

I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2)



Corridor Program
Congestion Relief & Bus Rapid Transit Projects

LAND USE DISCIPLINE REPORT

December 2007





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SUMMARY

Project Description

The I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2), referred to as the Tukwila to Renton Project, extends approximately four and one half miles along I-405, from I-5 to State Route (SR) 169, and approximately two miles along SR 167, from I-405 to SW 43rd Street. The project adds lanes; replaces and widens bridges; improves interchanges at SR 181 (West Valley Highway), SR 167, and SR 169; and adds direct access HOV ramps between I-405 and SR 167. The project includes two design options:

- The Mill Avenue design option provides access from Houser Way to Bronson Way using Mill Avenue within existing rights-of-way, and
- The Main Avenue design option reconfigures Main Avenue by widening it and striping the street for two-way traffic to provide access to Bronson Way.

These improvements, detailed in Section 2, *Project Description*, are designed to relieve congestion.

Study Approach

The I-405 Team studied land use patterns and plans and policies for the Tukwila to Renton Project because of the close relationship between land use and transportation. Land use may determine the demand for transportation facilities, and transportation projects may help determine land use. In order to evaluate this interrelationship on land use patterns we reviewed aerial photographs and current land use data overlain on a map of the project footprint. We reviewed and analyzed land use plans and regulations for the cities of Tukwila and Renton and compared them to the project to assess whether the project is consistent with them. As part of this review, the I-405 Team analyzed land use patterns, plans, and policies for two design options mentioned above. The review of each of these design options follows each major section of this discipline report.

Baseline Conditions

The Tukwila to Renton Project study area consists primarily of residential, commercial, industrial, and vacant land uses. Approximately 26 percent of the property within the study area is in commercial uses; another 16 percent is in industrial uses. The study area contains two urban centers: the Tukwila Urban Center in the southwest, which includes Westfield Shoppingtown and Renton’s Urban Center Downtown. Commercial and industrial uses predominate south of I-405 and west of SR 167. Residential uses make up another 26 percent of the study area and exist in three Tukwila neighborhoods and eight officially recognized Renton neighborhoods.

The comprehensive plans prepared by the cities of Tukwila and Renton identify four areas within the study area where future development will be focused. These areas are the Tukwila Urban Center, Renton’s Employment Area Valley, Renton’s Commercial Corridor, and Renton’s Urban Center Downtown. I-405 fulfills an important transportation need in the study area as the primary regional highway for residents, businesses, and industries in Tukwila and Renton, as well as the dominant north-south corridor east of I-5.

The cities of Tukwila and Renton each have comprehensive plans that provide overall policy and planning guidance that the cities implement through development regulations such as zoning. Under the state’s Growth Management Act, city comprehensive plans are required to address a wide array of issues, including long-range planning and policy direction for land use, transportation, and capital facilities. State law considers Shoreline Master Programs (SMPs) a part of local governments’ comprehensive plans and development regulations. SMPs of the cities of Tukwila and Renton apply

¹ *Baseline refers to the conditions existing after the Renton Nickel Improvement Project has been constructed but before the Tukwila to Renton Project is constructed. Conditions existing before either the Renton Nickel Improvement Project or the Tukwila to Renton Project are constructed are known as existing conditions. Since existing land uses are not expected to change dramatically, for purposes of this discipline report, existing land uses are considered equivalent to those expected for baseline conditions.*

to the Green River, Springbrook Creek, and the Cedar River within the study area.

Project Effects

Project effects on land use patterns in the area include the permanent effects of property acquisitions needed for project construction and changes to travel patterns and traffic volumes resulting from project improvements. The major effect of the project (with the Mill Avenue design option) will be 64 full acquisitions and 91 partial acquisitions, with 25 residential displacements and 16 commercial displacements to construct the project. Overall, the project will acquire approximately 81 acres for right-of-way that will be used for pavement, storm drainage facilities, or other roadway improvements. Although the proposed acquisitions are substantial to the individual property owners and tenants of properties being acquired, they represent a small fraction of the cities of Tukwila and Renton's housing and employment capacity.

Project components that we expect to change property access and vehicular traffic patterns in the area appear below:

- Removal of existing Tukwila Parkway on-ramp to northbound I-405;
- Construction of extension of Tukwila Parkway across the Green River;
- Constructing a new on-ramp from Tukwila Parkway just east of the new crossing over the Green River to northbound I-405;
- Shifting of traffic from Grady Way and Rainier Avenue S to the new split-diamond interchange at Lind Avenue and Talbot Road and the connecting frontage roads in the I-405/SR 167 interchange area;
- Closure of Houser Way vehicle crossing of the Cedar River; and
- Changes in vicinity of new on- and off-ramps to and from Renton Hill.

Temporary effects of construction include detours, partial and total roadway closures, and the location of construction activities in relation to existing land uses in the study area.

Overall, we expect the project to improve traffic flow, allowing travelers to travel through the project area more quickly, improving corridor reliability, and minimizing traffic congestion in areas such as the I-405/SR 167 interchange. Washington State Department of Transportation (WSDOT) does not expect changes in traffic flow and access to be substantial enough to change land use patterns in the study area.

The I-405 Team found that the project would not have a substantial effect on the cities of Tukwila and Renton's policies, plans, and regulations. Improvements anticipated in the project will address both jurisdictions' design, land use, transportation, and capital facilities policies. The project will support growth anticipated in both jurisdictions and indicated in their comprehensive plan and zoning maps. Capital improvement programs are consistent with the project, although the City of Renton may need to initiate a Comprehensive Plan amendment to change the functional classification of a handful of arterials within the City's Arterial Plan.

Mill Avenue Design Option

Text above describes the project effects of the Mill Avenue design option.

Main Avenue Design Option

The Main Avenue design option will result in acquisition and displacement of seven additional businesses in the eastern portion of Renton's downtown core. The downtown area can accommodate relocation of all affected businesses.

The Main Avenue design option is consistent with City land use plans, policies, and regulations. The Main Avenue design option is located in the eastern part of Renton's Urban Center Downtown designation, an area that allows mixed-use development and some of the highest densities and height allowances in the study area as an incentive for redevelopment. The City of Renton believes that the Main Avenue design option will be supportive of future redevelopment efforts in the Urban Center Downtown. Thus, this design option is in compliance with the Comprehensive Land Use Plan policies for the Urban Center Downtown. If

WSDOT chooses this design option, the City of Renton will need to add it to the City's Arterial Plan.

If the State Department of Archaeology and Historic Preservation designates any buildings in this area as historically important, then mitigation measures would be required to remain consistent with the City of Renton Comprehensive Plan Policy LU-63 which states in part that "Potentially adverse impacts on cultural resources deemed to be significant should be mitigated as a condition of project approval..."

Measures to Avoid or Minimize Effects

WSDOT proposes to implement a traffic management plan and use construction best management practices (BMPs) such as maintaining local access to businesses to avoid or minimize the effects of construction on land use patterns. In addition, property needed to construct the project will be acquired in accordance with federal and Washington state relocation laws.

A Renton Comprehensive Plan amendment may be required if the functional classifications of Houser Way, Mill Avenue, and Lind Avenue needs to be changed in response to how the project changes roadway structures and traffic patterns.

Some commercial parcels in both Tukwila and Renton will lose their minimum required on-site parking due to property acquisition for the Tukwila to Renton project. Tukwila and Renton have different processes for property owners to follow if they lose their minimum required on-site parking. Property owners facing this circumstance in Tukwila will need to obtain an administrative variance if the property owner seeks a building or engineering permit to rebuild or expand their business in the future. Property owners with the same circumstance in the City of Renton will require a Rebuild Approval permit to rebuild or expand.

Mill Avenue Design Option

The measures to avoid or minimize effects for the Mill Avenue design option are the same as for the project described above.

Main Avenue Design Option

Additional acquisitions necessary for the Main Avenue design option will be made in accordance with the Federal Uniform

Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and implemented by FHWA under 49 CFR Part 24, and according to Washington state relocation laws. Similarly, the City of Renton and WSDOT will work closely on relocation of affected businesses.

If any building is determined to be historically important by the Department of Archaeology and Historic Preservation, then mitigation must be consistent with City of Renton Comprehensive Plan policy LU-63. For more detailed information on possible mitigation measures, please see the Tukwila to Renton Project *Cultural, Historical, and Archaeological Technical Memorandum* and the *Section 4(f) Evaluation*.

Unavoidable Adverse Effects

With implementation of the mitigation measures proposed under Measures to Avoid or Minimize Effects, we anticipate that there are no substantial adverse effects.

ACRONYMS AND ABBREVIATIONS

Term	Meaning
APA	aquifer protection area
BMP	best management practice
BNSF	Burlington Northern Santa Fe Railroad
CFR	Code of Federal Regulations
Cfs	cubic feet per second
CTR	commute trip reduction
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
GMA	Washington State Growth Management Act
HOT	high-occupancy toll
HOV	high-occupancy vehicle
HSS	highways of statewide significance
LOS	level of service
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
OHWM	ordinary high water mark
RCW	Revised Code of Washington
RMC	Renton Municipal Code
ROW	right-of-way
RTPO	Regional Transportation Planning Organization
SEPA	Washington State Environmental Policy Act
SMP	Shoreline Master Program
SOV	single-occupant vehicle
SR	state route
TIP	Transportation Improvement Program
TSM	transportation system management
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

GLOSSARY

Term	Meaning
acquisition	The purchasing of property, residences, or businesses for right-of-way necessary to construct or support a project.
Aquifer Protection Zone	Areas where special restrictions are imposed on activities that could contaminate groundwater supplies.
best management practices (BMP)	Innovative and improved environmental protection tools, practices, and methods that have been determined to be the most effective, practical means of avoiding or reducing environmental impacts.
comprehensive plan	A municipal plan that provides policy and guidance on physical development and redevelopment. It addresses a range of issues: land use, economic development, housing, environmental protection, transportation, public facilities, urban design, and historic preservation. It also guides zoning laws, which in turn affect the types of uses allowed in specific areas, the amount of parking that must be provided, and other development requirements or restrictions.
concurrency	A provision of the Growth Management Act requiring that if a development causes the level of service on a locally owned transportation facility to decline below the adopted standards, then the necessary transportation improvements must be provided at the time development occurs or a financial commitment must be in place to complete the improvements or strategies within 6 years. Otherwise, the local government is required to deny the permit application.
context-sensitive solutions	A collaborative, interdisciplinary approach to develop a transportation facility that fits its physical surroundings and is responsive to the community's scenic, aesthetic, social, economic, historic, and environmental values and resources, while maintaining safety and mobility.
Commute Trip Reduction (CTR) Law	Washington State legislation adopted in 1991 and incorporated into the Washington Clean Air Act. The focus of the commute trip reduction program is to reduce drive-alone work commutes to lessen air pollution, traffic congestion, and petroleum consumption. Major employers in the state's nine most populated counties must develop their own CTR programs that encourage their commuters to bus, carpool, vanpool, bicycle, walk, or work compressed work weeks or flexible work schedules in order to help achieve this reduction.

Term	Meaning
critical areas	These include aquifer recharge areas, fish and wildlife habitat conservation areas, flood hazard areas, geologic hazard areas, and wetlands. Critical area functions and values are protected by ordinances that require development to avoid or compensate for adverse effects on critical areas.
cumulative effect	The effect on the environment that results from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions. Cumulative effects can result from individually minor but collectively noticeable actions taking place over a period of time.
displacement	Removal of a business, residence, or public facility from its existing location. In the context of transportation improvements, displacement is generally the result of (1) property acquisition for right-of-way expansion or (2) elimination of access to a property due to traffic revisions.
effect	Something brought about by a cause or agent; a result. This may include ecological, aesthetic, historic, cultural, economic, social, health, or other effects, whether direct, indirect, or cumulative. Effects may include those resulting from actions that may have both beneficial and detrimental effects.
element	Within the context of a local government comprehensive plan, one of the functional chapters required by the Washington State Growth Management Act, including: land use, housing, capital facilities, utilities, rural development (counties only), transportation, economic development, and parks and recreation. Optional elements (e.g., subarea plans or other topics) may be addressed as well.
essential public facilities	Uses or activities that are typically difficult to site, such as airports, state education facilities, state or regional transportation facilities, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance abuse facilities, mental health facilities, group homes, and secure community transition facilities.
general-purpose lane	A freeway or arterial lane available for use by all traffic.

Term	Meaning
Growth Management Act (GMA)	Washington State legislation adopted in 1990, and subsequently amended that requires all cities and counties in the state to do some long-range comprehensive planning, and has more extensive requirements for the largest and fastest-growing counties and cities in the state. Such comprehensive plans must address several required topics, including but not limited to land use, transportation, capital facilities, utilities, and housing. The GMA requirements also include guaranteeing the consistency of transportation and capital facilities plans with land use plans.
Highways of Statewide Significance	Highways of statewide significance include, at a minimum, interstate highways and other principal arterials that are needed to connect major communities in the state.
historic property	A cultural resource that is on or eligible for listing on the National Register of Historic Places.
high-occupancy toll (HOT) lanes	Limited-access freeway lanes that are actively managed through a variable toll system in order to regulate their use and thereby maintain express travel speeds and reliability. Toll prices rise or fall in real time as the lane approaches capacity or becomes less used. This ensures that traffic in the HOT lane remains flowing at express travel speeds of 45 to 60 miles per hour, even if the general-purpose lanes become congested. Toll prices may differ for carpools, transit, motorcycles, and single-occupant vehicles. Tolls for are collected electronically using overhead scanners that read a transponder inside the vehicle and automatically debit the operator's account.
impervious surface	Pavement, roofs, and other compacted or hardened areas that do not allow the passage of rainfall or runoff into the ground.
jurisdiction	A municipal government agency, such as a city or county, and as appropriate, federal and state agencies and federally recognized tribes. The term also can mean “to have authority over.”
land use	The type of activity (e.g., residential, commercial, or industrial) that occurs on a property.

Term	Meaning
level of service (LOS)	A measure of how well a freeway or local signalized intersection operates. For freeways, LOS is a measure of traffic congestion typically based on volume-to-capacity ratios. For local intersections, LOS is based on how long it takes a typical vehicle to clear the intersection. Other criteria also may be used to gauge the operating performance of transit, nonmotorized, and other transportation modes.
mixed-use	A land use category that may include a mix of residential, commercial, and certain light industrial uses.
multimodal	Relating to or characterized by several different modes of transportation. This could include automobiles, vanpools, transit, bicycle, walking, etc.
National Register of Historic Places (NRHP)	Authorized under the National Historic Preservation Act of 1966, this is the Nation's official list of properties and other cultural resources that are recognized as deserving preservation. The National Register is administered by the National Park Service as part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archaeological resources. Properties listed in the register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.
ordinary high water mark (OHWM)	The elevation marking the highest water level that is so common and maintained for a sufficient time in all ordinary years that it leaves evidence upon the landscape, such as a clear and natural line impressed on the bank, changes in soil character, destruction of or change in vegetation, or the presence of litter and debris. Generally, it is the point where the natural vegetation changes from predominately aquatic to upland species. Where the ordinary high water mark cannot be found, it is the line of mean annual flood—the highest the water gets in an average year, but not the highest it gets during extreme flooding.
peak hour	The hour in the morning or in the afternoon when the maximum demand occurs on a given transportation facility or corridor.
peak period	The period of the day during which the maximum amount of travel occurs. It may be specified as the morning (AM) or afternoon or evening (PM) peak.

Term	Meaning
Puget Sound Regional Council (PSRC)	The Metropolitan Planning Organization (MPO) and Regional Transportation Planning Organization (RTPO) for the central Puget Sound region, which is comprised of Snohomish, King, Pierce, and Kitsap counties. The MPO and RTPO is the legally-mandated forum for cooperative decision-making about regional growth policies and transportation issues in the metropolitan planning area.
redevelopment	To restore buildings, neighborhoods, or communities to an earlier or improved condition by repairing, remodeling, and/or replacement.
right-of-way	Land purchased prior to the construction of transportation improvements along with land for sound walls, retaining walls, stormwater facilities, and other project features. This also includes permanent or temporary easements for construction and maintenance. Vacant land may also be set aside for future highway expansion under certain circumstances.
Shoreline Management Act (SMA)	Washington State legislation adopted in 1971 that requires local jurisdictions to create and implement a Shoreline Master Program (SMP). The purpose of the SMP is to regulate land use and new development within sensitive shoreline areas. Shorelines, according to the SMA, include all areas typically within 200 feet inland from principal bodies of water (rivers and streams with flows of at least 20 cubic feet per second, lakes over 20 acres, and tidal areas) and associated wetlands. The local SMP identifies standards of protection for shoreline areas and typically contains shoreline policies, shoreline use environments or zones, and specific shoreline regulations. The final SMP is subject to approval by the State Department of Ecology.
Shoreline Master Program (SMP)	See: Shoreline Management Act.
staging area	Locations used during construction to provide room for employee parking, large equipment storage, and material stockpiles.
subarea plans	Functional or geographic subelements of jurisdictional comprehensive plans.
transportation corridor	Travel routes that routinely experience the heaviest volume of vehicles to and from primary locations within a region.
Transportation Improvement Plan (TIP)	Regional plan prepared by the metropolitan planning organization outlining what projects are funded and planned for construction. In the Puget Sound region, the TIP is prepared by the Puget Sound Regional Council (PSRC) using a 6-year planning horizon.

Term	Meaning
Transportation System Management (TSM)	An approach to management and operation intended to optimize the performance of transportation facilities through measures that enhance traffic flow, reliability, accessibility, and safety. TSM measures usually are highly cost-effective, and may include improvements such as: traffic signal management; lane controls; ramp metering; work zone, special event, and emergency management; electronic toll collection; traffic incident management; roadway weather management; traveler information services; commercial vehicle and freight management; and coordination of highway, rail, transit, bicycle, and pedestrian operations. Traffic detection and surveillance are often used to support these activities.
windshield survey	The process of driving by an area to look at properties for general housekeeping and verify property addresses; a method of observing a study area by driving the area in a vehicle.
zoning	Regulations established by local governments that define land use districts, allowable or prohibited land uses, structure size and location, and other similar issues in order to protect the public health, safety, and welfare and to maintain or enhance the character of different neighborhoods or districts.

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SECTION 1 INTRODUCTION

What are the primary features of the Tukwila to Renton Project?

WSDOT is proposing to construct the I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2), referred to as the Tukwila to Renton Project, to relieve congestion. The Tukwila to Renton Project extends approximately four and one half miles along Interstate 405 (I-405), from I-5 to State Route 169 (SR 169), and approximately two miles along SR 167, from I-405 to SW 43rd Street. The project will:

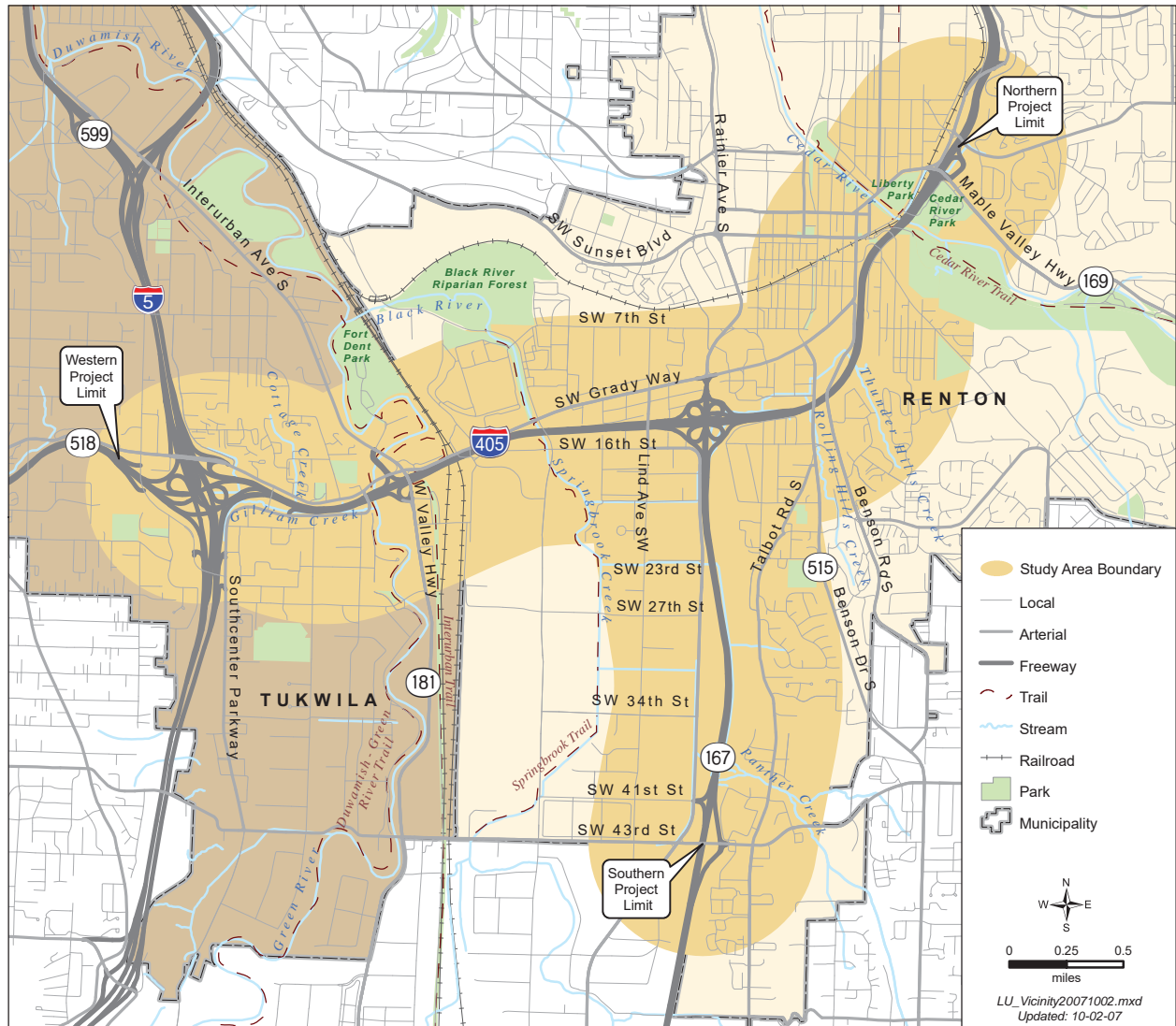
- Add capacity to both I-405 and SR 167.
- Replace bridges over the Green River and Cedar River and add one new bridge over the Green River.
- Improve the SR 181 and SR 169 interchanges.
- Reconstruct the SR 167 interchange consisting of new general-purpose direct-connector ramp from southbound I-405 to southbound SR 167, HOV direct-connector ramps from northbound SR 167 to northbound I-405 and from southbound I-405 to southbound SR 167, and a split-diamond interchange at Lind Avenue and Talbot Road with connecting frontage roads.
- Replace the two local street accesses to Renton Hill.

