from the large-scale infrastructure of the freeway.

Most of the residences west of and adjacent to I-5 are oriented away from the freeway. Other residences beyond those adjacent to I-5 are more likely to face I-5, but are screened from it by the residences next to I-5 or by vegetation. Exhibits 4.5-1, 4.5.2, and 4.5-3 show that the visual quality of much of the I-5 corridor as viewed from nearby areas is average. Some multi-story buildings at the south end of the FWLE I-5 corridor have balconies that face east towards I-5 and include views of Mt. Rainier (where views are not screened by trees).

#### 4.5.3.2 SR 99 Corridor

The character of the six-lane SR 99 corridor is typical of major arterial transportation corridors with extensive automobile-oriented commercial development (see Section 4.2, Land Use, for a more detailed description of land uses along SR 99). Land uses include many large-scale, low-rise commercial, manufacturing, and storage buildings with extensive paved areas for parking or storage that do not support visual order, intactness, or unity. Large parts of the SR 99 corridor have a utilitarian appearance and a low visual quality. As areas along the SR 99 corridor develop, redevelop, or receive additional streetscape improvements, the character of the corridor will continue to evolve from large-scale commercial, strip-mall commercial, and undeveloped, to residential and office and smaller commercial, which will improve visual quality. Some areas formerly considered to have low visual quality have improved in recent years and now have average visual quality (see Exhibits 4.5-1 to 4.5-3).

### 4.5.4 Environmental Impacts

The following three factors were used to determine impacts on visual and aesthetic resources:

- Change to the visual quality of the FWLE corridors near areas with concentrations of sensitive viewers (mostly residents)
- Potential blockage or intrusion on views of Puget Sound, the Olympic Mountains, or Mt. Rainier
- Impacts from light and glare related to stations, parking areas, and trains

#### 4.5.4.1 No Build Alternative

With the No Build Alternative, visual quality would remain similar to current conditions, except for areas in Landscape Unit 1 and the north portion of Landscape Unit 2 where the SR 509 Extension Project would remove existing residential buildings and vegetation adjacent

to and within the I-5 right-of-way, changing the landscape character of adjacent areas and potentially reducing visual quality. Elsewhere, changes to the landscape would be limited to minor improvements of existing roadways and private development along the corridor, with incremental changes to the visual environment over time. Some westward views of Puget Sound and the Olympic Mountains from SR 99 would change over time if properties on the west side of SR 99 are redeveloped to their currently allowed zoning heights (between 35 and 200 feet, depending upon location-specific zoning).

### 4.5.4.2 Build Alternatives

This section discusses potential visual impacts from the FWLE. Chapter 5, Construction Impacts, describes short-term visual impacts during construction.

When developing FWLE alternatives during conceptual design, Sound Transit used several measures to avoid and minimize potential visual impacts:

- Identifying alignments near or in existing arterials and highways and a utility corridor to avoid or reduce acquisitions and clearing of new right-of-way.
- Minimizing the elevation or height of structures. This includes incorporating trench and at-grade profiles to reduce visual and aesthetic impacts where practical.
- Minimizing clearing for construction and operation.

#### Direct Impacts

Sound Transit developed visual simulations for 19 key observation points (KOPs) to depict the conceptual design of the FWLE. Exhibits 4.5-1 to 4.5-3 show the locations of those KOPs. All of the simulations are presented in Appendix C of the Visual and Aesthetic Resources Technical Report (Appendix G5). Some of the sections below include reduced-size versions of some visual simulations from Appendix C, selected to represent a variety of existing view types and the mixture of FWLE components that would be seen from KOPs. The larger simulations in Appendix C better illustrate the expected scale and general appearance of the alternatives and options.

**Key Observation Points**

Sound Transit, in consultation with local jurisdictions, selected 19 site-specific locations, or KOPs, from which to take photographs showing existing visual conditions. Those photographs were used to develop photographic simulations to (1) illustrate how existing visual characteristics of the areas would change with the FWLE, (2) assist in evaluating changes to visual quality, and (3) depict areas where project components could intrude upon, or block, views of Puget Sound, the Olympic Mountains, and Mt. Rainier.