These improvements represent the second phase of the I-405 Corridor Program for this portion of I-405. The first phase consists of improvements in the Renton Nickel Improvement Project.

What is the purpose of this report?

The purpose of this *Land Use Discipline Report* is to study the Tukwila to Renton Project's effects on land use, within the cities of Tukwila and Renton. This discipline report also helps determine whether the project's effects will require mitigation.

Exhibit 1-1: Project Vicinity Map



What topics are included in the land use patterns and plans and policies discipline report?

Topics included in this discipline report are land use patterns and land use plans, policies, and regulations. This discipline report examines the land use patterns in the cities of Tukwila and Renton within a study area that extends approximately 0.5 mile from the centerline of the I-405 and SR 167 mainlines. This discipline report also includes specific emphasis on the cities' policies and regulations governing land use, transportation, capital facilities, and shorelines.

Why is it important to consider land use patterns and plans and policies?

Land use patterns and plans and policies are important to consider in decision-making for transportation projects because of the close relationship between land use and transportation. Transportation projects can have an effect on land use patterns and can influence the types of established land uses in an area. Similarly, land use plans, policies, and regulations help shape a community's growth and assist in allocating scarce resources for infrastructure improvements to help communities grow in desired ways. WSDOT recognizes the relationship between land use and transportation as an important element to consider in its approach to project development and decision-making.

What studies were completed?

The I-405 Team overlaid aerial photographs, King County Assessor's data, and maps showing the project to determine the effects of the project on land use patterns. The I-405 Team also reviewed policy documents and regulations from the cities of Tukwila and Renton and developed a consistency analysis of the project in relation to city land use policies and regulations. This analysis focused on the comprehensive plans, transportation programs, and capital facilities plans for the cities of Tukwila and Renton. The analysis also reflects a review of Shoreline Master Programs and zoning regulations for the two cities.

What are the key messages from this report?

Analysis indicates that the Tukwila to Renton project has no substantial effects on land use. We base this conclusion on the review of land use patterns; and plans, policies, and regulations. The project will acquire approximately 81 acres of property for right-of-way out of a total of 4,245 acres within the study area. The project will acquire residential buildings on 25 properties, and 16 commercial properties under the Mill Avenue design option. The Main Avenue design option will displace 22 commercial properties. Although these acquisitions and displacements are important to individual property owners and tenants, they represent a small fraction of each city's overall residential and employment capacity. The City of Tukwila, which has three of the commercial

displacements, has capacity for 10,100 new jobs.² The City of Renton, which has the remainder of the acquisitions subject to displacement, has surplus capacity for 5,789 housing units and 21,524 jobs citywide.

The project supports the plans, policies, and regulations of the cities of Tukwila and Renton and the growth that they anticipate. WSDOT will design and construct the project to be consistent with plans, policies, and regulations of the cities of Tukwila and Renton.

The matrix shown in Exhibit 1-2 outlines consistency of the project with city plans, policies, and regulations. We discuss consistency for each subject covered in the two cities' land use plans, policies, and regulations.

Exhibit 1-2: Plans, Policies, and Regulations Consistency Matrix

Plan, Policy, or Regulation	Project Consistency
Tukwila Land Use Policies	The project is consistent. WSDOT will apply context-sensitive design solutions to the corridor as part of the project.
Tukwila Historic Resource Policies	The project does not affect any known historic resources and is consistent with City historic resource policies.
Tukwila Comprehensive Plan	The project displaces three commercial properties in Tukwila. However, the acquisitions and changes to access anticipated in the project will not substantially affect the City's planned land use concepts overall.
Tukwila Transportation Policies	The project relieves congestion, supporting Tukwila's transportation policies.
Tukwila Capital Facilities Element	The project is consistent with goals and policies contained within this element.
Tukwila Capital Improvement Plan	The project appears to avoid the physical location of planned improvements in the vicinity of the project, and is not expected to affect them.
Tukwila Level of Service (LOS) Policies	The project will cause local intersection LOS to either improve or remain the same as if the project were not built, maintaining consistency with the City's LOS policies.
Tukwila Shoreline Master Program	The project will not substantially affect the location or extent of shoreline uses identified along the Green River in the study area, and use of stormwater and other construction BMPs will help make the project consistent with other Shoreline policies.
Tukwila Shoreline Regulations	With the use of stormwater and construction best management practices (BMPs) in the vicinity of the Green River, the project is consistent with Tukwila's shoreline regulations.
Tukwila Zoning Regulations	The project is consistent with Tukwila zoning regulations. However, removal of commercial parking at one site (Lowe's) will worsen an existing nonconformance. Because it does not conform to Tukwila's off-street parking and loading regulations, this business will require an administrative variance for expansion or reconstruction.

² *King County Buildable Lands Evaluation Report. September 2002.*

Plan, Policy, or Regulation	Project Consistency
Renton Land Use Policies	The project is consistent with land use policies. WSDOT will apply context-sensitive design solutions developed for the I-405 Corridor to the corridor.
Renton Historic Resource Policies	The project does not affect any known historic resources and is consistent with City historic resource policies.
Renton Transportation Policies	The project relieves congestion on the interstate and local road system supporting Renton transportation policies.
Renton Capital Facility Plans	The project is consistent with goals and policies contained within this element.
Renton Environmental Policies	The project is consistent with the City's environmental policies. These measures include stormwater BMPs to avoid effects on the City's aquifer.
Renton Comprehensive Land Use Plan	The project acquires several properties in Renton, resulting in 38 displacements (25 residential and 13 commercial) under the Mill Avenue design option and 44 displacements (25 residential and 19 commercial) under the Main Avenue design option. However, the acquisitions and changes to access anticipated in the project will not substantially affect the City's planned land use concepts overall.
Renton Transportation Network	Changes in access and local roadway configuration as a result of the project may require changes in functional classification on certain arterials within Renton. The City would have to add changes anticipated in the Main Avenue design option to the City's Arterial Plan.
Renton Capital Improvement Plan	Renton's Capital Improvements Plan reflects improvements anticipated in the Build Alternative. In addition, Renton anticipates improvements that are not included in WSDOT's plans.
Renton LOS Policies	The project will cause local intersection LOS to either improve or remain the same as if the project were not built, retaining consistency with the City's LOS policies.
Renton Shoreline Master Program	Both Springbrook Creek and the Cedar River are subject to the City's Shoreline Master Program (SMP). With construction and stormwater BMPs anticipated as part of the project, the project complies with the City's SMP.
Renton Shoreline Regulations	Both Springbrook Creek and the Cedar River are subject to the City's Shoreline regulations. With construction and stormwater BMPs anticipated as part of the project, it is compliant with the City's SMP.
Renton Zoning Regulations	The project is consistent with Renton zoning regulations. However, removal of commercial parking at one site (Golden Palace Chinese restaurant) will worsen an existing nonconformance. Business expansion or restoration of structural damage would require a Rebuild Approval permit.

What measures are proposed to avoid or reduce impacts?

WSDOT will develop a traffic management plan and comply with construction BMPs to help avoid construction effects.

The traffic management plan will include steps for communicating and signing construction detours and maintaining access to businesses and residences during project construction.

WSDOT will acquire all property necessary for the project in compliance with the federal laws and the laws of the State of

Washington. This will ensure just compensation for all properties.

Acquisition of on-site parking from commercial businesses could put a business out of compliance with either the city of Tukwila's or Renton's building regulations. Each city has separate administrative processes that affect property. These effects will be considered during property appraisals for acquisition and just compensation related to zoning requirements will be made to property owners.

Compliance with the cities of Tukwila and Renton's policies and regulations will also avoid or reduce effects. Key policies and regulations include those governing, transportation programs, stormwater regulations, aquifer protection, shoreline management, and zoning. The cities of Tukwila and Renton will monitor development and implement concurrency programs as required by GMA or other state legislative authority to help ensure the transportation network functions at an appropriate level of service.

Changing the functional classification of several arterials shown in the City of Renton's Arterial Plan would require a Comprehensive Plan amendment. The I-405 Team expects that the City of Renton would need to process one or more Comprehensive Plan amendments to account for possible changes to the functional classifications for Houser Way, Mill Avenue, and Lind Avenue.

What will happen if we adopt the No Build Alternative?

If we adopt the No Build Alternative, we expect no new improvements beyond those constructed as a part of the Renton Nickel Improvement Project. The Renton Nickel Improvement Project will relieve bottlenecks in some typical congested areas and will improve general traffic flow. However, achievement of the long-term redevelopment plans contained within the comprehensive plans of the cities of Tukwila and Renton will require further improvements.

SECTION 2 PROJECT DESCRIPTION

What is the intent of the Tukwila to Renton Project?

WSDOT is proposing to construct the I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2), referred to as the Tukwila to Renton Project, to relieve congestion. Relieving congestion will benefit the public by:

- Lowering the number of accidents thus improving safety.
- Increasing overall speeds through this section of freeway.
- Improving response times for emergency service vehicles using I-405.
- Improving access to and from I-405 and local circulation.

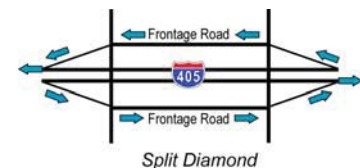
The Tukwila to Renton Project extends approximately four and one half miles along I-405, from I-5 to SR 169, and approximately two miles along SR 167, from I-405 to SW 43rd Street. The project adds capacity to both I-405 and SR 167; improves the SR 181 and SR 169 interchanges; reconstructs the SR 167 interchange consisting of a split-diamond interchange at Lind Avenue and Talbot Road with connecting frontage roads, general-purpose direct-connector ramp from I-405 to SR 167 southbound, and high-occupancy vehicle (HOV) direct-connector ramps from SR 167 northbound to I-405 northbound and from I-405 southbound to SR 167 southbound. These improvements are detailed in the following section.

What are the details of the Tukwila to Renton Project?

The Tukwila to Renton Project improvements are described from west to east (northbound) along the study area on the following pages. These improvements are also illustrated on Exhibits 2-1 through 2-15.

What is a split-diamond interchange?

This interchange type consists of two half-diamond interchanges at arterials. These are connected by two, one-way frontage roads. Traffic enters and exits the freeway at the two arterials, creating an elongated diamond configuration as shown.



What is a half-diamond interchange?

It is an interchange where traffic exits or enters the freeway in one direction. This creates a triangular or half-diamond configuration as shown.

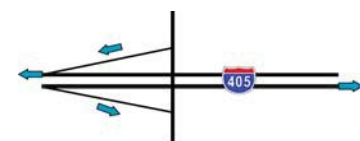


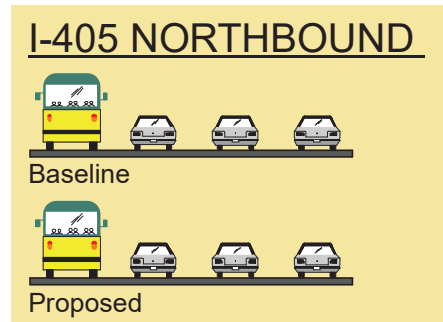
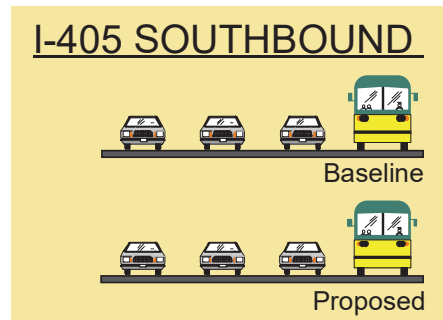
Exhibit 2-1: Project Features, Sheet 1



I-405 from I-5 to East of SR 181

For this portion of the project, WSDOT will:

- Remove the existing northbound I-405 Tukwila Parkway on-ramp. See Exhibits 2-2 and 2-3 for where the project will provide a new on-ramp.
- Realign I-405 mainline slightly to the south beginning just west of the existing northbound I-405 Tukwila Parkway on-ramp to the SR 181 interchange as shown in Exhibits 2-1 and 2-2.



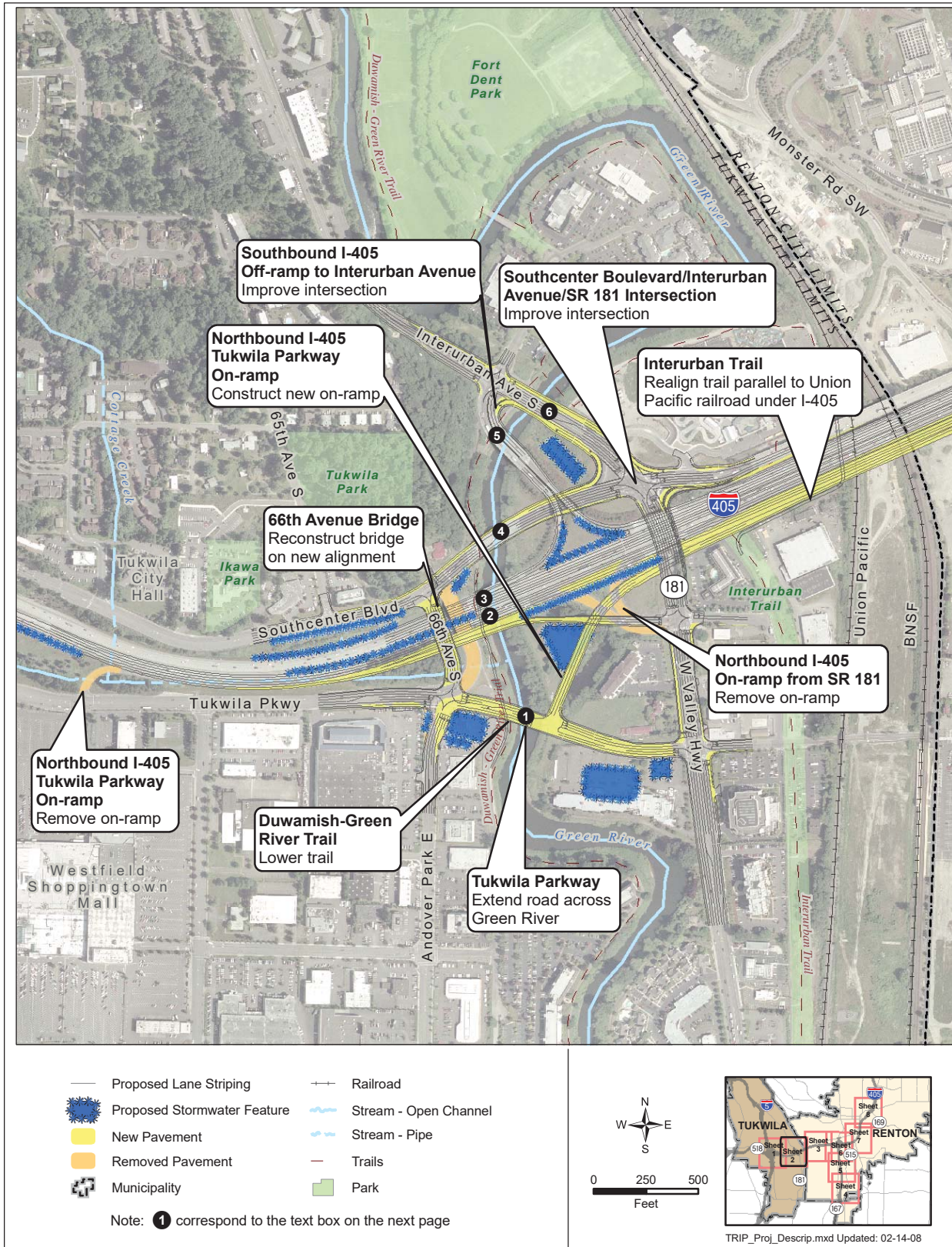
The project will not change capacity along this section

What are baseline conditions for this project?

Baseline conditions describe the site conditions just before construction of the project begins. This can include the build conditions of earlier phased projects that are already approved and funded and expected to be complete before the next project begins. Baseline provides an important point of comparison for understanding the effects of the proposed build alternative.

For the Tukwila to Renton Project, the baseline condition assumes that the Renton Nickel Improvement Project has been completed.

Exhibit 2-2: Project Features, Sheet 2



I-405 at SR 181 Interchange

WSDOT designed the improvements in Exhibits 2-2 and 2-3 to improve freeway and local travel in this area. WSDOT will:

- Improve the SR 181 interchange:
 - Remove the existing SR 181 on-ramp to northbound I-405.
 - Extend Tukwila Parkway from the intersection with 66th Avenue east over the Green River to SR 181.
 - Construct new northbound I-405 on-ramp from Tukwila Parkway just east of the new crossing over the Green River (replaces the two existing on-ramps).
 - Reconstruct the 66th Avenue S bridge over I-405 on a new alignment to the west and reconstruct the intersections with Southcenter Boulevard and Tukwila Parkway.
 - Reconstruct the off-ramp from northbound I-405 to SR 181.
 - Improve local arterials within the interchange area such as Southcenter Boulevard and Interurban Avenue.
- Reconstruct five bridges and build one new bridge over the Green River.
- Lower the Duwamish-Green River Trail.
- Reconstruct the I-405 structures over SR 181.
- Realign the Interurban Trail.

What bridge construction will occur over the Green River?