Although some simulations show general areas where mitigation such as vegetative screening or sound walls might be appropriate, they do not specifically depict the mitigation measures described in

Section 4.5.5, Potential Mitigation Measures. Sound walls and landscaping in the simulations are conceptual in size and location. Sound Transit would develop specific measures during final design with input from the affected communities and cities.

**Impacts Common to All Build Alternatives**

All FWLE alternatives and options would change the visual environment. The FWLE would remove existing visual features such as buildings, trees, landscaped areas, slopes, and parking lots. Some streets would require widening, and others would require bridging structures where the guideway would pass beneath them in a trench. In addition, FWLE components such as at-grade and elevated guideways and stations, parking garages, noise barriers, and ancillary facilities such as traction power substations and detention ponds would become part of the visual environment of areas near these facilities. The design of the stations and parking structures would employ context-sensitive design to help these structures reflect the surrounding areas. Examples would include using material colors that help the structures blend in, installing functional landscaping around the perimeter of the structures, incorporating islands of functional landscaping in areas of pavement, and placing art near stations.

This evaluation focuses on impacts on residential sensitive viewers, but workers, customers, and motorists would also see changes from buildings, sidewalks, and roadways. Future light rail passengers would also be viewers, with views from the FWLE. Along sections of elevated guideways and stations, passengers would have potentially scenic elevated views of the surrounding areas.

Lights at the stations and parking areas would not affect sensitive viewers because of the developed nature of the potential station areas, and because these lights would use source shielding to prevent luminaries (bulbs) from being directly visible from adjacent residences. Headlights from passing trains are directed forward and downward to the guideway. While the train headlights on at-grade and elevated guideways may be visible to some, sound walls (on alignments adjacent to residential areas) would block the train headlights and most of the interior lights depending on the height and placement of the wall. The passage of trains at night would be brief, but if seen, might disturb some sensitive viewers. However, similar lights from vehicles passing by parts of SR 99 and/or other arterials are currently visible from residences.

## Impacts by Alternative

Table 4.5-2 summarizes the number of residences that would experience a reduction of visual quality. Locations where impacts would occur are described in this section. Exhibits 4.5-1 through 4.5-3 show the affected areas.

TABLE 4.5-2
**Approximate Number of Residences with Reduced Visual Quality**

| Landscape Unit | Preferred Alternative | SR 99 Alternative | SR 99 to I-5 Alternative | I-5 to SR 99 Alternative |
|---|---|---|---|---|
| Landscape Unit 1: S 200th Street to Kent-Des Moines Road | 130 | 15 | 15 | 130 |
| Landscape Unit 2: Kent-Des Moines Road to S 272nd Street | 30 | 0 | 30 | 0 |
| Landscape Unit 3: S 272nd Street to Federal Way Transit Center | 130 | 170 | 130 | 245 |
| **Total All Landscape Units** | **290** | **260** | **175** | **375** |

Note: The estimated number of residences indicated is a proxy for the number of sensitive viewers that could be impacted.

### *Preferred Alternative*

The greatest potential impacts from the Preferred Alternative would come from tree removal along the west side of the I-5 corridor, and in some areas, the removal of buildings (primarily multi-family residential buildings and single-family residences) in neighborhoods west of I-5. Sound Transit might also remove potentially dangerous trees outside of the construction footprint that could fall onto the guideway. These changes would alter views from and the visual character of those neighborhoods. Although non-sightseeing motorists are considered to have moderate to low viewer sensitivity, tree removal would also change motorists' experience while driving on parts of I-5, and some could experience decreased driving pleasure.

The Preferred Alternative would remove approximately 33 acres of forested area over approximately 2.2 miles (of an existing 5 miles of vegetated areas) along the I-5 corridor. Removing these trees, which are within the I-5 right-of-way or in other adjacent areas, would make the FWLE elements visible from some adjacent properties and by motorists on I-5, and would change the character of the corridor to a more urbanized environment with less tree canopy.

Three Resource Conservation Areas (RCAs) along the Preferred Alternative comprise approximately 1.2 acres of land in the study area. The Preferred Alternative would permanently remove vegetation from about 0.6 acre of the RCAs.