- ① Tukwila Parkway Bridge (new)
- ② Northbound I-405 Bridge
- ③ Southbound I-405 Bridge
- ④ Southcenter Boulevard Bridge
- ⑤ Off-Ramp Bridge from southbound I-405.
- ⑥ Interurban Avenue Bridge

See Exhibit 2-2 for the bridge

Exhibit 2-3: SR 181 Interchange Improvements

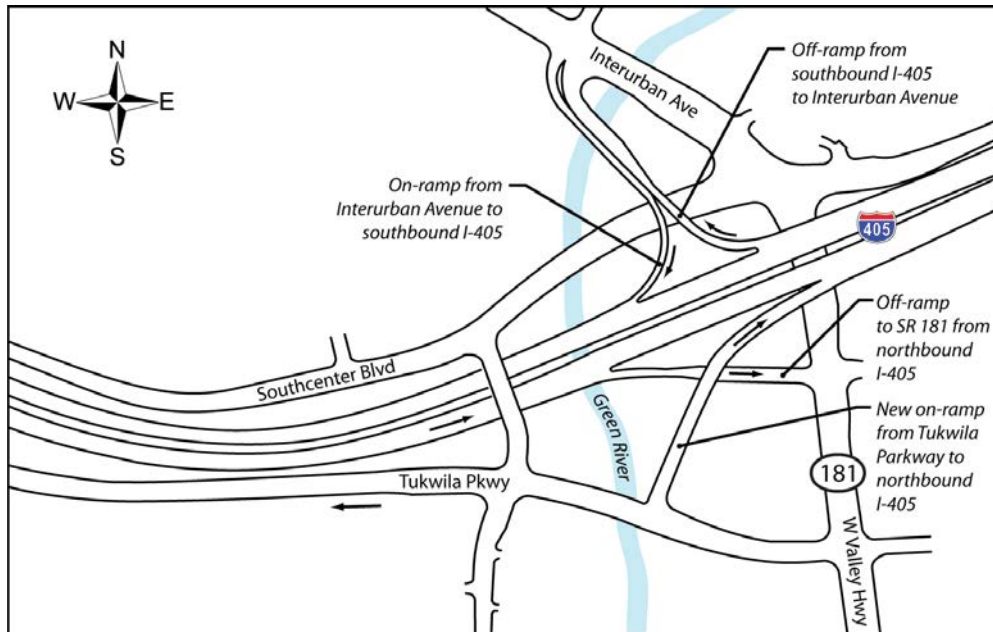
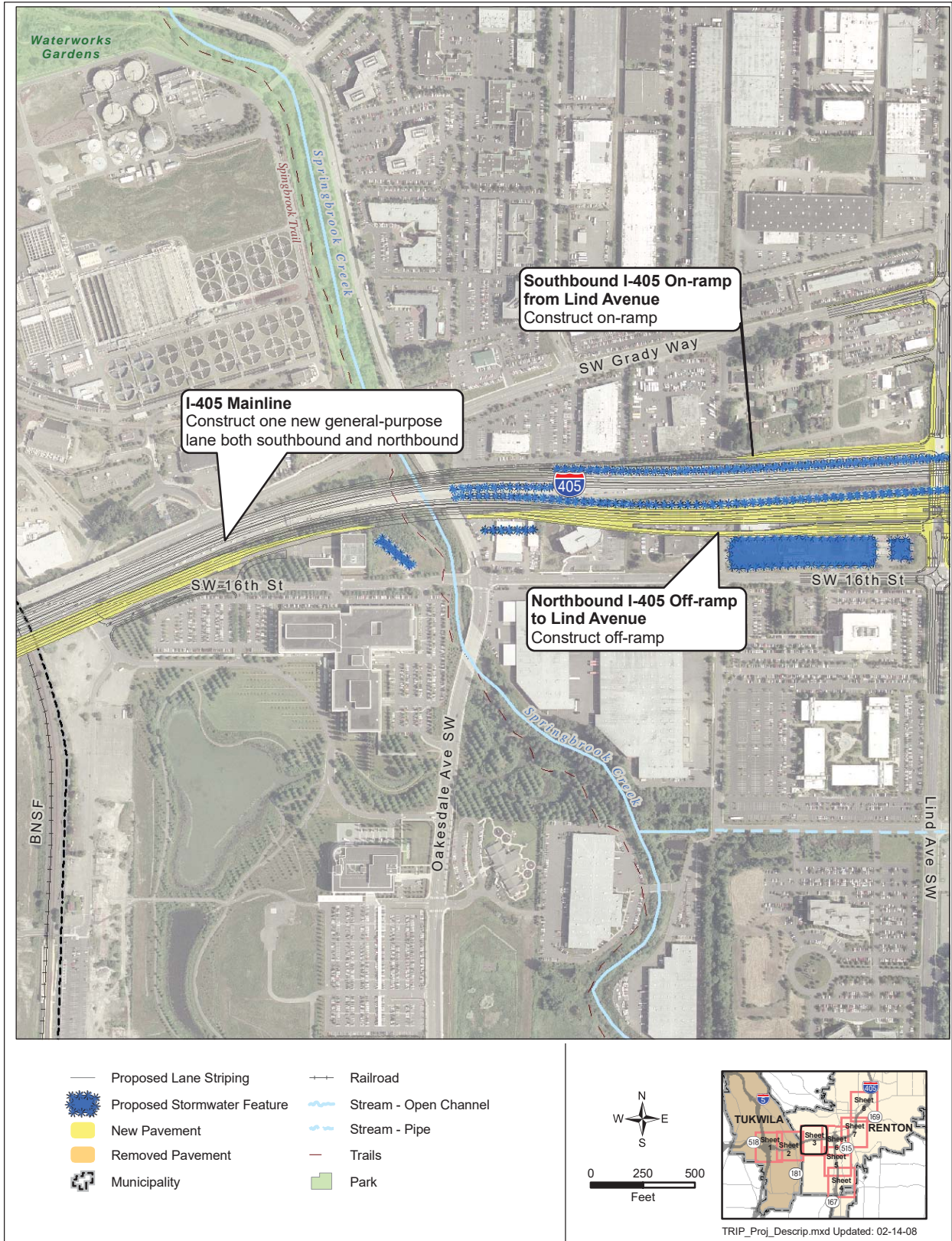


Exhibit 2-4: Project Features, Sheet 3



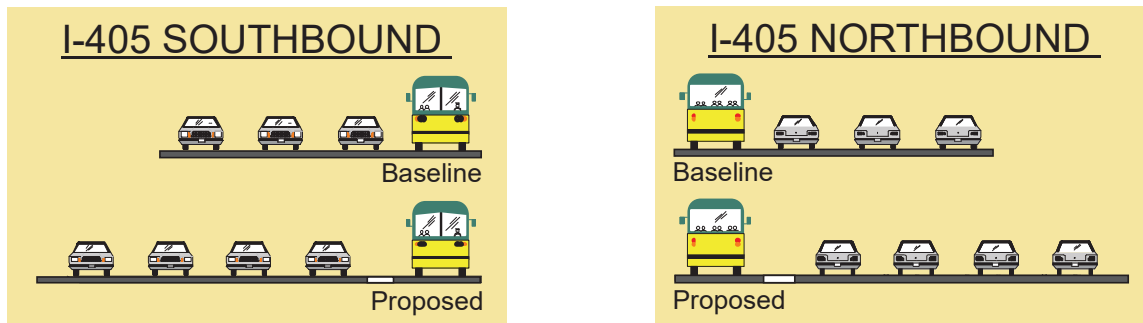
I-405 from East of SR 181 to SR 167 Interchange

From the SR 181 interchange east, WSDOT will realign I-405 to the south. This will:

- Provide a smooth transition onto the new Springbrook Creek/Oakesdale Avenue bridge that was constructed under the Renton Nickel Improvement Project.
- Minimize effects on SW Grady Way and businesses north of I-405.

In addition to realigning I-405, WSDOT will:

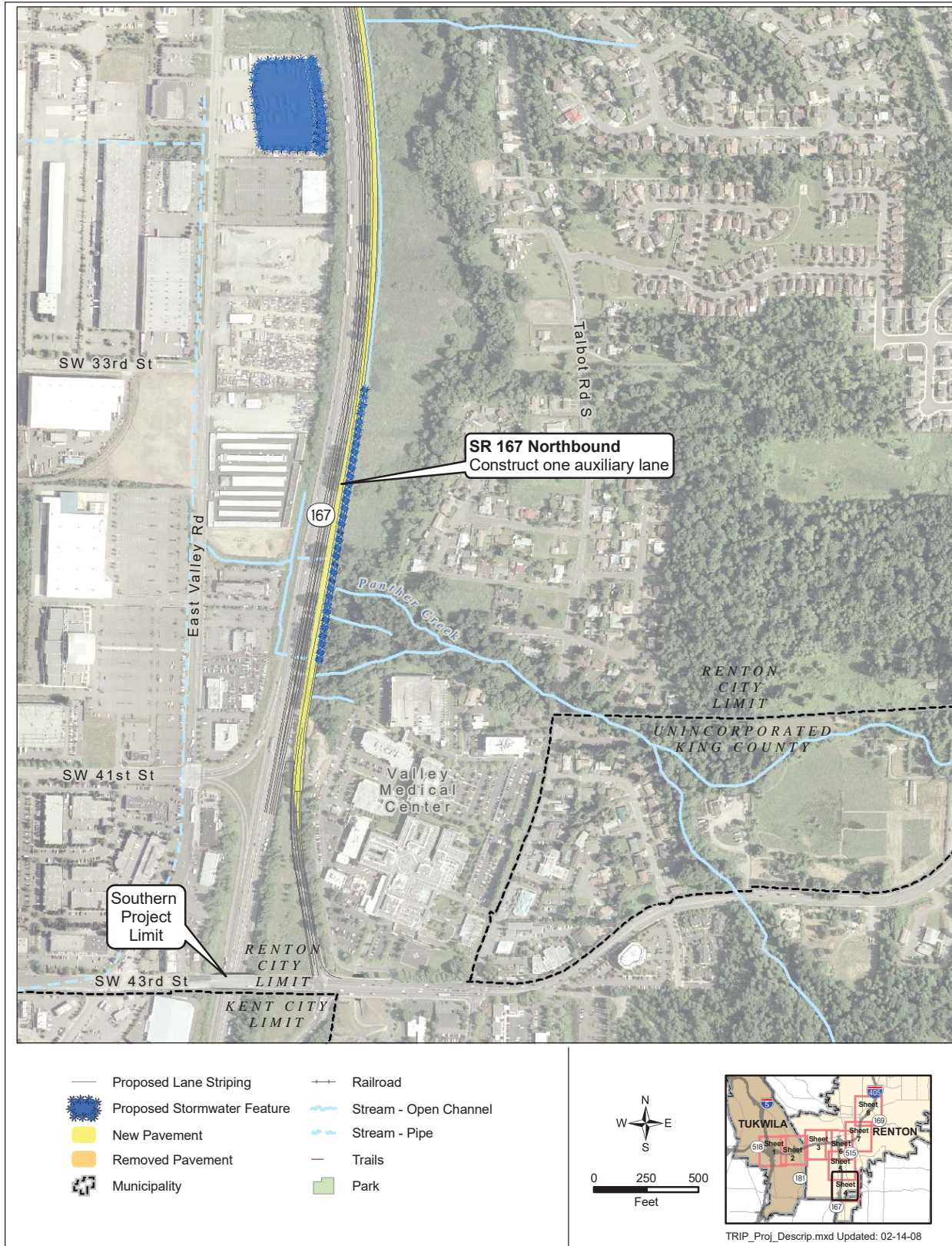
- Construct one additional general-purpose lane in both directions on I-405 from SR 181 through SR 167.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along I-405.



Project improvements will add capacity to I-405 for both southbound and northbound traffic and will provide a buffer between the HOV lane and the general-purpose lanes

- Stripe the bridges over Springbrook Creek/Oakesdale Avenue to provide five lanes in both directions.
- Reconstruct I-405 structures over the Burlington Northern Santa Fe (BNSF) and Union Pacific railroads.
- Construct a half-diamond interchange at Lind Avenue (see sidebar on page 2-1).

Exhibit 2-5: Project Features, Sheet 4

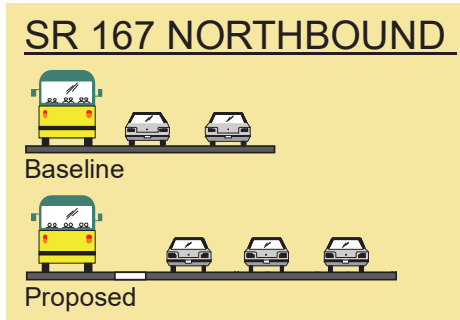


SR 167 from SW 43rd Street On-ramp North to SW 27th Street

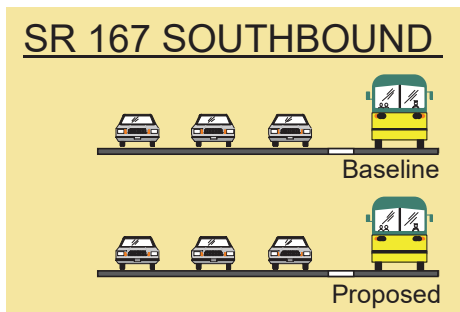
In this area, WSDOT will:

- Construct an auxiliary lane on northbound SR 167 from SW 43rd Street to SW 27th Street.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along northbound SR 167.

As shown on Exhibit 2-5, the new northbound lane will be added north of the SW 43rd Street on-ramp. This will improve the ability of traffic to merge onto SR 167 and increase capacity along this stretch. To minimize effects on the streams and wetlands along SR 167, WSDOT has used retaining walls instead of fill slopes.



Project improvements will add capacity to northbound SR 167 and will provide a buffer between the HOV lane and the general-purpose lanes



The project will not affect the southbound lanes of SR 167

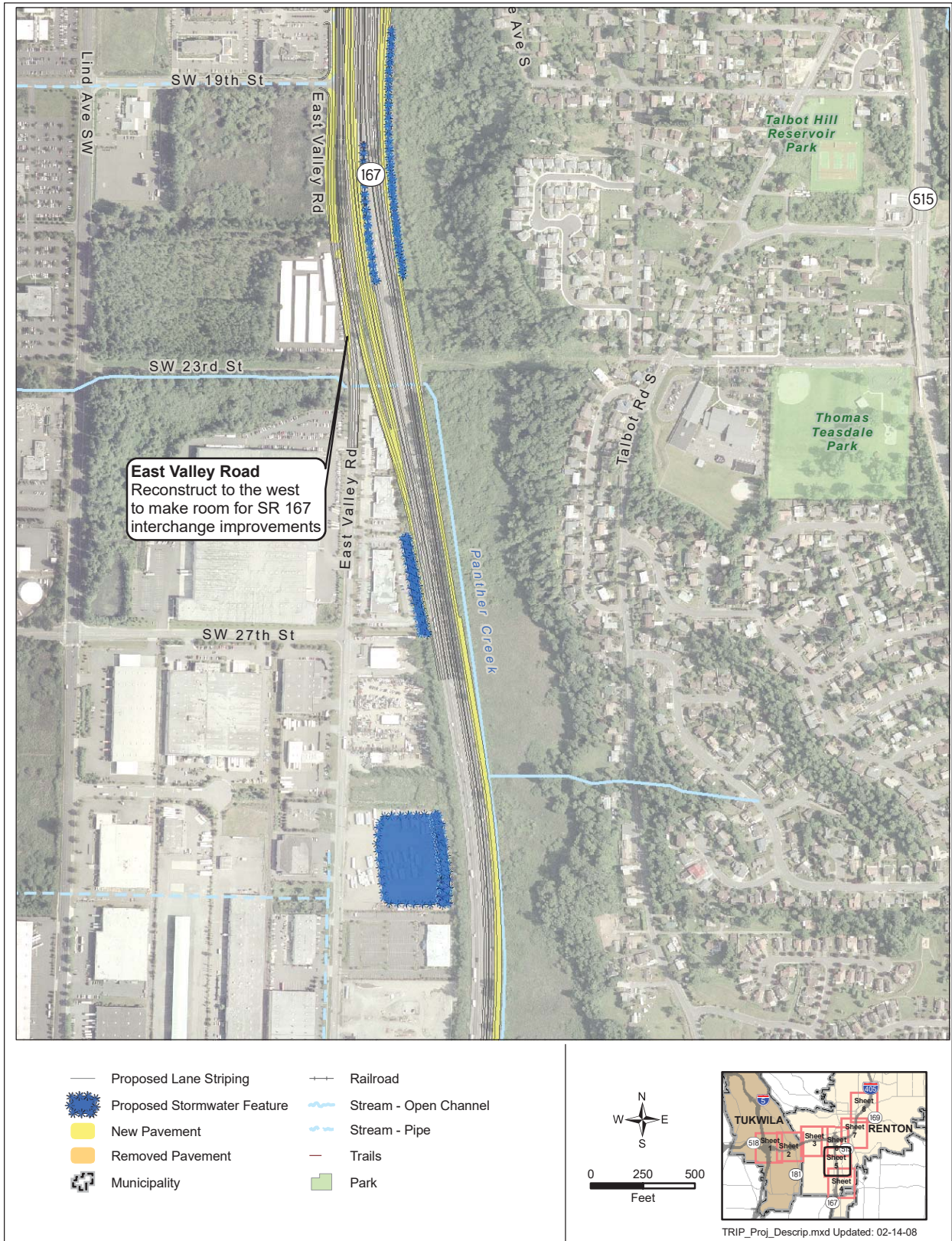
What is an auxiliary lane?

An auxiliary lane is a lane added between interchanges—from one on-ramp to the next off-ramp. It is dedicated to traffic entering and leaving the freeway and provides motorists with more time and extra room to accelerate or decelerate and merge when getting on and off the freeway.

The signs below show how an auxiliary lane changes how an on-ramp operates.



Exhibit 2-6: Project Features, Sheet 5

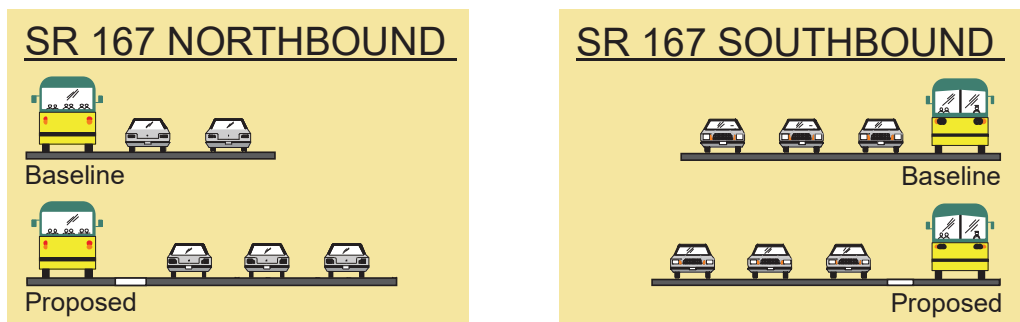


SR 167 from SW 27th Street to I-405

Along this section of SR 167, the project will:

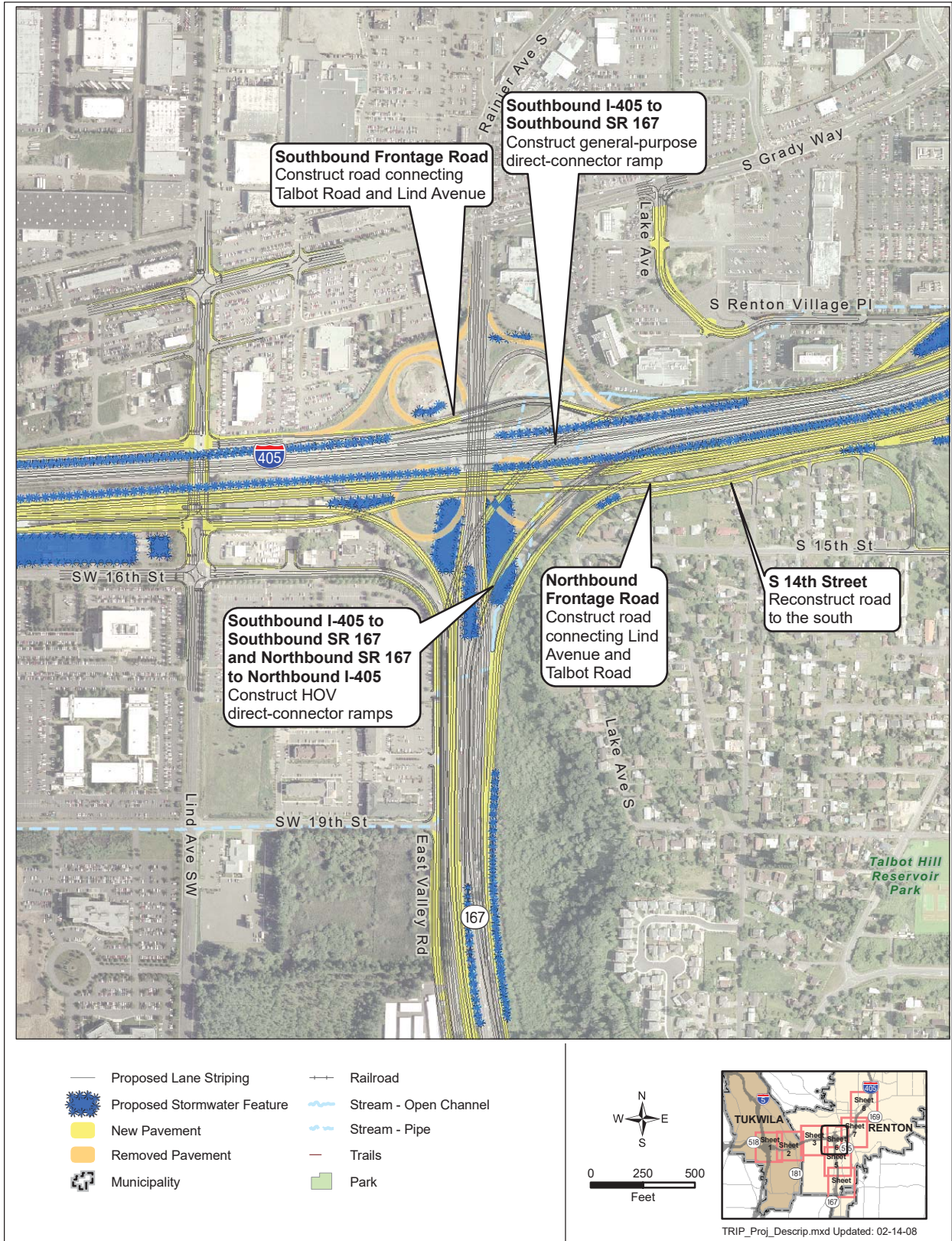
- Reconstruct SR 167 between SW 27th Street and I-405 to accommodate the reconstructed SR 167 interchange as shown on Exhibits 2-7 to 2-9.
- Reconstruct East Valley Road to the west of its current alignment between SW 23rd Street and SW 16th Street to accommodate the reconstructed SR 167 interchange.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along SR 167.
- Construct an auxiliary lane on northbound SR 167 from SW 27th Street to I-405.

WSDOT has designed the improvements in this area to the west as much as possible to minimize effects on the Panther Creek wetlands while also limiting the effects on businesses west of SR 167. To further minimize the area needed to accommodate the improvements, the new southbound I-405 to southbound SR 167 direct-connector ramp will be built over local street and freeway improvements as shown on Exhibit 2-9. WSDOT also used design features such as retaining walls to minimize the area needed for improvements.



Project improvements will add capacity to northbound SR 167 and will provide a buffer between the HOV lane and the general-purpose lanes in both the northbound and southbound directions of SR 167

Exhibit 2-7: Project Features, Sheet 6



I-405 Interchange with SR 167

Within the I-405/SR 167 interchange, the project will improve freeway to freeway access and local access.