**Resource Conservation Areas**

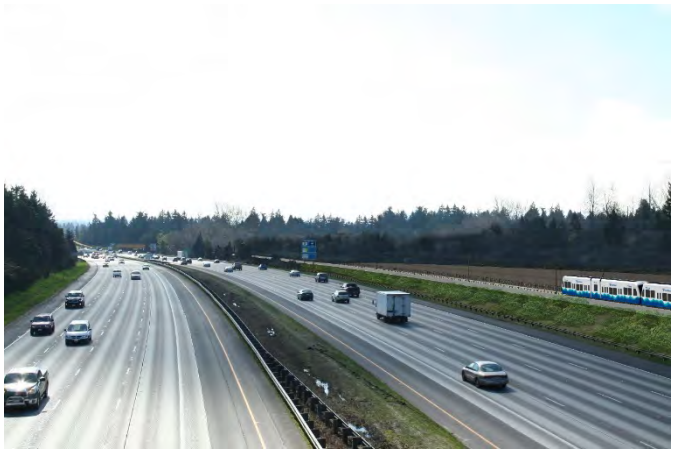
WSDOT owns and maintains specific buffer areas beyond interstate rights-of-way that are not required for operation of the interstate and that may contain mature native vegetation. These are called Resource Conservation Areas.

People living adjacent to the guideway would experience the most noticeable visual change from the Preferred Alternative because of the removal of vegetation and presence of the guideway and passing trains. Mature vegetation and existing buildings that would not be removed by the Preferred Alternative would tend to screen or block views of the Preferred Alternative from neighborhood residences not directly adjacent to it. Where vegetation and building removal would make properties west of I-5 more visible from I-5, views of urbanized uses (primarily residential) or sound walls from I-5 would replace views of forested areas. For most adjacent residents, views of sound walls along at-grade and elevated guideways, along with replanted vegetation, would replace views of mature vegetation. In some locations, I-5 would be seen over the sound walls until replanted vegetation matured to a large enough size to screen views (in approximately 5 to 8 years).

*Landscape Unit 1*

The Preferred Alternative would remove approximately 0.3 mile of the current 0.8 mile of vegetative screening along I-5 in Landscape Unit 1 (Exhibit 4.5-4). The removal of vegetation and buildings would expose many residents on the west to largely uninterrupted views of the generally at-grade light rail alignment and its sound walls.

*Existing Condition – from S 216th Street Overpass at I-5*



*Simulation of the Preferred Alternative (with conceptual revegetation adjacent to freeway and behind at-grade alignment)*

Exhibit 4.5-4
KOP 4

Between approximately S 211th Street and the Highline Water District property north of S 216th Street, the Preferred Alternative would remove several single-family and multi-family residential buildings as well as mature vegetation within the I-5 corridor, which would result in views of the Preferred Alternative and parts of I-5 (seen over sound

walls). The presence of the Preferred Alternative would reduce this area's visual quality from average to low.

The Preferred Alternative would displace a Highline Water District water tank north of S 216th Street that is adjacent to I-5. A new tank would be located on the same district property. The District's planning work to date calls for removing one of the elevated water towers on the property. The new tank would replace the function of the ground-level tank displaced by the Preferred Alternative as well as the elevated tank. The changes associated with the Preferred Alternative would not further reduce the existing low visual quality of this area.

Between approximately S 224th Street and Kent-Des Moines Road, the at-grade Preferred Alternative would remove multi-family residential buildings and vegetative screening along I-5 (see Exhibit 4.5-5). The removal of the buildings and vegetation would open up views of I-5 (over sound walls) from some units in the remaining multi-family buildings. These changes would reduce the visual quality of much of this area from average to low.

*Existing Condition – 30th Avenue S toward I-5*

*Simulation of the Preferred Alternative (note sound wall and landscaping after 8 to 10 years)*

Exhibit 4.5-5
KOP 6

*Landscape Unit 2*

Approximately 0.4 mile of the existing 1.5 mile of mature vegetation screening along the I-5 corridor in Landscape Unit 2 would be removed. To the west of I-5, the Kent/Des Moines Station would introduce new visual elements that would improve vividness, intactness, and unity and thus improve the visual quality of the area near it (Exhibit 4.5-6). The Preferred Alternative would enter the I-5

right-of-way just south of S 240th Street and continue south to S 252nd Street, where the alignment would transition to at-grade near a large residential area.

*Existing Condition – Looking west from Highline College Parking Lot*

*Simulation of the Preferred Alternative (with elevated Kent/Des-Moines Station)*

Exhibit 4.5-6
KOP 7

Sounds walls would be present on the west side of the light rail where it would be next to residences. The at-grade alignment would continue south past residences to S 259th Street, where there are single-family residences north of S 259th Street and a large-multi-family residential complex to the south. The FWLE would remove mature vegetation within this part of the I-5 corridor. The removal of the vegetation and the presence of the elevated and at-grade guideway, sound walls, and passing trains would not be consistent with the residential character of this area and would reduce visual quality from average to low.

The Preferred Alternative would be in a trench as it passes the Greenfield Park neighborhood west of 28th Avenue S and north of the S 272nd Star Lake Park-and-Ride (Exhibit 4.5-7). Residences on the east side of 28th Avenue S and almost all of the vegetation between 28th Avenue S and I-5 would be removed. Approximately 150 feet of 28th Avenue S would be shifted west into a neighborhood open space, removing some additional vegetation between the neighborhood and the station. Views from the back yards of residences along 28th Avenue S would not include the alignment, but the removal of trees would be very noticeable. Views from some residences might include the top of part of the S 272nd Star Lake Station's 5-story parking garage. The Preferred Alternative would change the appearance of the east side of 28th Avenue S and reduce

the visual quality of the portion of the Greenfield Park neighborhood west of 28th Avenue S. This would reduce the visual quality of this area to low until landscaping associated with mitigation measures matures (as shown in Exhibit 4.5-7).

*Existing Condition – 28th Avenue S (Greenfield neighborhood)*

*Simulation of the Preferred Alternative (with conceptual vegetation approximately 8 to 10 years after planting)*

Exhibit 4.5-7
KOP 11

*Landscape Unit 3*

In Landscape Unit 3, the Preferred Alternative would remove about 1.6 miles of the 2.6 miles of mature tree cover that screens the western edge of I-5 from adjacent residential areas. It would pass at-grade next to a residential area south of Mark Twain Elementary School. The removal of the mature trees and the addition of sound walls and passing trains would alter the character of this area and reduce the visual quality from average to low.

Between Military Road and S 288th Street, the Preferred Alternative would be at-grade and remove most of the mature vegetation within the I-5 WSDOT right-of-way. Although it would leave considerable vegetation on properties in the portion of the I-5 corridor west of the WSDOT right-of-way that would help screen views of the alignment, it would change the character of areas adjacent to I-5 and reduce their visual quality from average to low.

South of S 288th Street, tree removal and replacement of the existing sound wall would be noticeable from residences in a mobile home park that have views toward I-5 (Exhibit 4.5-8) as well as several areas of single-family residences to the south. Tree removal, a retained-fill wall next to parts of a mobile home park, and sound walls next to the

retained fill and at-grade portions of Preferred Alternative would reduce the visual quality of these areas from average to low.

*Existing Condition – Looking East between S 288th Street and S 304th Street toward I-5*

*Simulation of the Preferred Alternative Approximately 1 Year after Planting (note retaining wall and sound wall on top of retaining wall)*

Exhibit 4.5-8
KOP 15

Between S 312th Street and approximately S 317th Street, vegetation in the I-5 corridor and several buildings would be removed, reducing visual quality from average to low for adjacent single-family residences and multi-family residential complexes. Sound walls would not intrude on views of Mt. Rainier. Beyond S 317th Street, the Federal Way Transit Center Station and alignment options would add elements to the areas near them, but would not lower the existing visual quality of adjacent areas that contain sensitive viewers.

The mitigation measures discussed in Section 4.5.5 would help reduce visual impacts of the Preferred Alternative on nearby residential areas. Near many of the at-grade sections of the Preferred Alternative that have room for landscaping between sound walls and the alignment, mitigation measures could restore visual quality to average after several years as plants matured. In areas with less room for revegetation, treated sound walls and more limited landscaping would still improve visual quality.

*Preferred Alternative Options*

Vegetation removal, the presence of the elevated structure, sound walls, and passing trains associated with the **S 272nd Star Lake Elevated Station Option** would be very noticeable as it passes the Greenfield Park neighborhood west of 28th Avenue S and north of the S 272nd Star Lake Park-and-Ride (Exhibit 4.5-9). It would also be noticeable from a residential area south of Mark Twain Elementary

School and the school playfield. This option would alter the character of these areas and reduce the visual quality from average to low.