Freeway to Freeway Access

To improve access, WSDOT will:

- Construct a general-purpose direct-connector ramp from southbound I-405 to southbound SR 167, replacing the existing loop ramp.
- Reconstruct exterior ramps from northbound I-405 to southbound SR 167 and from northbound SR 167 to northbound I-405, replacing the existing ramps. This project will also add a general-purpose lane to both ramps.
- Construct HOV direct-connector ramps from southbound I-405 to southbound SR 167 and from northbound SR 167 to northbound I-405.
- Maintain existing loop ramp from northbound SR 167 to southbound I-405.

Exhibit 2-8 focuses on the freeway to freeway interchange improvements and Exhibit 2-9 presents how these improvements will look.

Exhibit 2-8: Freeway to Freeway Ramps in Reconstructed I-405/SR 167 Interchange

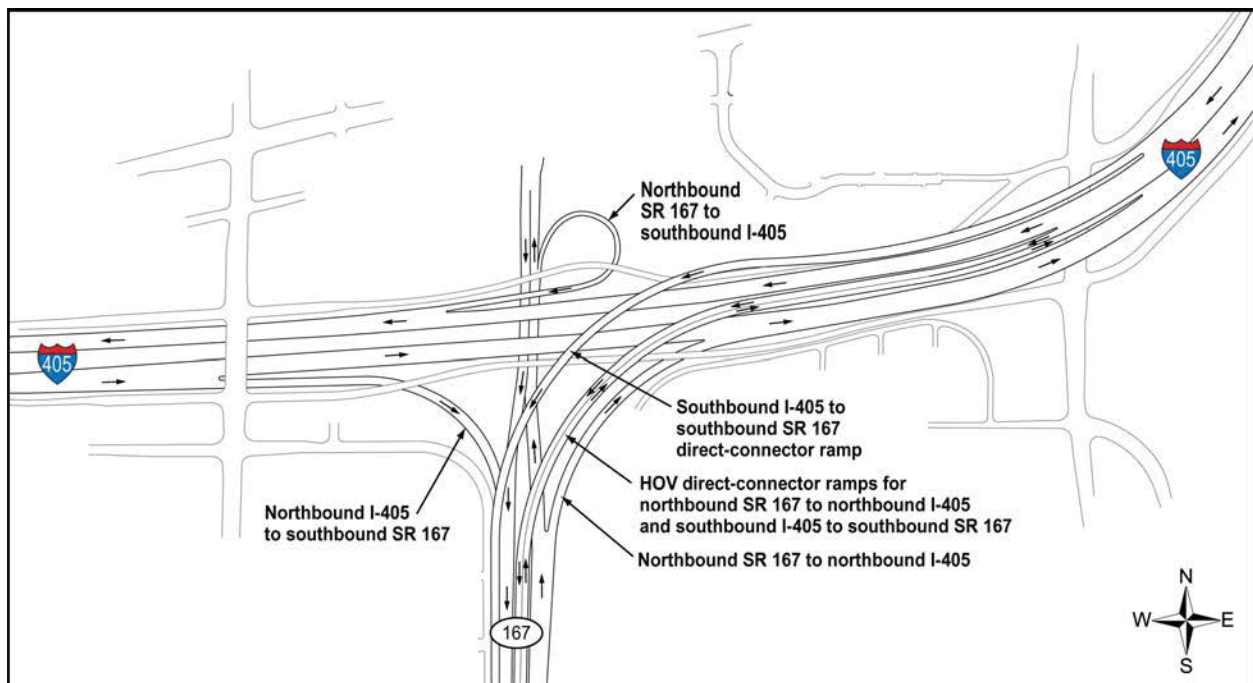


Exhibit 2-9: Rendering of I-405/SR 167 Interchange Improvements



Local Access

WSDOT will improve local access at the SR 167 interchange. The improvements will:

- Construct a split-diamond interchange at Lind Avenue and Talbot Road (SR 515). See Exhibits 2-10 and 2-11.
- Construct southbound and northbound frontage roads connecting Lind Avenue and Talbot Road. The southbound frontage road will reuse the existing I-405 to SR 167 southbound bridge.
- Reconstruct the Lind Avenue bridge over I-405.
- Reconstruct the I-405 structures over Talbot Road.
- Improve local street intersections.
- Provide new connection to Grady Way from S Renton Village Place.

Exhibit 2-10: Split-diamond Interchange at Lind Avenue and Talbot Road

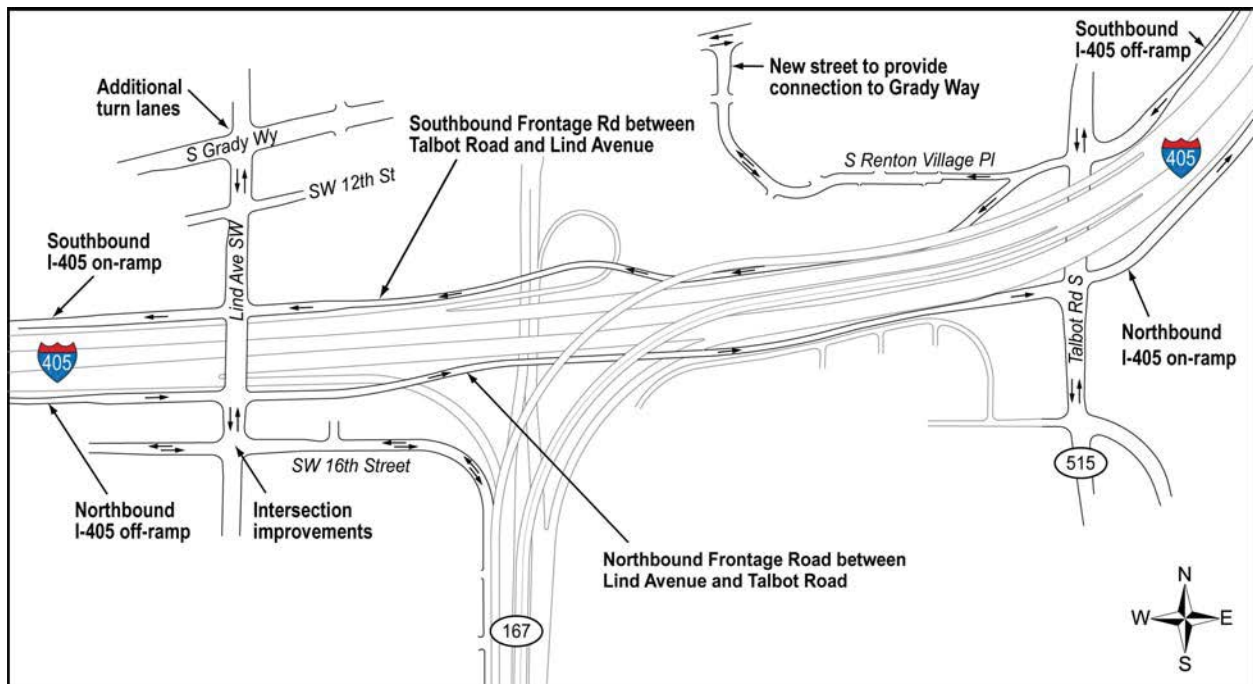
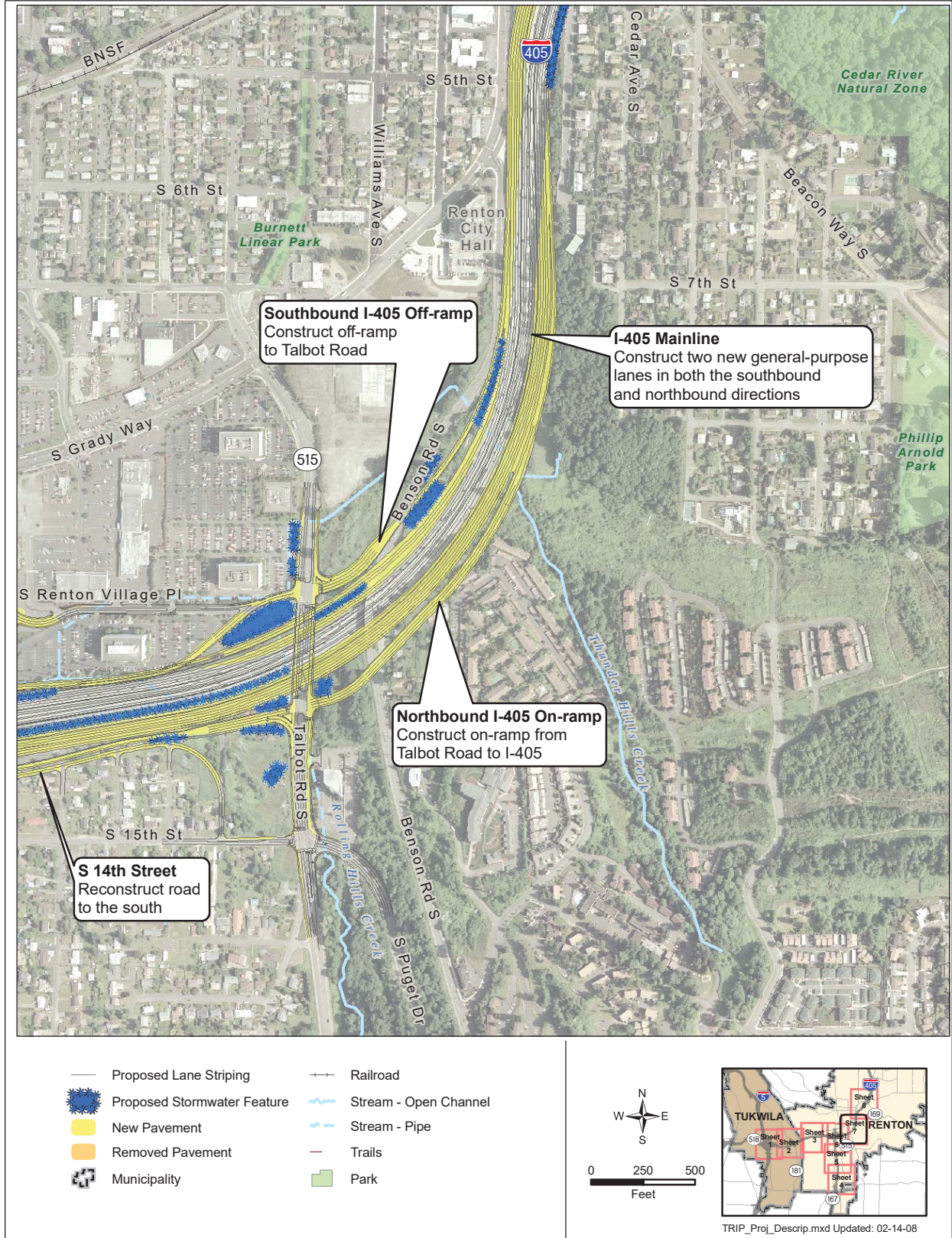


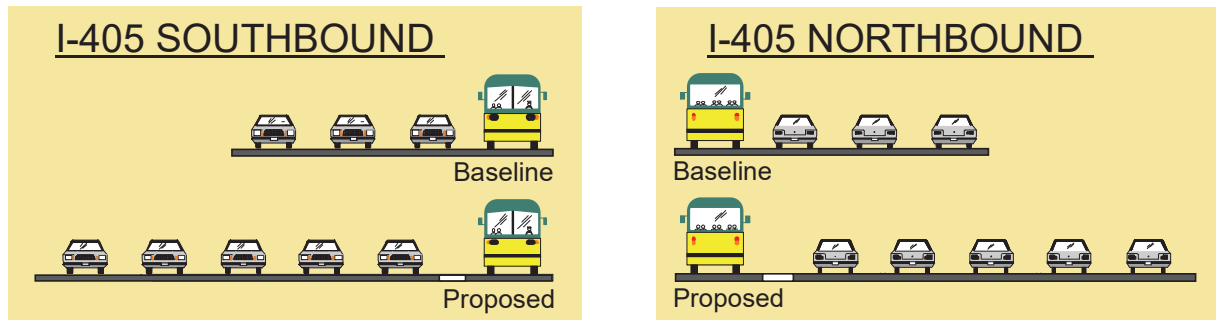
Exhibit 2-11: Project Features, Sheet 7



I-405 from East of SR 167 Interchange to North of S 5th Street

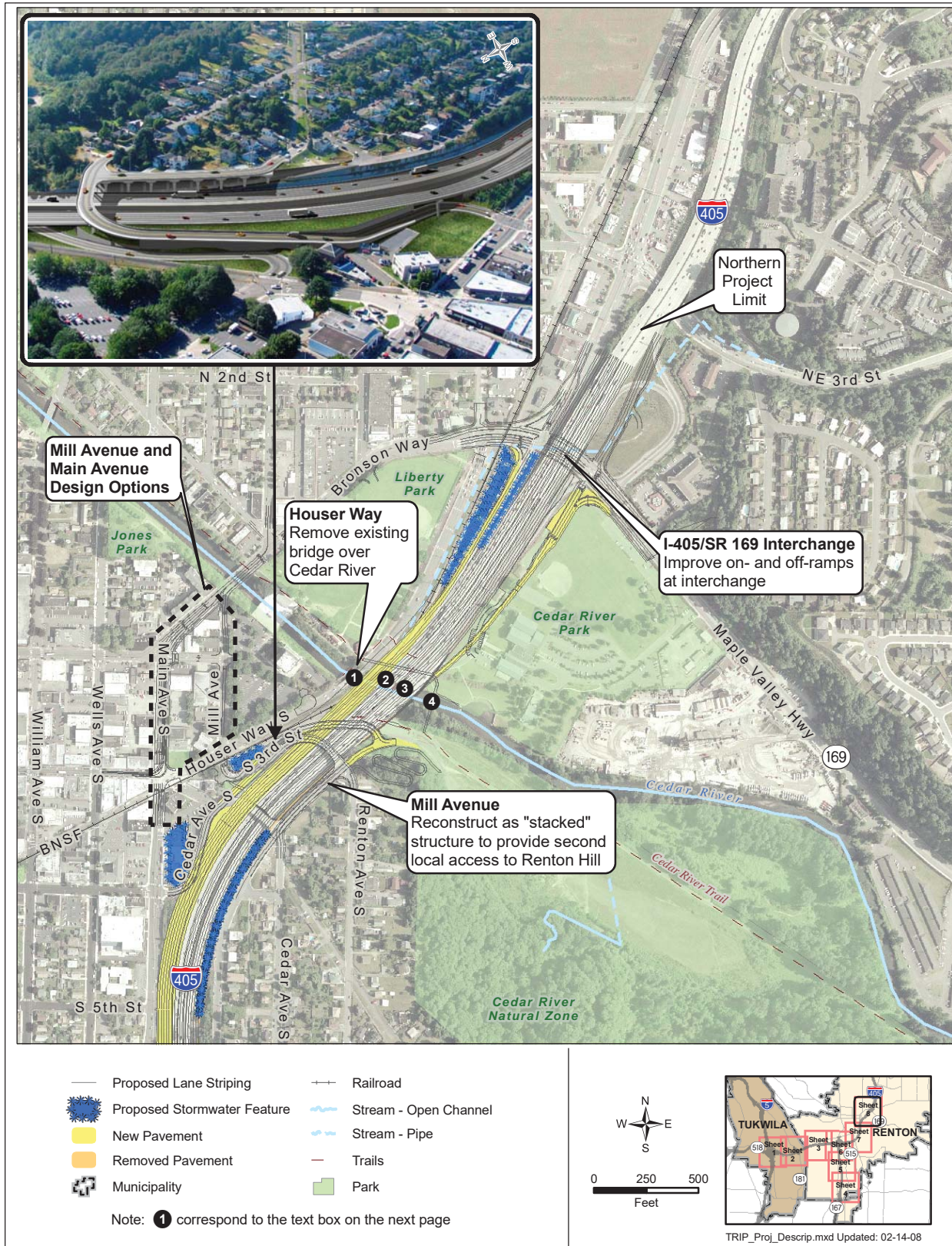
For the section of I-405 that extends from the SR 167 interchange past Renton City Hall as shown on Exhibit 2-11, WSDOT will:

- Construct two additional lanes in both directions on I-405 from SR 167 through SR 169.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along I-405.
- Construct a new half-diamond interchange at Talbot Road as shown on Exhibit 2-10.
- Reconstruct S 14th Street south of its existing location.



Project improvements will add capacity to I-405 for both southbound and northbound traffic and will provide a buffer between the HOV lane and the general-purpose lanes

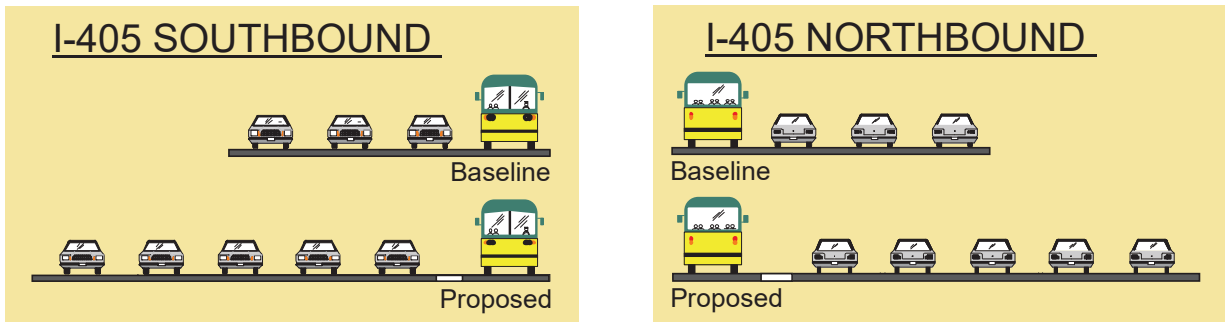
Exhibit 2-12: Project Features, Sheet 8



I-405 from S 5th Street to SR 169

This last portion of the Tukwila to Renton Project crosses the Cedar River to the SR 169 interchange. In this section, WSDOT will:

- Construct two additional lanes in both directions on I-405 from SR 167 through SR 169.
- Stripe lanes to provide a buffer between HOV and general-purpose lanes along I-405.



Project improvements will add capacity to I-405 for both southbound and northbound traffic and will provide a buffer between the HOV lane and the general-purpose lanes

- Cantilever the I-405 structures over Main Avenue.
- Reconstruct three bridges over the Cedar River: southbound I-405, northbound I-405, and a pedestrian bridge.
- Relocate the Burlington Northern Santa Fe railroad bridge.
- Close Houser Way south of the Cedar River north to Bronson Way and remove the bridge over the Cedar River.
- Reroute northbound traffic to Bronson Way, which will be striped to accommodate the new traffic pattern.
- Reconstruct two local street accesses to Renton Hill.

What bridge construction will occur over the Cedar River?

❶ Burlington Northern Santa Fe Railroad Bridge

❷ Southbound I-405 Bridge

❸ Northbound I-405 Bridge

❹ Pedestrian Bridge

See Exhibit 2-12 for the bridge

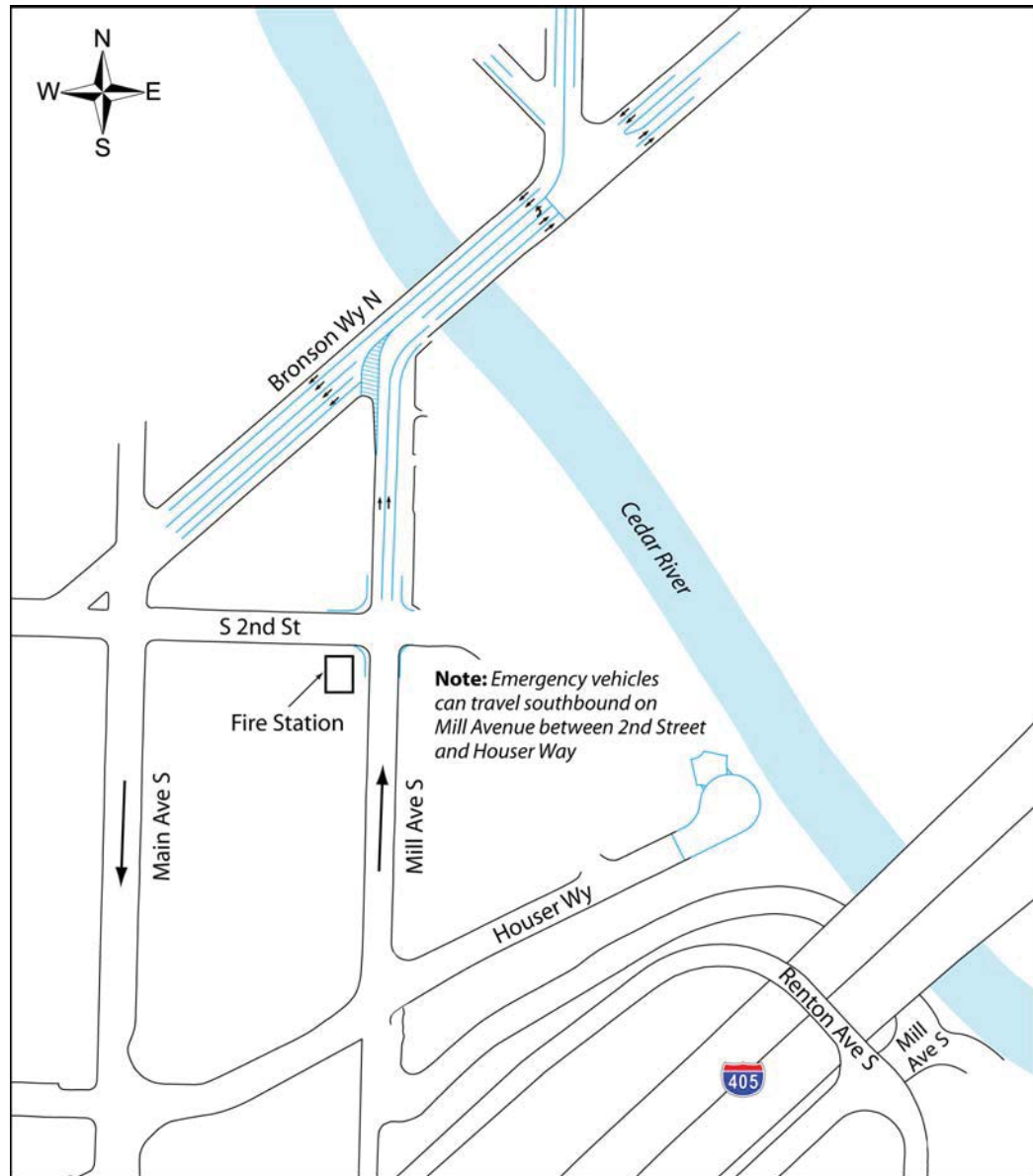
To accommodate the I-405 improvements, the Tukwila to Renton Project also required rerouting traffic from Houser Way and changing access to Renton Hill. These improvements are discussed on the following pages.

Mill Avenue and Main Avenue Design Options

To accommodate widening I-405 over the Cedar River, the Houser Way bridge will be closed. WSDOT worked closely with the City of Renton to develop the most acceptable and feasible solution for redirecting traffic coming from south of Houser Way. For northbound traffic within Renton south of the Cedar River, two design options are being considered:

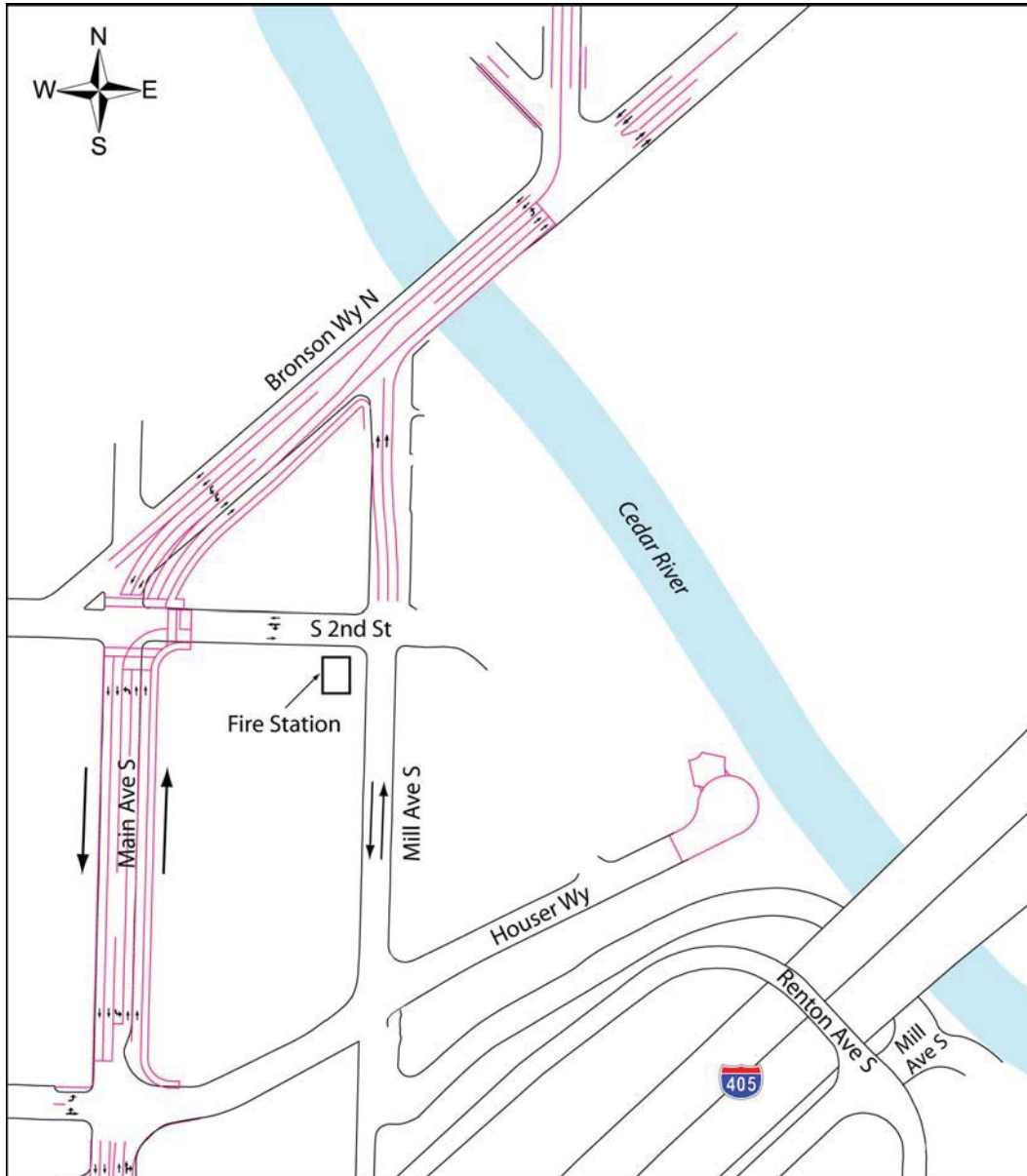
- The first option stripes Mill Avenue as a one-way street to provide two lanes northbound from the intersection of Houser Way and Mill Avenue to Bronson Way (see Exhibit 2-13).

Exhibit 2-13: Mill Avenue Design Option for Local Access to Bronson Way



- The second option leaves Mill Avenue as a two-way street up to the intersection with 2nd Street where it will be striped for one-way traffic northbound and reconfigures Main Avenue, a one-way street southbound, to provide two-way traffic. Main Avenue would be widened and striped for two-way traffic to provide access from the south to Bronson Way (see Exhibit 2-14).

Exhibit 2-14: Main Avenue Design Option for Local Access to Bronson Way

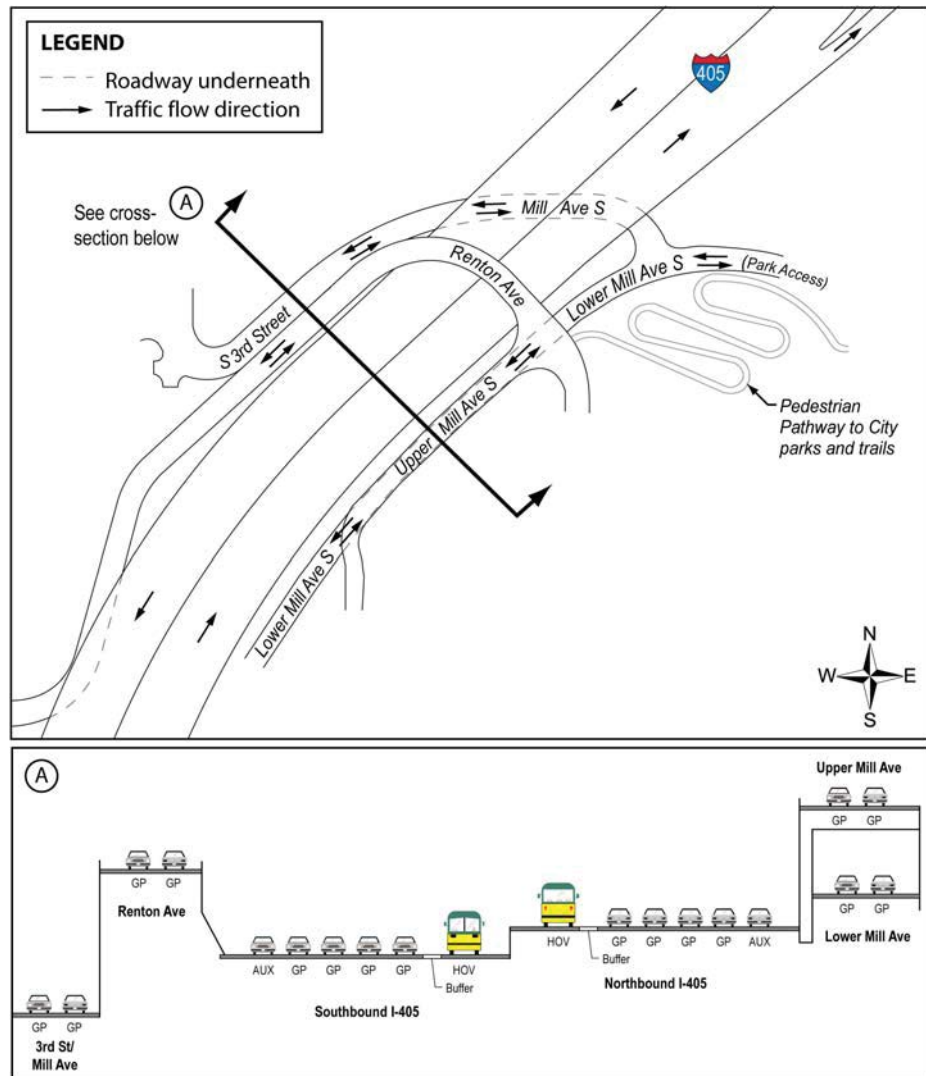


Changes to Renton Hill Access

As shown in the inset on Exhibit 2-12, the Renton Hill Access will be changed to accommodate the widening of I-405. These changes are detailed in Exhibit 2-15 below. WSDOT will:

- Reconstruct the Renton Avenue bridge over I-405 and realign the north end to intersect with Main Avenue rather than Houser Way as it currently does.
- Reconstruct Mill Avenue as a stacked structure that also provides access to Renton Hill as shown in Exhibit 2-15.
- Remove the existing Cedar Avenue bridge.
- Construct a pedestrian pathway connecting residents on Renton Hill to the City’s parks and trails.

Exhibit 2-15: New Local Access for Renton Hill



What are the construction methods and schedule for implementation?

Construction Methods

The Tukwila to Renton Project will use different methods to construct the various project elements. The main approaches to construction for this project are described below.

At-grade Construction

At-grade construction, which occurs on the same elevation as the existing lanes, will be staged to minimize traffic delays and detours. One method would shift lanes toward the median. WSDOT then would place a concrete barrier to provide a work zone outside of the roadway. A second method would build the entire new section, then shift traffic to the new portion and reconstruct the existing section. Staging allows construction to occur safely without closing lanes for the duration of construction.

Bridge Construction

Bridge construction will generally occur in multiple stages to minimize traffic delays and detours. The following describes a typical staging approach for bridge construction on I-405 that will be used where practicable. As the first step, traffic is shifted toward the I-405 median, and the existing lanes and shoulders are narrowed slightly. This approach allows widening of the existing structure or construction of the new bridge, depending on the design, to occur on the outside of the roadway. Next, traffic is shifted onto the new bridge area. If the bridge is being replaced rather than simply widened, the old structure is demolished after traffic is shifted to the new bridge.

Road Closures

Some road closures will be necessary to construct various improvements. WSDOT will notify local agencies, public services, utilities, and the general public prior to any temporary road closures and will clearly mark detour routes. As much as possible, closures will be scheduled during times that will have the least impact on the traveling public.

Traffic Control

WSDOT will work with local agencies to develop detours as needed during construction. Prior to starting construction, WSDOT will develop a traffic control plan. The plan's primary objectives will be to provide a safe facility, to streamline the construction schedule, and to minimize reductions to existing traffic capacity. To lessen effects on traffic, the duration of activities will be minimized and reductions in capacity will be limited and will be targeted to a period when they will have the least effect.

Schedule

Because the I-405 Corridor Program master plan configuration is very expensive, WSDOT will implement the improvements in phases as funding becomes available. The Tukwila to Renton Project represents Phase 2 for this section of I-405. This discipline report assumes a baseline condition where the Phase 1 improvements, Renton Nickel Improvement Project, have been completed prior to the start of Phase 2.

Construction of the entire Tukwila to Renton Project is expected to be spread over several years as funding becomes available. For this reason, construction activity will not be constant throughout the entire study area and the duration will vary depending on the improvement being constructed.

The first element of the Tukwila to Renton Project that is proposed for construction is the SR 515 Interchange Project. This portion is funded through the 2005 Transportation Partnership Account (TPA). This Tukwila to Renton project element will construct a half-diamond interchange on I-405 at Talbot Road (SR 515). Construction of this element is scheduled to begin in autumn of 2008. The remaining elements of the Tukwila to Renton Project are unfunded at this time.

To complete the master plan for I-405 from I-5 to SR 169, additional work will need to be accomplished in this area.

Does this project relate to any other improvements on I-405 or connecting highways?

The Tukwila to Renton Project is part of a comprehensive program to address the congestion problems in the I-405

corridor. WSDOT worked with the Federal Highway Administration (FHWA), Federal Transit Administration, Central Puget Sound Regional Transit Authority, King County, and local governments to develop strategies to reduce traffic congestion and improve mobility along the I-405 corridor. The I-405 Corridor Program Environmental Impact Statement (EIS) and Record of Decision (ROD), published in 2002, document these strategies. The selected alternative has become known as the master plan.

WSDOT is constructing the master plan as funding becomes available. For the southern end of I-405 extending from I-5 to SR 169, the Renton Nickel Improvement Project was Phase 1. This phase was largely funded by the statewide transportation-funding plan called the “nickel package,” which was approved by the Washington State Legislature in 2003. In 2005, the legislature passed a second funding package, TPA. It also provided funding for the Renton Nickel Improvement Project. Construction of the Renton Nickel Improvement Project began in 2007 and will be completed by 2011.

The other I-405 projects that relate to the Tukwila to Renton Project address the sections north of SR 169 to the end of I-405 at I-5 in Lynnwood. Of these projects, the first stage for the Kirkland area of I-405 is currently under construction. The first stage for Bellevue, SE 112th Street to SE 8th Street, began construction in 2007. As each successive project becomes operational, the public will benefit from the improved traffic movement, safety, and capacity along the I-405 corridor.

Another related project is the HOT Lanes Pilot Project on SR 167. This project will convert the existing HOV lanes to High-Occupancy Toll (HOT) lanes between Auburn and Renton. HOT lanes will better manage the SR 167 corridor traffic demand through tolling. The Tukwila to Renton Project will tie into the HOT lanes project.

In addition, some local agencies are working on projects that will tie into the work on I-405. For example, the City of Renton is proposing to reconstruct Rainier Avenue S, in particular, improving local access and circulation to the interchange with I-405 and SR 167.

As well as the road projects discussed above, WSDOT and the City of Renton are constructing the Springbrook Creek

Wetland and Habitat Mitigation Bank. This project will create a large wetland complex that will provide mitigation credits to multiple projects including the Tukwila to Renton Project.

What is the No Build Alternative?

The No Build Alternative assumes that the improvements associated with the Renton Nickel Improvement Project are constructed as does the baseline condition. Only routine activities such as road maintenance, repair, and safety improvements would be expected to take place between 2014 and 2030. This alternative does not include improvements that would increase roadway capacity or reduce congestion beyond baseline conditions. For these reasons, it does not satisfy the project's purpose to reduce congestion on I-405 between I-5 in Tukwila and SR 169 in Renton.

The No Build Alternative has been evaluated in this discipline report as a comparison for the effects associated with the Build Alternative.

SECTION 3 STUDY APPROACH

What is the study area and how was it determined?

The Tukwila to Renton Project extends approximately four miles along I-405 from I-5 at the southwest limit to SR 169 at the northern limit, as well as approximately two miles along SR 167 from I-405 to SW 43rd Street. The communities abutting the project are the cities of Tukwila and Renton as shown in Exhibit 1-1. The City of Kent abuts the southern end of the project's SR 167 limits to the southwest.³

The I-405 Team reviewed land uses within approximately 0.5 mile from the centerlines of the I-405 and SR 167 mainlines as the core study area for this discipline report. The team studied existing land use patterns, including areas near right-of-way expansions, areas where changes in access to I-405 will occur, areas affected by property acquisitions, and areas where local streets will change. Changes in local streets include building new streets crossing over and under I-405, rebuilding existing intersections, and improving arterials near I-405 and SR 167. For details on changes to local streets, see Section 2, Project Description.

We reviewed plans and regulations prepared by the cities of Tukwila and Renton for the plans and policies portion of this discipline report. Specifically, this portion of the discipline report considers land use plans, policies, and regulations applicable to the Tukwila to Renton Project itself or applicable to the lands, local streets, or neighborhoods within the study area.

What policies or regulations are related to effects on land use patterns and land use plans?

For each affected city, this discipline report addresses consistency of the Tukwila to Renton Project with the

³ *The I-405 Team considered the City of Kent's land use patterns as part of this discipline report's land use patterns analysis. However, since no part of the proposed project is in Kent, the team did not analyze the City of Kent's plans, policies, and regulations.*

following specific chapters or sections of local government plans and regulations:

Growth Management Act Comprehensive Plan for Land Use, Transportation, and Capital Facilities Elements

We address these elements in this discipline report because of their direct relationship to transportation issues:

- Land use plans direct growth and development and include projections for population and employment, which create demand for transportation systems.
- Transportation plans provide analysis, roadway and intersection standards of service, and multimodal (serves multiple modes of travel) transportation facility improvement programs to meet land use plans.
- Capital facilities plans identify the facilities, including transportation, required to meet future land use demands and the funding sources committed or in place to fund the needed facilities. Some jurisdictions address essential public facilities in this element if not already addressed in the Land Use Element. I-405 and SR 167 are essential public facilities.

ESSENTIAL PUBLIC FACILITIES

Essential public facilities are uses or activities that are typically difficult to site, such as airports, state education facilities, and state or regional transportation facilities as defined in RCW 47.06.1401; state and local correctional facilities; solid waste handling facilities; and in-patient facilities, including substance abuse facilities, mental health facilities, group homes, and secure community transition facilities, as defined in RCW 71.09.0201. (RCW 36.70A.2001). The Growth Management Act (GMA) requires that counties and cities include a process for the identification and siting of essential public facilities. RCW 36.70A.200(2)(5)1 states that “No local comprehensive plan or development regulation may preclude the siting of essential public facilities.”

Shoreline Master Program Policies and Regulations

Along regulated shorelines such as the Cedar and Green rivers and Springbrook Creek, Shoreline Master Program (SMP) policies and regulations govern design and construction of roadway and related improvements.

Zoning Regulations

Zoning regulations primarily implement local governments’ long-range land use elements and may govern uses, including public and transportation facilities, such as those proposed with the Tukwila to Renton Project. This report focuses on accommodating planned transportation improvements within local governments’ zoning regulations and discussions of how transportation improvements will affect private properties’ conformance with zoning requirements.

How did we collect information on land use patterns and plans and policies for this report?

Land Use Patterns

The I-405 team prepared the land use patterns portion of this discipline report using the following sources:

- Aerial photographs;
- King County Assessor data;
- GIS mapping and analyses;
- Communication with cities of Renton and Tukwila; and
- Field visits to the study area.

These data sources were compared to provide an overlay of land uses in the vicinity of the project footprint. In addition to these mapping sources, the I-405 Team used GIS to develop exhibits to depict the existing land use and zoning patterns.

We used documentation from the Renton Nickel Improvement Project to identify the baseline conditions for the project. Baseline conditions are those conditions in effect after construction of the Renton Nickel Improvement Project, but before building the Tukwila to Renton Project. We used existing land use for baseline conditions analysis of land use patterns.

The I-405 team obtained updates on planned redevelopment from the cities of Tukwila and Renton. These updates were based on proposed changes intended to work in conjunction with the Tukwila to Renton Project, such as revised freeway access, property acquisitions, and local access connections.

Plans and Policies

We prepared the plans and policies portion of this report using the following methods:

- Collection of agency long-range plans and regulations via agency web sites and at agency offices; and
- Meetings, teleconferences, or correspondence with City staff members to interpret how the cities apply local policies and regulations.

How did we evaluate effects on land use patterns and plans and policies?

Land Use Patterns

The I-405 Team developed a definition of a land use pattern effect, looking at both temporary and permanent effects. The following definitions of effects were proposed and used in the review and analysis of land use patterns for the proposed project:

What are temporary effects?

Temporary effects occur during construction and can include increased noise, dust, and odor due to equipment operations and changes in access and traffic patterns due to detours and delays. The severity of temporary effects depends on:

- How long construction lasts (duration),
- Whether construction is constant or sporadic (intensity), and
- What land uses construction will disturb.

What are permanent effects?

Permanent effects are those where public or private lands are converted to transportation uses. The severity of these effects depends on:

- The amount and type of land use that will be converted,
- Whether the amount of land needed (acquisitions) changes land use patterns or if the specific businesses or uses that are acquired are prominent in some way in the residential or business community fabric, and
- Whether traffic patterns change resulting in either a positive or negative effect on business success and residential appeal.

Plans and Policies

The I-405 team determined the effects by using a consistency analysis. The analysis compared the comprehensive plans and regulations of the cities with the Tukwila to Renton Project. State laws, rules, and the WSDOT Environmental Procedures Manual were guidelines in developing the criteria used in this analysis.

The State of Washington Local Project Review Act⁴ requires projects to be reviewed for consistency if they need any land use or environmental permit or license from a local government for a project action. Permits or licenses include (but are not limited to) building permits, conditional uses, shoreline substantial development permits, site plan reviews, and permits or approvals required by critical area ordinances. Projects should be reviewed for consistency in terms of land use, density and intensity, infrastructure, and design characteristics. The Tukwila to Renton Project will require several permits including shoreline substantial development and other types of permits.