*Existing Condition – S 272nd Star Lake Elevated Station Option*

*Simulation of the S 272nd Star Lake Elevated Station Option Approximately 8 Years after Planting*

Exhibit 4.5-9
KOP 11

The **S 317th Elevated Alignment Option** would be very visible from some homes in two- to three-story-high residential developments on 28th Avenue S and to the south from Truman High School. The loss of vegetation and presence of the elevated structure would reduce the average visual quality of areas near the homes to low and would intrude on views of Mt. Rainier from some homes.

The **Federal Way I-5 Station** and **Federal Way S 320th Park-and-Ride Station options** would not lower visual quality from homes or block views of Mt. Rainier.

***SR 99 Alternative***

The SR 99 Alternative guideway would be entirely elevated and be higher than most structures on adjacent lands. However, it would be consistent with the utilitarian character of portions of the corridor that include large-scale, low-rise commercial and industrial buildings surrounded by parking lots and paved storage areas. Most of these areas have low visual quality and do not contain sensitive viewers; the SR 99 Alternative would not reduce visual quality further. In residential areas (primarily multi-story residential buildings) that have average visual quality, the SR 99 Alternative elevated guideway would be generally out of scale and intrusive, and would reduce visual quality to low.

**Future Development along SR 99**

As properties along the west side of SR 99 redevelop over time, views of Puget Sound and the Olympic Mountains from SR 99 and areas east of SR 99 could be impacted. For example, areas on the west side of SR 99 in the vicinity of S 216th Street have been zoned Pacific Ridge Commercial 2 (PR-C2). This zone allows a maximum height of 75 feet, and as tall as 200 feet in some circumstances. As these properties redevelop over time, it is likely that views of Puget Sound and the Olympic Mountains from SR 99 and areas east of it could be restricted to road corridors like those near S 216th Street and S 224th

The SR 99 Alternative would require portions of landscaped medians be removed for guideway support columns, turn lanes, or both. Existing vegetation would be preserved or replaced where feasible with smaller trees or shrubs. Landscaped medians would be replanted in consultation with local jurisdictions and would take several years to return to current conditions.

*Landscape Unit 1*

In Landscape Unit 1, the elevated structure would be inconsistent with the residential character of the area on the east side of SR 99 directly north of S 216th Street and would reduce the visual quality from average to low.

The guideway would intrude on views of Puget Sound and the Olympic Mountains seen from some residences, as well as views of these features from some areas east of SR 99 (Exhibit 4.5-10).

*Existing Condition – S 216th Street toward SR 99*

*Simulation of the SR 99 Alternative*

Exhibit 4.5-10
KOP 19

*Landscape Unit 2*

In Landscape Unit 2, the elevated guideway would not lower visual quality enough to reduce it from average to low (Exhibit 4.5-11).

*Existing Condition – Looking West from S 260th Street toward SR 99*

*Simulation of the SR 99 Alternative*

Exhibit 4.5-11
KOP 23

*Landscape Unit 3*

The SR 99 Alternative would pass a series of residential areas adjacent to areas with average visual quality. Most of the residences are multi-story buildings along the east side of SR 99 on terrain higher than SR 99. Some isolated areas contain single-family residences and mobile homes that are generally at the same elevation as SR 99. The scale and presence of the elevated guideway in these areas would be inconsistent with the residential character and would reduce the visual quality from average to low. It would also intrude on, or block, views of Puget Sound and the Olympic Mountains from some residences (Exhibit 4.5-12). The elevated guideway would also partially block views of and from some public facilities, including the Woodmont Public Library and Federal Way High School.

*Existing Condition – Looking Northwest from S 288th Street from SR 99*

*Simulation of the SR 99 Alternative*

Exhibit 4.5-12
KOP 26

*SR 99 Alternative Station Options*

Impacts from some station options would vary from the SR 99 Alternative. The **S 216th West Station Option** would reduce visual impacts by being in a trench near residences. The **S 216th East Station Option** would intensify impacts on views from residences on the east side of SR 99 near this station but would not change the number of affected residents.

The **Kent/Des Moines HC Campus Station Option** would be inconsistent with the residential character of the areas it passes through in Landscape Unit 2. It would decrease the visual quality of this area to low, impacting 15 additional residences. Landscaping and sound walls next to the trench along 28th Avenue S adjacent to residences would restore visual quality to average after 5 to 8 years as plants matured.