State laws (State of Washington Local Project Review Act, implementing state rules, and WAC⁵) allow local governments to determine whether specific projects are consistent with comprehensive plans and implementing regulations that are required by GMA. For the purposes of this analysis, the I-405 Team developed several specific "consistency questions" using the state's consistency review categories (i.e., land use, density, infrastructure, and design). These questions are as follows:

- Are the local governments' GMA comprehensive plans and SMP policies supportive of or in conflict with the Tukwila to Renton Project?
- Do local governments' zoning provisions or, in their absence, policies make allowances for transportation-related improvements?
- Is the Tukwila to Renton Project consistent with local governments' comprehensive plans and/or LOS standards?

STATE RULES THAT DETERMINE A PROJECT'S "CONSISTENCY" WITH PLANS AND REGULATIONS

The Washington State Local Project Review Act in RCW 36.70B and State rules (WAC 365-197-010 and 050) describe how to determine a project's consistency with plans and regulations by essentially reviewing four topics:

- 1) The type of land use allowed;
- 2) The level of development allowed, such as dwelling units per acre or other measures of intensity;
- 3) Infrastructure, such as the adequacy of public facilities and services to serve development; and
- 4) The characteristics of the proposed development, such as compliance with specific development regulations or standards.

The rules include advisory sample questions under each of the project consistency topics.

⁴ *Washington State Legislature, Office of the Code Reviser. January 2005. Revised Code of Washington (RCW 36.70B).*

⁵ *Washington State Legislature, Office of the Code Reviser. July 20, 2005. Washington Administrative Code (WAC 365-197).*

**EXAMPLE OF A POLICY FROM
CITY OF RENTON
COMPREHENSIVE PLAN**

Objective EN-I: Ensure the long-term protection of the quality and quantity of the groundwater resources of the City of Renton in order to maintain a safe and adequate potable water supply for the City.

Analysis: Tukwila to Renton Project avoids Renton wells and associated structures located in vicinity of project. In addition, stormwater BMPs avoid groundwater contamination as a result of the proposed project.

- Do the local governments' GMA comprehensive plan transportation or capital facilities improvement programs and/or analyses consider or include the Tukwila to Renton Project?
- Is the Tukwila to Renton Project design consistent with local governments' policies that address design?
- Is the Tukwila to Renton Project design consistent with SMP and zoning regulations?
- Are local street modifications made consistent with local government adopted arterial standards?

The team reviewed City of Tukwila and City of Renton plans, policies, and regulations. Using the above questions, the team analyzed the Tukwila to Renton Project's consistency or inconsistency with these relevant documents.

SECTION 4 BASELINE CONDITIONS

What are the land use patterns in the study area?

Land uses within the study area are not expected to change dramatically between existing conditions and the baseline conditions. Because of this, land uses under existing conditions are used as the baseline conditions for this project.

Baseline land use patterns within the study area consist primarily of residential, commercial, industrial, and vacant, land uses (see pie chart in Exhibit 4-1). The “other” land use category shown on Exhibit 4-1 includes public parks, and institutional uses such as schools and hospitals, and utilities.

The study area includes the Tukwila and Renton Urban Centers. The Tukwila Urban Center is an area that transitioned from farming uses to a retail shopping and service center starting in the 1960s. This Urban Center has no residential land use within the study area. The portion of the Renton Urban Center in the study area, Downtown Renton, was platted and developed in the late 19th and early 20th centuries and therefore has a greater mix of uses than the remaining study area.

Residential Uses

Residential uses make up approximately 26 percent of the study area. Generally, single-family residential neighborhoods characterize most of the residential area, with some multi-family areas that separate the single-family neighborhoods from commercial and industrial areas.

What is the difference between baseline conditions and existing conditions?

Baseline Conditions:

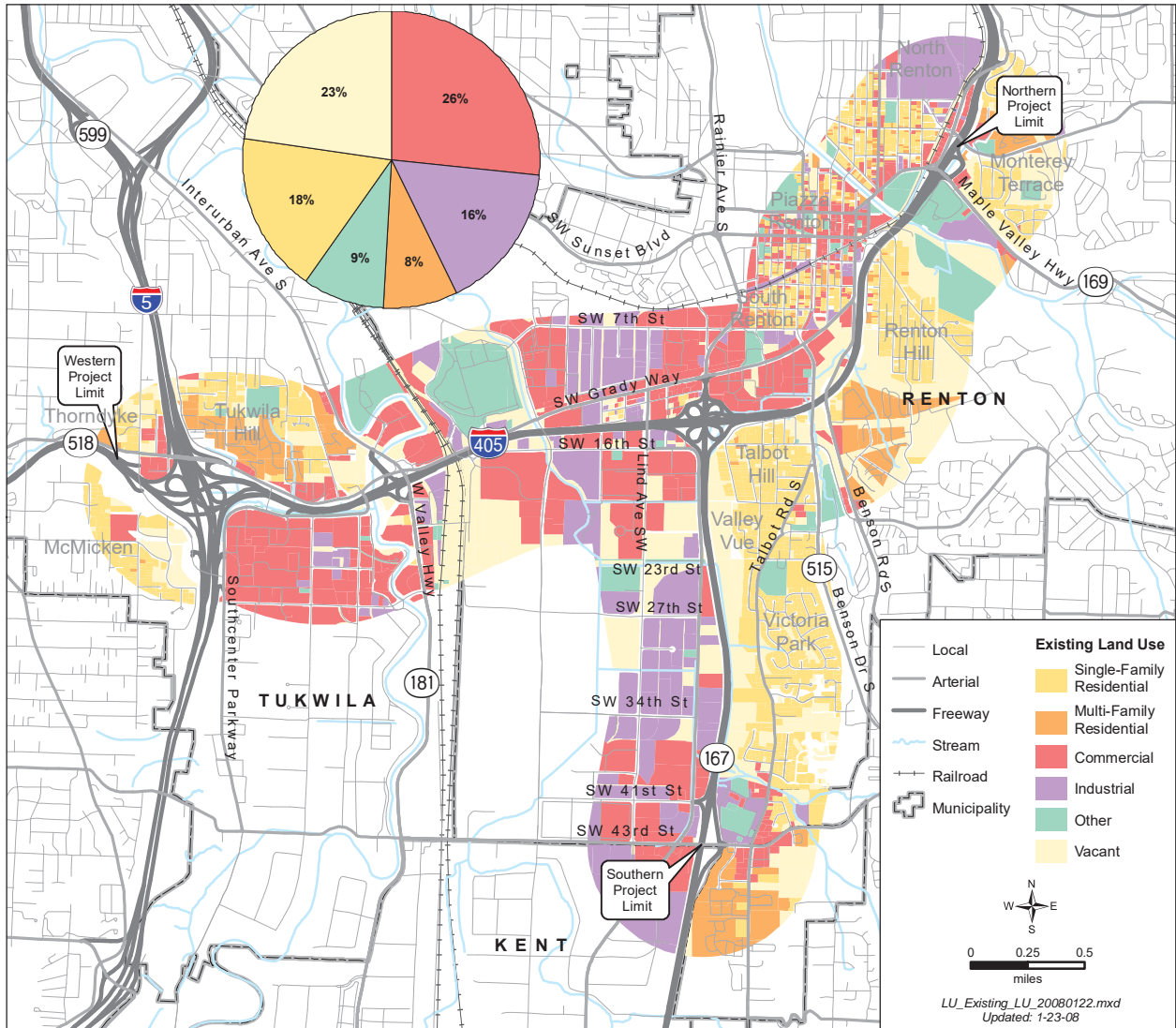
Conditions existing after the Renton Nickel Improvement Project has been constructed but before construction of the Tukwila to Renton Project.

Existing Conditions:

Conditions existing before construction of either the Renton Nickel Improvement Project or the Tukwila to Renton Project.

The Tukwila Comprehensive Plan identifies residential neighborhoods within the study area as McMicken, Thorndyke, and Tukwila Hill (see Exhibit 4-1).⁶ Tukwila does not have an official neighborhood recognition program.

Exhibit 4-1: Land Use and Neighborhoods in the Study Area



Tukwila Hill is a mixed residential area northeast of the I-5/I-405 interchange composed of single-family neighborhoods, with a large multi-family component located between a single-family neighborhood and I-405.

⁶ Tukwila Comprehensive Plan. Updated December 5, 2005, Figure 10, page 73.

McMicken and Thorndyke neighborhoods contain small single-family areas located southwest and northwest of the I-5/I-405 interchange within the Tukwila portion of the study area.

Renton has eight officially recognized neighborhoods within the study area:

- North Renton
- Monterey Terrace
- Piazza Renton (Downtown Renton)
- Renton Hill
- South Renton
- Talbot Hill
- Valley Vue
- Victoria Park

Neighborhoods west and north of I-405 in Renton include North Renton, Piazza Renton (or Downtown Renton), and South Renton. These neighborhoods tend to be older and were originally platted and developed in the late 19th and early 20th centuries. Sidewalks, on-street parking, and the remnants of an alley network characterize these neighborhoods, which are experiencing a great deal of redevelopment and are intermixed with small retail shops, restaurants, service businesses, and light manufacturing uses.

In particular, the Piazza Renton and South Renton neighborhoods are experiencing redevelopment characterized by mixed-use development with residential uses in flats, townhouses, semi-attached, and duplex dwelling units. Recent redevelopment tends to be rental apartments, but condominium construction has also occurred in recent years.

Neighborhoods located east and south of I-405 and along SR 167 include Monterey Terrace, Renton Hill, Talbot Hill, Valley Vue, and Victoria Park. These tend to be well-established, suburban, single-family neighborhoods. With the exception of Renton Hill these areas are generally newer neighborhoods than those found west and north of I-405.

The Renton portion of the study area located east and south of I-405 and along SR 167 also includes some predominantly multi-family areas that separate the predominantly



Downtown Renton

single-family neighborhoods mentioned above. The residential areas east and south of I-405 and along SR 167 tend to be separated from commercial and industrial areas by the hills they occupy and by the freeways (I-405 and SR 167).

Commercial and Industrial

Commercial and industrial uses comprise approximately 42 percent of the land within the study area. These uses tend to occur south of I-405 between I-5 and SR 167, and north of I-405 between Interurban Avenue South and Rainier Avenue South.

Large buildings and associated surface parking lots that surround the buildings characterize commercial and industrial areas. Westfield Shoppingtown Mall (formerly known as Southcenter) and nearby retail development dominate Tukwila's portion of the study area. The Green River area at the Renton-Tukwila border comprises a mixture of service and retail commercial and light industrial uses.

West of SR 167, Renton has a mixture of newer office buildings, light industrial, and warehouse development. Automobile dealerships and large-scale retail uses characterize the area near the I-405/SR 167 interchange. The downtown Renton area contains a mix of commercial uses including small-scale retailers, restaurants, and service businesses associated with the small-lot development patterns of the early 20th century. North of the Cedar River, in the northern portion of the study area, auto-oriented retail uses and services are mixed in with some large industrial parcels at the northern edge of the study area.

Vacant Land

The vacant land category includes vacant, underutilized and redevelopable lands and comprises approximately 23 percent of the study area and are scattered throughout it. These areas offer the greatest opportunity for growth and development within the study area. More than half of the vacant land is zoned residential, including a portion that is zoned mixed-use residential. Market forces are creating demand for development of vacant land in the study area. We expect vacant land to decrease over time as new development occurs. For example, some new housing has been constructed on the hills west of the I-405/I-5 interchange in Tukwila, and several

new apartments and condominiums have been proposed or are in the process of development in the Renton portion of the study area, particularly in the downtown area. A 21-lot residential development was recently proposed on vacant land adjoining I-405 in the Renton Hill neighborhood (Defoor Preliminary Plat).

Other Category

The “Other” land use category consists of several institutional and governmental land use types that are not easily classified. Types of uses include public parks, utilities, hospitals, schools, and park-and-ride lots. This category comprises approximately nine percent of the study area. This use tends to be spread throughout the corridor with concentrations at the City of Renton parks near the Cedar River and at the King County Metro sewage treatment plant located west of Springbrook Creek.

Where are the future redevelopment areas in the study area?

The comprehensive plans prepared by the cities of Tukwila and Renton identify four areas where future redevelopment will focus.

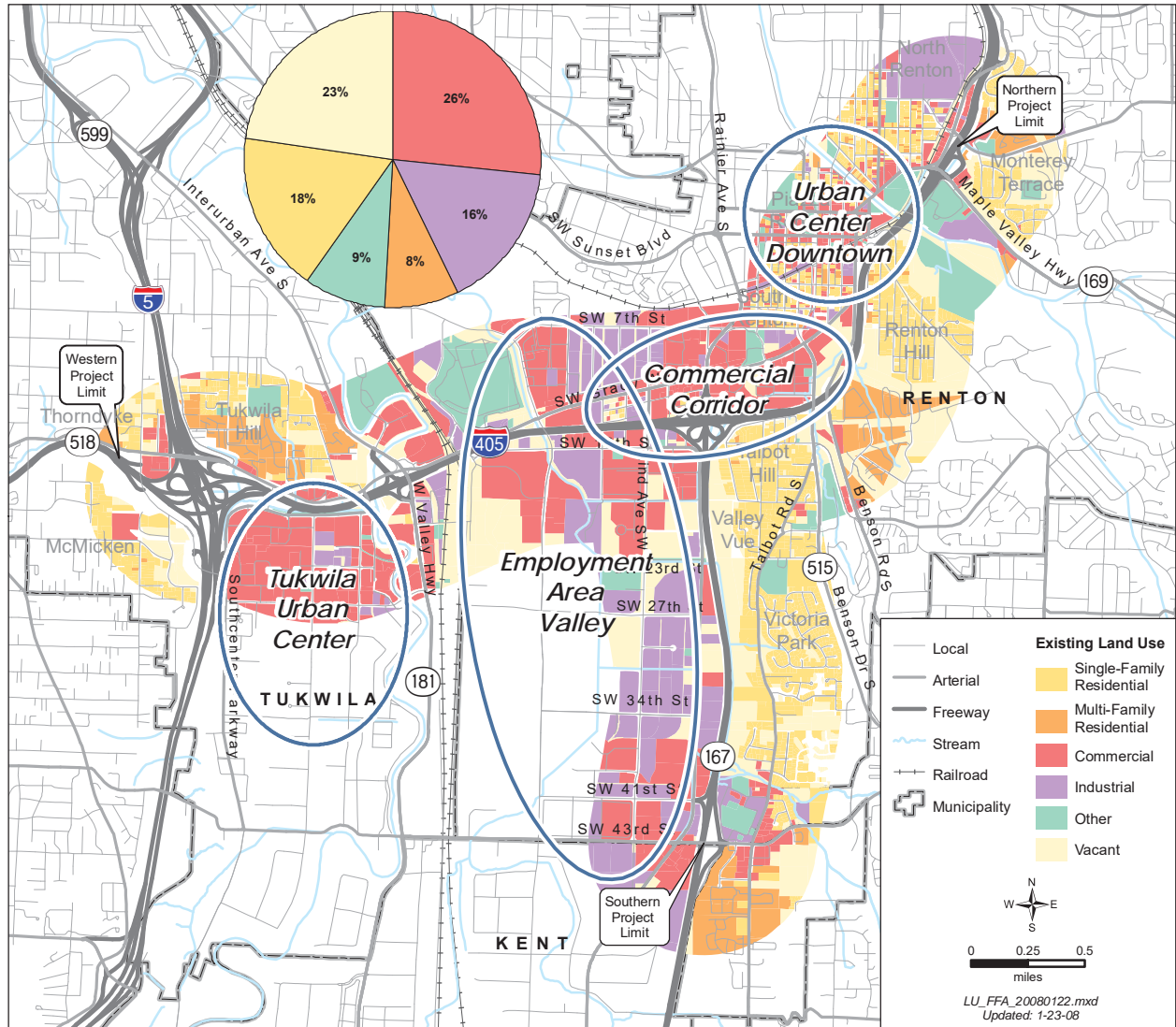
As shown in Exhibit 4-2, Tukwila has one future redevelopment area called the Tukwila Urban Center. The City intends for this area to become a high-density with regional employment and recreational opportunities. Renton has identified three redevelopment areas within the study area: the Employment Area Valley, the Commercial Corridor, and the Urban Center Downtown. Each area has a unique vision and goal for future redevelopment.

Tukwila Urban Center

The existing Tukwila Urban Center is an economically vibrant, motor-vehicle-oriented area. It encompasses intensely developed areas such as the Westfield Shoppingtown Mall and Andover Industrial Park.

For the Tukwila Urban Center, the City of Tukwila foresees a high-density area with regional employment, areas of high

Exhibit 4-2: Future Focus Areas in the Study Area



quality housing nearby to water amenities such as Tukwila Pond Park, the Sounder/Amtrak station, and shopping and recreational opportunities for residents, business people, and visitors.

Retail uses dominate the Tukwila Urban Center and provide regional comparison shopping, major discount shopping, entertainment, and a full range of professional services. While continuing to serve the region as a major shopping, office, and light industrial area, the Tukwila Urban Center will encourage development of housing around Tukwila Pond and the Green

River. The City anticipates redevelopment of warehouses, industrial, and retail uses along these amenity areas, and the City is considering changes in zoning and development regulations to allow this redevelopment through a subarea planning process.

Employment Area Valley

A mix of land uses characterizes the Employment Area Valley. This area's mix of land uses includes industrial, high technology, office, and retail commercial activities, which lead to economic growth and a stronger employment base for the City of Renton.

The Employment Area Valley designation allows this area formerly dominated by traditional industrial and warehouse uses to transition to more intensive retail and office uses. This designation allows that transition without making the industrial and warehousing uses nonconforming or restricting their ability to expand, and is therefore a flexible designation responding to market forces. Since enactment of this designation in the late 1990s, many companies are choosing to locate in the Employment Area Valley because of good access along I-405 and SR 167 and because of the area's proximity to downtown Renton, Seattle-Tacoma International Airport, and I-5.



*Office building in Renton's
Employment Area Valley*

Commercial Corridor

Concentrated commercial activity, primarily along arterial streets, characterizes the Commercial Corridor designation. This designation provides both necessary goods and services for daily living and easy access to nearby neighborhoods, as well as goods and services for a subregional market in an area that accommodates large traffic volumes.

The City of Renton policies and objectives for the Commercial Corridor foresee the corridor evolving from a linear commercial business district to a business area that uses more efficient building and parking lot design, coordinated access, amenities, and boulevard treatment such as landscaped medians. To achieve this change, Commercial Corridor areas may include designated districts with concentrations of special uses such as the Auto Mall, features such as transit stops, and a combination of businesses that create a focal point of pedestrian activity and visual interest.

Locations along principal arterials with high volume traffic characterize Commercial Corridor areas. The land use intensity levels in these areas will increase over time with development of vacant space, increases in land value making redevelopment feasible, and efficient land use.

Urban Center Downtown

The City of Renton envisions the Urban Center Downtown as a vibrant city core. This core will provide arts, entertainment, regional employment opportunities, recreation, and quality urban residential neighborhoods; and it will be the dynamic heart of a growing regional city. Renton's Urban Center Downtown will provide additional capacity for new housing that will allow the City to accommodate its share of planned regional growth. This additional residential population will help to balance the City's large employment population.

Renton expects that the Urban Center Downtown will redevelop to provide neighborhood, citywide, and subregional services and mixed-use residential development. Urban Center Downtown residential development will consist primarily of urban scale mixed-use projects. In combination with the expected mixed uses (e.g., retail, office, residential and service uses), the Urban Center Downtown will support transit and transit-oriented development. In the surrounding neighborhoods, the City anticipates townhouses and multi-family residential developments being constructed on lots in largely developed areas.



Downtown Renton Parking Garage

What Transportation Systems serve the land use in the study area?

Within the study area, I-405 fulfills an important transportation need as the primary regional thoroughfare for residents, businesses, and industries in Renton and Tukwila as well as the dominant north-south corridor east of I-5 as shown in Exhibit 4-3. I-405 connects to I-5 in Tukwila to the south and in Snohomish County to the north. I-405 provides convenient access from the study area to Eastside cities located along the corridor to the north, as well as to Sea-Tac airport and Seattle via connections to SR 518 and I-5 in Tukwila.

Other highways that tie the study area together are SR 518, SR 181, SR 167, SR 515, and SR 169. With the exception of SR 518 and SR 181, these highways converge in central Renton

within a 0.5-mile radius of each other. This proximity results in a complex traffic flow as regional and local trips interact within a relatively short distance.

"Principal arterials" are streets and highways that connect major intra-city activity centers and have primarily high traffic volumes that travel at relatively fast vehicle speeds. The purpose of these arterials place little emphasis on local land use access.

Exhibit 4-3 shows the major transportation routes within the study area. Principal arterials within the Tukwila portion of the study area include Interurban Avenue South, SR 181, Southcenter Boulevard, Tukwila Parkway, and Southcenter Parkway. The principal arterials within Renton portion of the study area include Oakesdale Avenue SW and SW 43rd Street in the Employment Area Valley; Grady Way in the Commercial Corridor; and S 2nd Street, S 3rd Street, and SW Sunset Boulevard in Renton's Urban Center Downtown. These arterials, with numerous other arterial streets, link commercial, industrial, and residential neighborhoods to the freeways and state highways.