The cleared right-of-way and elevated guideway of the **S 272nd Redondo Trench Station Option** would be inconsistent with the character of residential areas in Landscape Units 2 and 3. The elevated sections north of Dash Point Road would lower visual quality. South of Dash Point Road, the visual quality of views along 16th Avenue S would be restored to average after mitigation. Compared with the SR 99 Alternative, this option would increase the total number of residential units impacted by approximately 40.

***SR 99 to I-5 Alternative***

Between the Angle Lake Station and approximately S 240th Street, the SR 99 to I-5 Alternative would be the same as the SR 99 Alternative and would pass through areas with low visual quality or no concentrations of sensitive viewers. There would be no visual impacts between Kent-Des Moines Road and S 240th Street. South of S 240th Street, this alternative would be similar to the Preferred Alternative and have the same reductions in visual quality next to areas with concentrations of sensitive viewers in Landscape Units 2 and 3. There would be no additional impacts from station or alignment options.

***I-5 to SR 99 Alternative***

The I-5 to SR 99 Alternative would have visual impacts in Landscape Unit 1 similar to those of the Preferred Alternative. There would not be a reduction in visual quality near residential areas between Kent-Des Moines Road and S 240th Street. After reaching the SR 99 median

south of S 240th Street, the change in visual quality near residences would be the same as that of the SR 99 Alternative. Visual changes from the S 272nd Redondo Trench Station Option would be the same as described under the SR 99 Alternative.

#### Indirect Impacts

The FWLE would support changes to nearby land uses, as allowed in adopted plans, which would change the character and visual quality of parts of the landscape units. Increases in the density of development near FWLE stations would be expected to occur as an indirect result of the FWLE. Because development density and building scale near FWLE stations would increase, the appearance of FWLE components, especially elevated components, would contribute to a more urban, less suburban character. This would be more noticeable along the SR 99 corridor than along the I-5 corridor because of commercial and mixed use land uses along SR 99, as well as the intent of local jurisdictions to encourage higher development, including areas designated for transit-oriented development.

### 4.5.5 Potential Mitigation Measures

In addition to implementing the avoidance and minimization measures described in the first part of Section 4.5.4.2, Sound Transit would take supplemental actions to reduce visual impacts, primarily for areas near residences where visual quality would be lowered. Specific mitigation details would be determined in consultation with WSDOT and local jurisdictions during final design. Landscaping would also be provided in other locations not specified below as required by local codes or permits.

Most of the following measures are related to placement and design of the light rail facilities, or use of landscaping or other features to help screen or soften views of facilities. Below are general descriptions of what the mitigation measures would attempt to achieve. Table 4.5-3 identifies which of the mitigation measures would be appropriate for the locations adjacent to areas with sensitive viewers where visual quality would be lowered, as identified in Exhibits 4.5-1 to 4.5-3. Note that the locations indicated in Exhibits 4.5-1 to 4.5-3 indicate the general locations where visual quality would be lowered and where mitigation measures would be appropriate. Specific locations where the mitigation measures would be appropriate will be determined during final design.

TABLE 4.5-3
**Mitigation Measures for Locations Adjacent to Areas with Sensitive Viewers where Visual Quality would be Lowered**