What comprehensive plan and zoning requirements are the cities required to meet?

Comprehensive plans provide overall policy and planning guidance; development regulations such as zoning implement this guidance. State law considers SMPs a part of local governments' comprehensive plans and development regulations. A summary of requirements or features of comprehensive plans, zoning regulations, and SMPs follows.

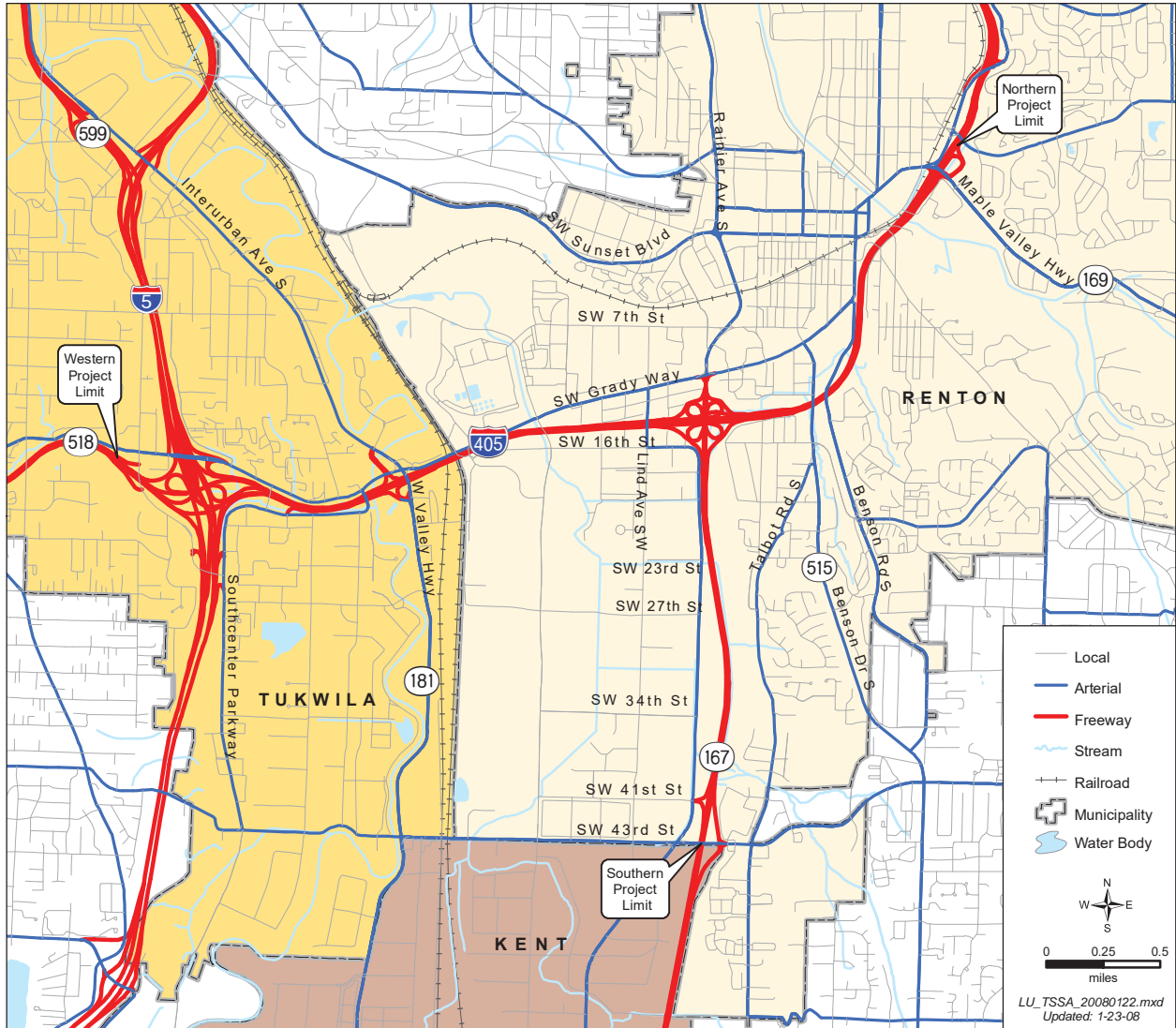
Comprehensive Plans and the Growth Management Act

A comprehensive plan provides the vision, goals, and policies of the community in written and map form. These plans direct the allocation of resources and guide the preparation of rules and regulations for plan implementation.

What are Shoreline Master Programs?

Local shoreline master programs (SMPs) regulate new development and uses of shoreline along larger streams/rivers with flows of at least 20 cubic feet per second, lakes over 20 acres, and marine waterfronts. SMPs are required by the Washington State Shoreline Management Act (codified in RCW 90.58), and typically contain shoreline policies, shoreline use environments or "zones," and shoreline regulations.

Exhibit 4-3: Transportation Systems in the Study Area



The Washington State GMA⁷ requires and guides the preparation and amendment of local comprehensive plans. The GMA contains 13 goals addressing the following subjects:

- Urban growth
- Reducing sprawl
- Transportation
- Housing

⁷ Washington State Legislature, Office of the Code Reviser. January 2005. Revised Code of Washington RCW 36.70A.

- Economic development
- Property rights
- Permits
- Natural resource industries
- Open space and recreation
- Environment
- Citizen participation and coordination
- Public facilities and services
- Historic preservation

Local comprehensive plans must respond to state GMA goals with the following required elements: land use; housing; transportation; capital facilities; utilities; parks and recreation; and economic development.

For the proposed Tukwila to Renton Project, the most relevant GMA goal relates to transportation. The GMA states that the transportation goal purpose is to encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.

To respond to this goal, transportation elements must include inventories, analyses, and policies. GMA also identifies several other planning requirements applicable to roads and highways.

Specifically, GMA requires adoption of concurrency regulations, ensuring that transportation strategies or improvements are in place at the time of development or within six years to meet local LOS requirements. Local LOS requirements do not apply to "Highways of Statewide Significance," which include I-405 and SR 167. For Highways of Statewide Significance, local jurisdictions will evaluate the effects of land use on the state facility. Local LOS standards and methodologies may differ from state LOS standards regarding local streets. Both the cities of Tukwila and Renton have LOS standards and methodologies that differ from each other and differ with the state standards and methodologies.

GMA requires local comprehensive plans to address processes for identifying "essential public facilities." No local plans or regulations may preclude the siting of such facilities.

What is level of service?

Level of service (LOS) is a measure of system operating performance for roadways, transit, non-motorized, and other transportation modes. For example, roadway measures of level of service often assign criteria based on volume-to-capacity ratios [from 2003–2022 Washington State Highway System Plan, February 2002].

LOS is rated with a grading system of A through F with A being the best performance and F being the most congested.

Highways of Statewide Significance are one type of essential public facility as defined by state law. These facilities consist of those that are typically difficult to site (e.g., airports, jails, inpatient facilities). Both I-405 and SR 167 are considered Highways of Statewide Significance.

How are transportation project reviews coordinated among jurisdictions?

The Growth Management Act requires jurisdictions to coordinate their permitting and environmental review for major transportation projects. RCW 36.70A.420 outlines legislative intent for this coordination, while RCW 36.70A.430 includes a mechanism for coordinated multi-jurisdictional review and approval of such transportation projects.

Further, GMA encourages local governments to coordinate their permitting and environmental review processes for transportation projects.⁸

This discipline report does not include an overall review of the Corridor Program’s consistency with GMA, because the completed I-405 Corridor Program EIS addressed this topic in 2002.⁹ This discipline report focuses on local government plans that are required to be consistent with GMA. The GMA discussion above provides a context to help interpret local government comprehensive plans and regulations reviewed in this report.

Zoning

Zoning is a law adopted by local government to protect the public health, safety, and welfare by defining compatible and incompatible uses; establishing the density and intensity of development for adequate light, air, and infrastructure; and defining or maintaining the character of established districts.

Zoning divides the regulated land into several classifications or zones to identify the following types of regulations for each zone: allowable uses, structure size, and structure locations on a lot. One or more letters define different zones within a jurisdiction (e.g., Tukwila Urban Center – TUC, Commercial Arterial – CA). The classification codes appear on a map that applies to all parcels and lots in the defined district. Zoning codes typically address roadways and other transportation facilities such as park-and-ride lots. The Washington Administrative Code¹⁰ requires zoning to be consistent with each jurisdiction’s respective comprehensive plan, particularly the future land use map.

⁸ Washington State Legislature, Office of the Code Reviser. January 2005. Revised Code of Washington (RCW 36.70A.420).

⁹ Washington State Department of Transportation (WSDOT) et al. 2002. I-405 Corridor Program NEPA/SEPA Final Environmental Impact Statement.

¹⁰ Washington State Legislature, Office of the Code Reviser. July 20, 2005. Washington Administrative Code (WAC 365-195-800).

Shoreline Master Programs

The State Shoreline Management Act requires a SMP for streams with flows greater than 20 cubic feet per second (cfs) and lakes greater than 20 acres in size. The Green and Cedar rivers and Springbrook Creek are subject to SMPs. Gilliam, Panther, and other named and unnamed creeks in the study area are not subject to SMPs, because each has a flow less than 20 cfs; however, activities in proximity to the creeks are subject to critical area regulations.

The shoreline jurisdiction includes the land area within 200 feet of its ordinary high water mark (OHWM), associated wetlands, and, in some cases, associated floodplains.

An SMP is both a policy and regulatory document and is considered to be part of a jurisdiction's GMA Comprehensive Plan and implementing development regulations. In addition to expressing policies, the SMP governs uses and activities within the shoreline jurisdiction. Its policies and regulations address circulation, conservation, and other topics relevant to the Tukwila to Renton Project.

What does ordinary high water mark (OHWM) mean?

An "ordinary high water mark" is a location where the vegetation and soil show the effects of the water.

According to the Washington State Shoreline Management Act (RCW 90.58), the ordinary high water mark is found by examining the bed and banks of tidal waters, streams, and lakes and determining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, that the soil and vegetation have a character distinct from that of the abutting upland. Where the ordinary high water mark cannot be found, it is the line of mean high water—the highest that the water gets in an average year, but not the highest it gets during extreme flooding.

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SECTION 5 PROJECT EFFECTS

How will project construction affect land use patterns?

Construction will inconvenience people driving through the area by temporarily closing lanes and delaying traffic. The I-405 Team expects that relocated accesses and detours will have short-term effects as construction alters traffic patterns.

We do not expect the overall effects of project construction activities to substantially change the existing or planned land use patterns in the study area, since construction will be phased and scheduled outside of high traffic demand periods as much as possible to minimize traffic delays. In addition, access to businesses and residences throughout the study area will continue during the construction period. Where roadway segments are closed, detours will maintain access. Short-term closures, as practical, will also occur during low traffic volume periods such as at night.¹¹

What effect will an improved transportation system have on land use patterns?

An improved transportation system will affect land use patterns through acquisition of properties necessary to construct the transportation improvements and from changes in access to and from properties as a result of the transportation improvements. Permanent effects of the project are related to property acquisitions necessary to construct the project improvements and to changes in travel patterns and traffic volumes resulting from these improvements. The I-405 Team analyzed proposed property acquisitions and the anticipated changes to access and travel patterns in relation to existing land uses. We used this information to determine whether these changes will affect existing businesses and residences as well as planned land uses.

¹¹ Hanson, Barrett, I-405 Project Team. *Personal correspondence, email with traffic control notes, September 29, 2006.*

Property Acquisitions

WSDOT will purchase property for right-of-way for roadway construction. The new right-of-way can, in turn, be used for storm drainage facilities, wetland and stream creation or enhancement, or other roadway improvements. The major effect on land use patterns will be due to the acquisition and displacement of approximately 25 residential and 16 commercial properties and partial acquisition of additional properties within the study area. Exhibits 5-1 through 5-9 identify acquisition and relocation needs anticipated for the Tukwila to Renton Project.

Exhibit 5-1: Property Acquisitions that Require Relocation

No. ^a	Current Land Use	City	Business Name/Type	Acquisition Type
1-22	Single-Family Residential	Renton	N/A	Full
23	Multi-Family Residential	Renton	Berkshire Apartments (two buildings)	Partial
24	Single-Family Residential	Renton	N/A	Full
25	Commercial – Vacant	Tukwila	Service Station	Full
26	Commercial	Tukwila	Best Western Inn	Full
27	Commercial	Renton	Longacres Industrial Park	Full
28	Commercial	Renton	South 405 Place	Full
29	Commercial	Renton	Shuttle Express	Full
30	Single-Family Residential	Renton	N/A	Full
31	Commercial	Renton	Seattle Lumber Company	Full
32	Commercial	Renton	Sprint Communications	Full
33	Commercial	Renton	Popa's Roofing Company	Full
34	Commercial	Renton	Cope & McPhetres Marine Service	Full
35	Commercial	Renton	Dahlby Construction	Full
36	Commercial	Renton	1420 Building	Full
37	Commercial	Renton	Office Building	Full
38	Commercial	Renton	Taylor's Auto Body	Full
39	Commercial	Renton	Shurguard Storage	Full
40	Commercial	Renton	Strada de Valle	Full
41	Commercial	Tukwila	Hampton Inn	Full

^aThe number shown in the first column corresponds to the bubbles shown on Exhibits 5-2 through 5-9.