| Landscape Unit and Location Number (see Exhibits 4.5-1 to 4.5-3) | Mitigation Measure(s) | Notes |
|---|---|---|
| **I-5 Corridor** | | |
| *Landscape Unit 1* | | |
| Location 1 | Mitigation Measure 1<br>Mitigation Measure 2 | These measures would address vegetation loss, building removal, and the introduction of sound walls adjacent to residential areas by adding new vegetation to provide screening. |
| Location 2 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address vegetation loss, buildings removal, and the introduction of noise walls adjacent to residential areas. |
| Location 3 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address the vegetation loss, buildings removal, and the introduction of noise walls adjacent to residential areas. |
| *Landscape Unit 2* | | |
| Location 4 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address vegetation loss, buildings removal, and the introduction of sound walls adjacent to residential areas. |
| Location 5 | Mitigation Measure 1<br>Mitigation Measure 3 | These measures would address vegetation loss along the I-5 right-of-way and along the east side of 28th Avenue S, the removal of buildings, and the introduction of sound walls. |
| *Landscape Unit 3* | | |
| Location 6 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address vegetation loss and building removal south of Mark Twain Elementary School, vegetation loss just north of Military Road S, and the introduction of sound walls adjacent to residences. |
| Location 7 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address vegetation loss and the introduction of sound walls adjacent to residences. |
| Location 8 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address vegetation loss, the building removal, and the introduction of sound walls adjacent to residences. |
| Location 9 | Mitigation Measure 1<br>Mitigation Measure 2<br>Mitigation Measure 3 | These measures would address the vegetation loss, building removal, and the introduction of sound walls adjacent to residences. |
| **SR 99 Corridor** | | |
| *Landscape Unit 1* | | |
| Location 10 | Mitigation Measure 4 | This measure would replace the loss of median landscaping. |
| *Landscape Unit 2* | | |
| Location 11 | No measures suggested | |
| *Landscape Unit 3* | | |
| Location 12 | Mitigation Measure 1<br>Mitigation Measure 4 | These measures would replace the loss of landscaped medians and provide landscaping to help screen views from adjacent residences downhill (west) of the elevated guideway. |

TABLE 4.5-3
**Mitigation Measures for Locations Adjacent to Areas with Sensitive Viewers where Visual Quality would be Lowered**

| Landscape Unit and Location Number (see Exhibits 4.5-1 to 4.5-3) | Mitigation Measure(s) | Notes |
|---|---|---|
| Location 13 | Mitigation Measure 1<br>Mitigation Measure 4 | These measures would replace vegetation and building removal on the east side of 16th Avenue S by screening views of residents on the west side of 16th Avenue S. |

**Mitigation Measure 1:** Where remaining vegetation outside of WSDOT I-5 right-of-way does not screen views of FWLE components along I-5 from residences, Sound Transit would add landscaping adjacent to residential areas. As appropriate, Sound Transit will provide landscaping beyond code requirements (i.e., greater widths of planting strips or plant materials) to provide effective visual mitigation. Where appropriate and agreed upon with property owners, Sound Transit will add landscaping on private property (i.e., within the yards of adjacent residences) to help screen views of FWLE components.

**Mitigation Measure 2**: In areas next to residences where there would not be enough room to add landscaping that would screen views of sound walls, Sound Transit would treat the sound walls with visually interesting elements such as design treatments that incorporate, textures, patterns, and/or color (Exhibit 4.5-13). It would also consider adding lower-growing and smaller-scale landscaping along the base of sound walls adjacent to residences to soften the walls' appearance.


*Example of Textured Sound Wall.*
Source: Google Earth

*Example of Textured Highway Retaining Wall.*
Source: Google Earth

Exhibit 4.5-13
Examples of Surface Treatments for Retaining and Sound Walls

**Mitigation Measure 3:** Sound Transit would minimize vegetation removal within the WSDOT right-of-way (including RCAs) to the extent practicable as determined in consultation with WSDOT. When mitigation is required, Sound Transit will consult with WSDOT staff to develop appropriate site-specific measures and offsite mitigation to provide effective visual mitigation, consistent with the WSDOT *Roadside Policy Manual* (WSDOT, 2015). The manual describes the extent of the mitigation that would be required for lost vegetation, vegetation types, and replacement ratios, and where replacement can occur.

**Mitigation Measure 4**: Where elevated guideway construction would remove existing landscaped medians for guideway columns, Sound Transit could replace landscaping, as appropriate, between the guideway columns.

***Roadside Policy Manual***

The WSDOT *Roadside Policy Manual* (WSDOT, 2015) emphasizes the importance of avoiding or minimizing impacts on RCAs. When impacts do occur, the manual requires that "mitigation for lost or damaged RCAs must consist of an equal value exchange that provides appropriate performance values identified in the manual." It also includes permanent irrigation requirements for impacted RCAs and specific plant establishment criteria (such as a minimum 3-year plant establishment period). WSDOT is also responsible for protecting vegetation in non-RCA parts of a WSDOT-maintained highway. Sound Transit must restore or replace impacted vegetation in the highway right-of-way in accordance with the manual. Specific types, amounts, and locations for replanting are identified in consultation with WSDOT and through development of a roadside master plan.

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