N/A = Not Applicable

Exhibit 5-2: Property Acquisitions, Sheet 1



Exhibit 5-3: Property Acquisitions, Sheet 2

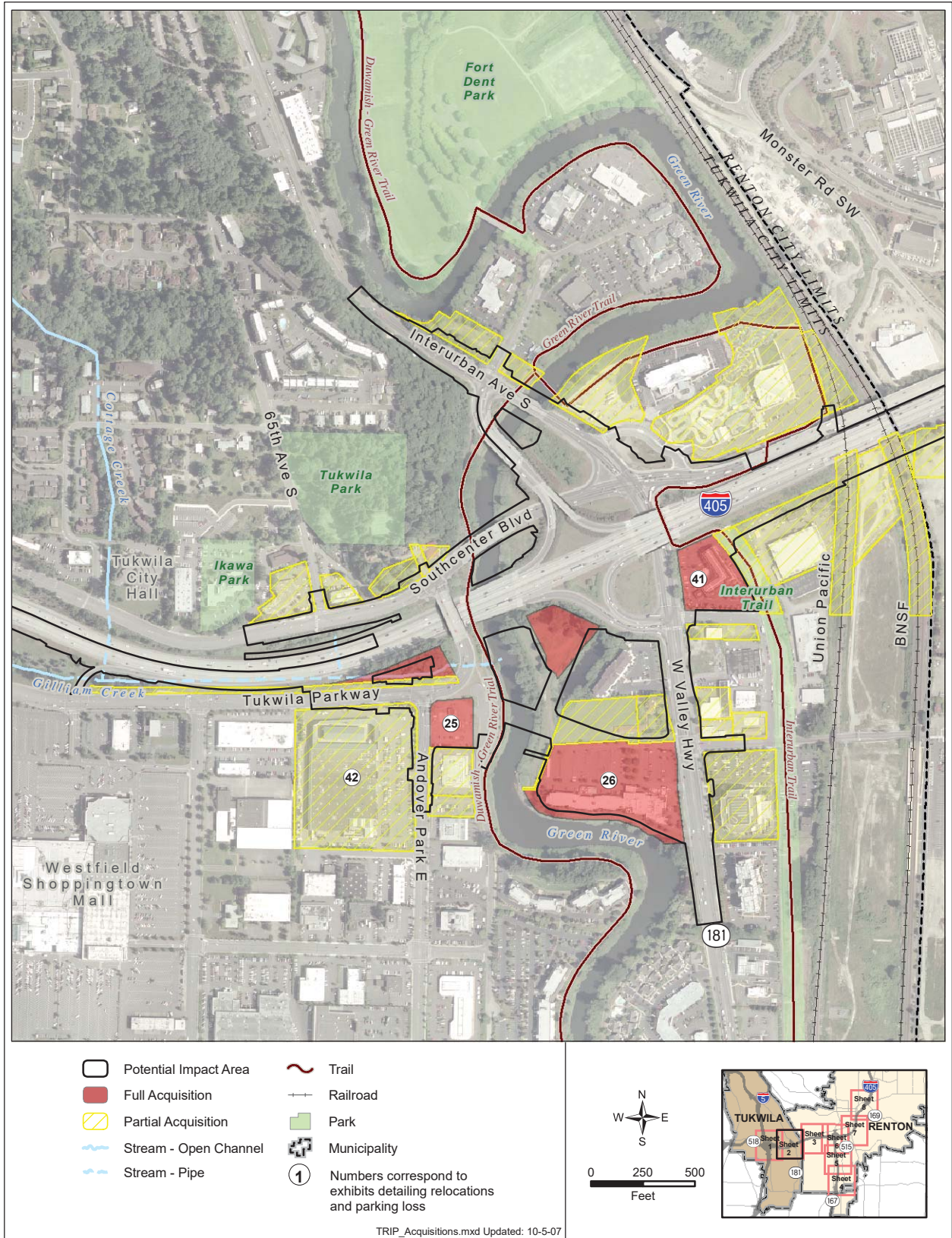


Exhibit 5-4: Property Acquisitions, Sheet 3

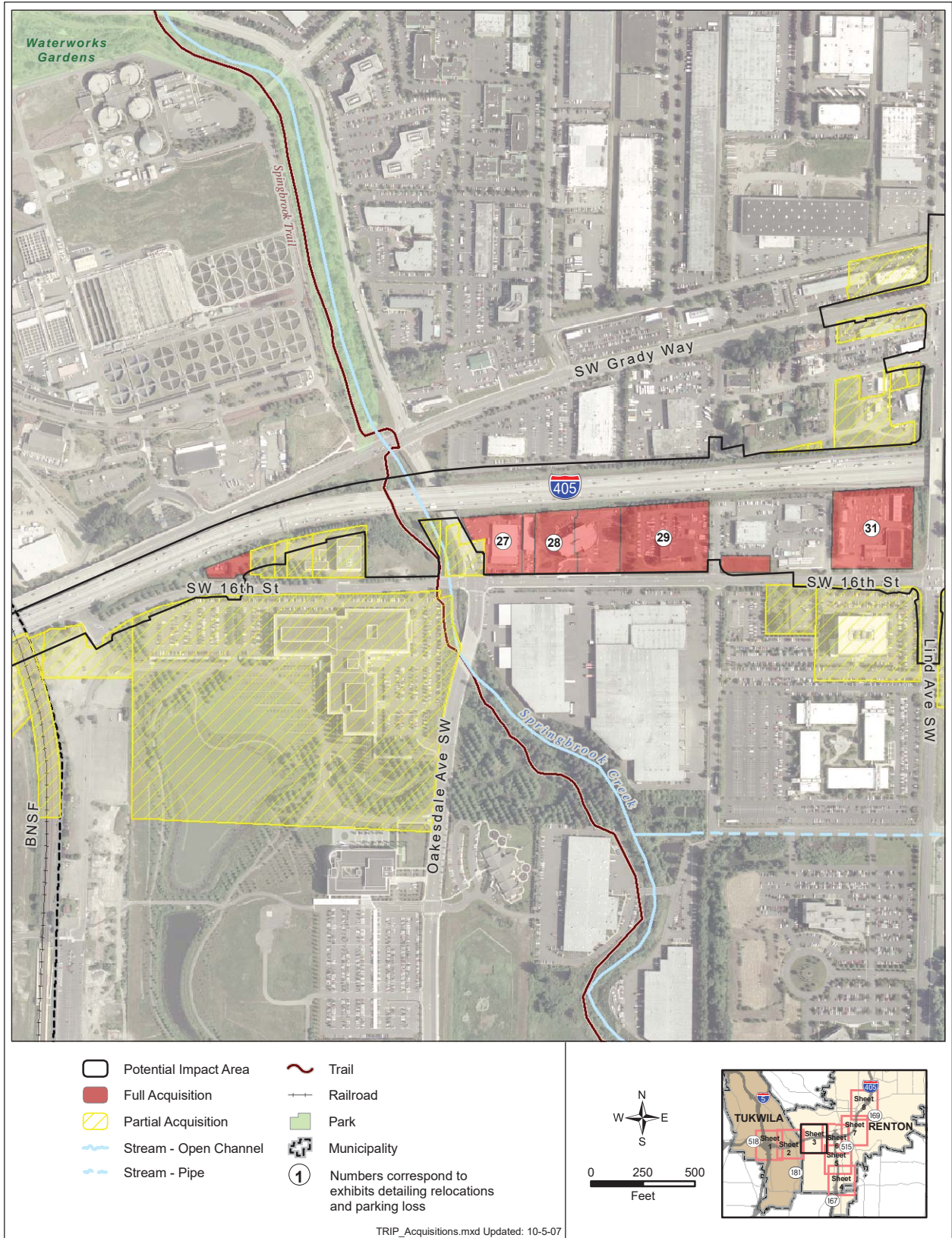


Exhibit 5-5: Property Acquisitions, Sheet 4

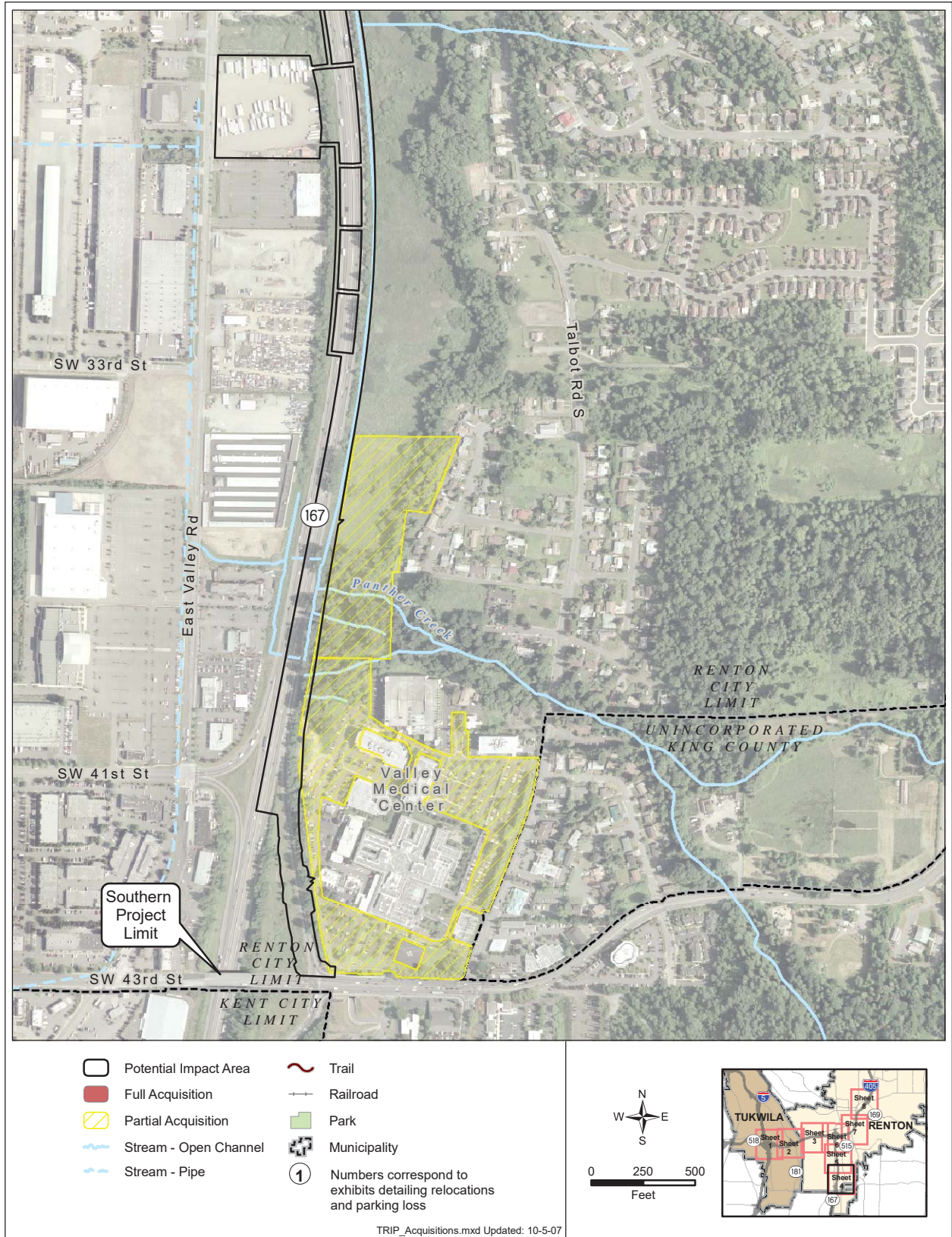


Exhibit 5-6: Property Acquisitions, Sheet 5

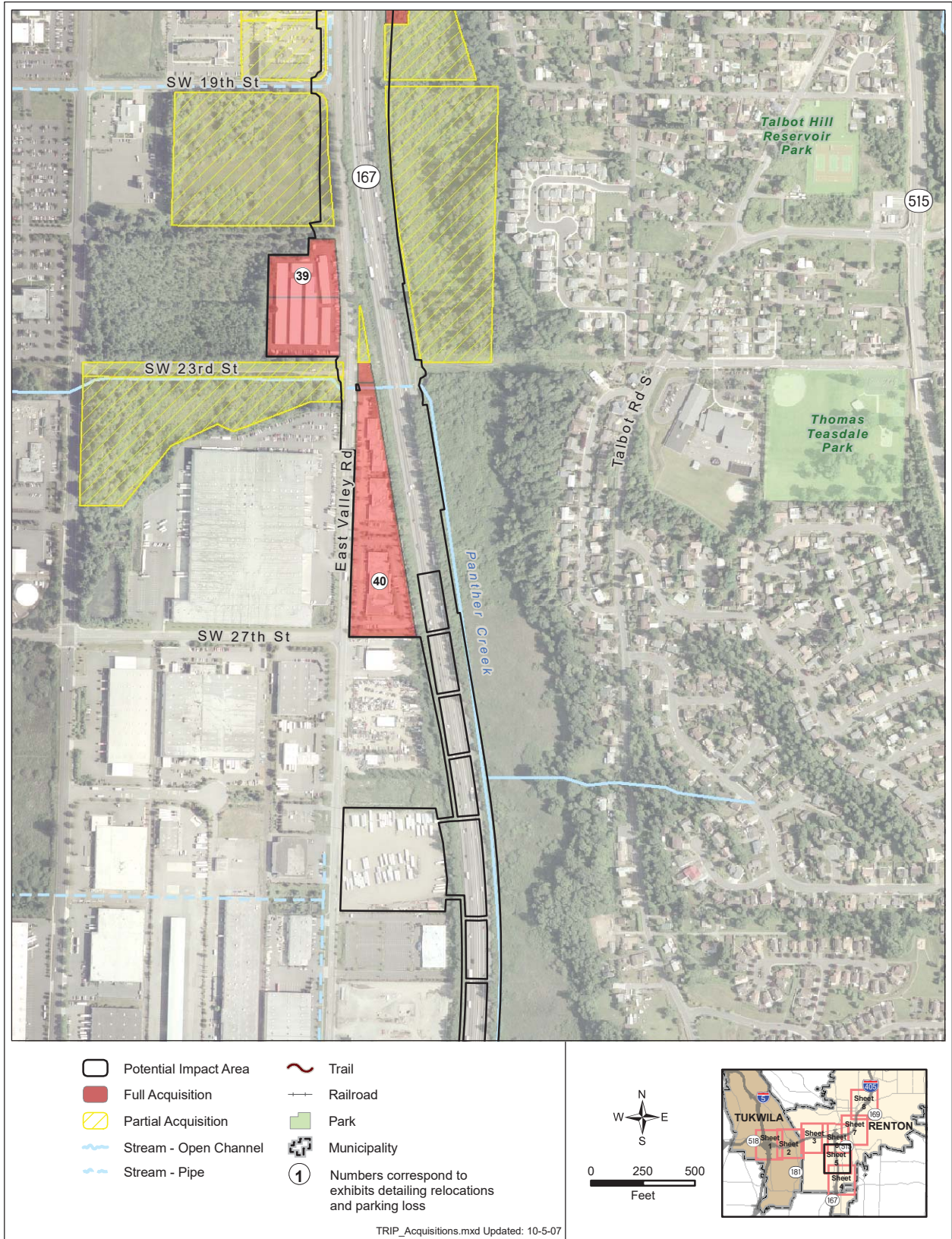


Exhibit 5-7: Property Acquisitions, Sheet 6

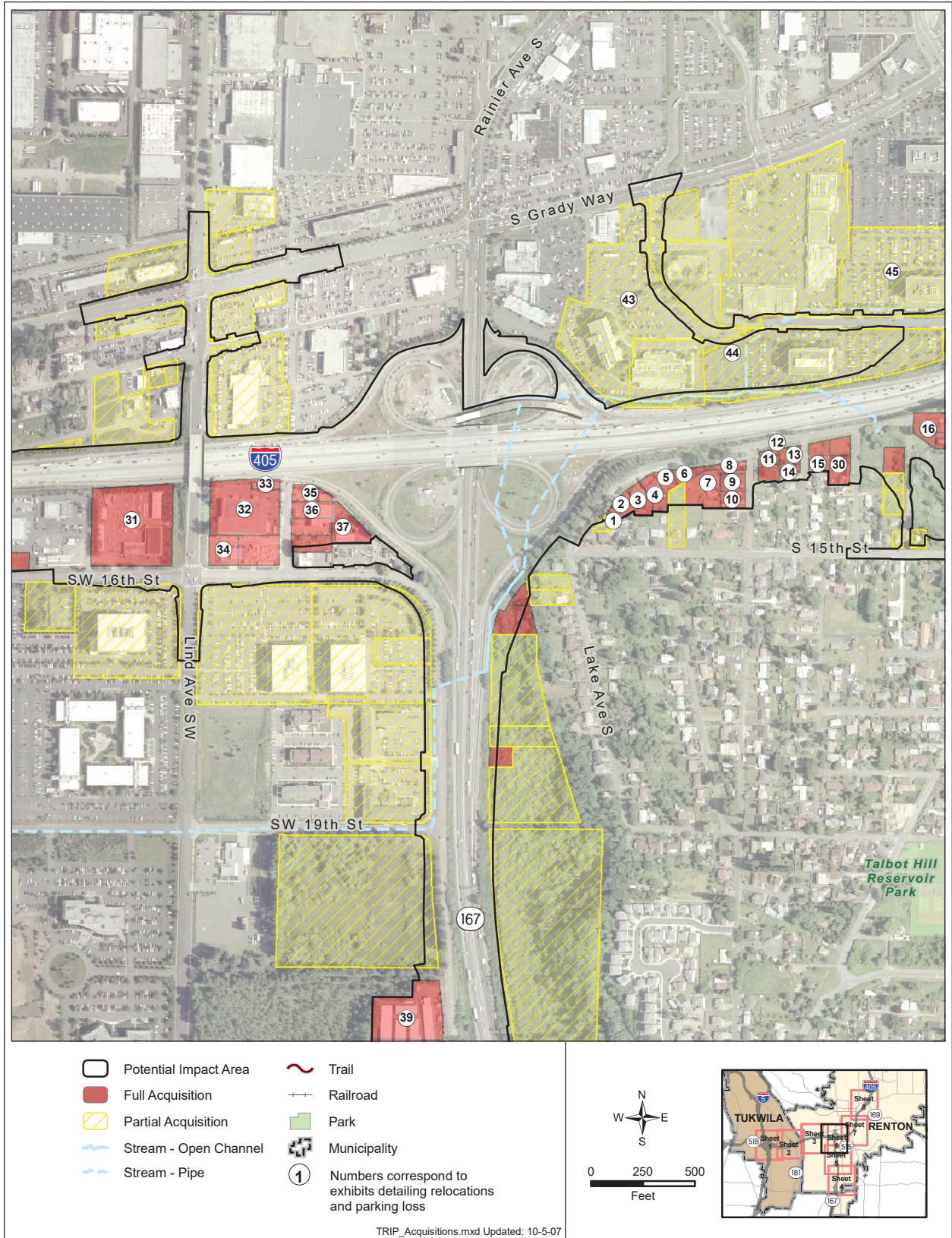


Exhibit 5-8: Property Acquisitions, Sheet 7

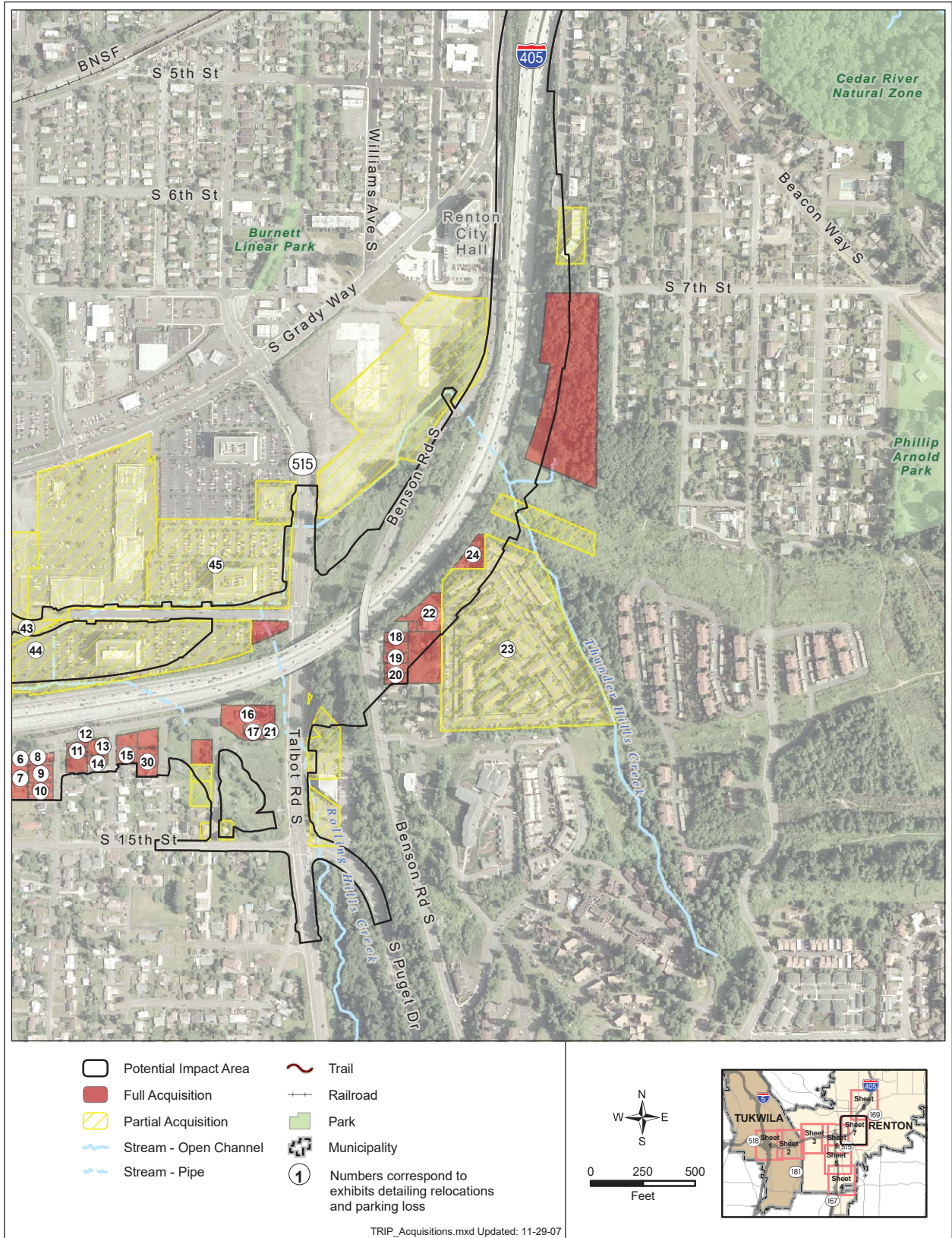


Exhibit 5-9: Property Acquisitions, Sheet 8



WSDOT will need to acquire approximately 74 acres for right-of-way. Throughout the study area, WSDOT will acquire and displace 25 residential properties, and 16 commercial properties. WSDOT will also acquire the approximately five acre Defoor property on Renton Hill that completed a preliminary plat process in 2007.

Overall, acquisitions represent a small fraction of the housing and employment capacity in Tukwila and Renton. The City of Tukwila, which has three commercial parcels and no residential parcels subject to full acquisition and displacement on Exhibit 5-1, has capacity for 10,100 new jobs.¹² The City of Renton, which has the remainder of the acquisitions subject to displacement, has surplus capacity for 5,789 housing units and 21,524 jobs citywide.

In addition to the total acquisitions requiring relocation listed on Exhibit 5-1, some partial acquisitions affect city-required parking (Exhibit 5-10). The project will remove commercial parking on one parcel in Tukwila and six commercial parcels in Renton. For more details on how parking loss affects conformance with zoning requirements, please see the Zoning sections for Tukwila and Renton later in this discipline report.

Exhibit 5-10: Parking Acquisition

No. ^a	Business Name/Type	City	Current Parking Spaces	Proposed Parking Spaces	Parking Loss
42	Lowe's ^b	Tukwila	409	298	11
43	Evergreen Building	Renton	515	436	79
44	Triton Tower One	Renton	586	409	177
45	Triton Tower Two	Renton	579	522	57
46	304 Office Building	Renton	39	24	15
47	JB Graphix	Renton	24	16	8
48	Golden Palace Chinese Restaurant	Renton	23	12	11
Total			2,175	1,717	358

^aThe number shown in the first column corresponds to the bubbles shown on Exhibits 5-2 through 5-9, and 5-12.

^bLowe's currently uses 100 parking spaces for storage. These spaces are not included in the calculation of parking loss.

Note: Additional parking losses under the Main Avenue Design Option are identified in Exhibit 5-12.

¹² King County Buildable Lands Evaluation Report. September 2002.

Relocating businesses and occupants of residences will mitigate the effects of acquisitions within the general area under the terms of federal and Washington State law. WSDOT will base compensation for the acquisition of property on these laws and procedures and will develop and implement relocation plans for the businesses and residents to be relocated. For more detailed information on acquisition for this project, please see the project *Social Elements, Public Services, and Utilities Technical Memorandum*.

Mill Avenue Design Option

The Mill Avenue Design Option will not require any additional right-of-way acquisition for the proposed project in the vicinity of Mill Avenue.

Main Avenue Design Option

The Main Avenue design option will result in the acquisition and relocation of six businesses and partial acquisition of Veterans Memorial Park and several parking lots (Exhibits 5-11 and 5-12). Buildings in the area of construction activity have zero setbacks from the right-of-way. WSDOT will purchase the identified parcels in their entirety, even where the parcel contains more property than is required for the project. After construction of the project is complete, WSDOT will sell surplus property.¹³ Although this design option will remove several buildings in a concentrated area, we do not expect it to have a substantial effect on land use patterns overall.

¹³ *Hanson, Barrett, I-405 Project Team. Teleconference January 2, 2007.*

Exhibit 5-12: Property Acquisitions that Require Relocation: Main Avenue Design Option

No. ^a	Current Land Use	City	Business Name/Type	Acquisition Type
49	Civic	Renton	Veteran's Memorial Park	Partial
50	Commercial	Renton	Uptown Glassworks	Full
51	Commercial	Renton	Retail Store and Office	Full
52	Commercial	Renton	Ben's Loans	Full
53	Commercial	Renton	Retail Store and Office	Full
54	Commercial	Renton	Service Garage and Retail	Full
55	Commercial	Renton	YWCA	Full

^aThe number shown in the first column corresponds to the bubbles shown on Exhibit 5-11.

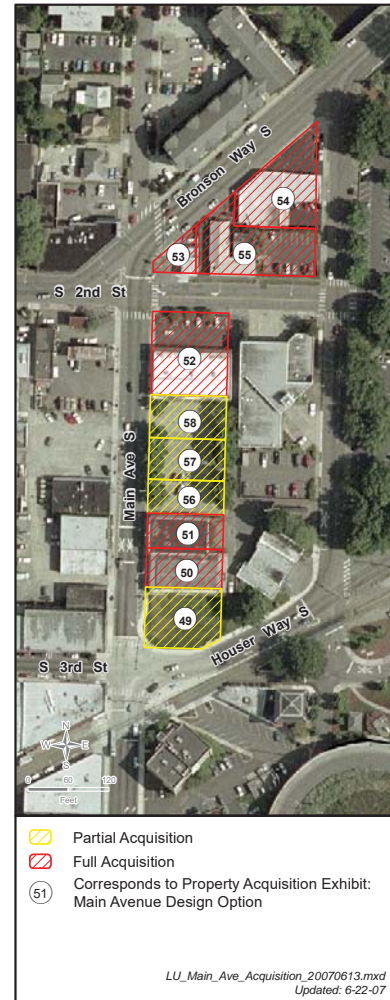
Exhibit 5-13: Parking Loss, Main Avenue Design Option

No. ^a	Business Name/Type	City	Current Parking Spaces	Proposed Parking Spaces	Parking Loss
56	City of Renton Parking	Renton	8	7	1
57	City of Renton Parking	Renton	16	14	2
58	City of Renton Parking	Renton	16	14	2
Total			40	35	5

^aThe number shown in the first column corresponds to the bubbles shown on Exhibit 5-11.

Relocating the additional businesses displaced under the Main Avenue design option under the terms of federal and state law will mitigate the effects of acquisitions. WSDOT will compensate for the acquisition of property using these laws and procedures and will develop and implement relocation plans for the businesses and residents to be relocated. This design option would also include a partial acquisition of Veterans Memorial Park along its Main Avenue S frontage. This acquisition would remove ornamental landscaping along

Exhibit 5-11: Property Acquisitions for Main Avenue Design Option



the edges of the park.¹⁴ For more detailed information please see the project *Section 4(f) Evaluation*.

The Downtown Renton area is a focus of city redevelopment. The City considers the area to be underutilized in the City of Renton downtown core. Therefore, we expect the Main Avenue design option to result in possible redevelopment opportunities in this part of the downtown core.¹⁵

Vehicular and Property Access

Changes to vehicle access to and from the interstate and local transportation system, is the other permanent effect of the project. Accessibility of businesses, residences, and recreation to and from the interstate and state highway system affects not only traffic patterns in the area but visibility of businesses. The I-405 Team expects the following changes to accessibility to affect traffic patterns in the study area:

Relocation of northbound I-405 on-ramp from Tukwila Parkway to the SR 181 interchange

We do not expect substantial changes in traffic volumes as a result of this revision. Commercial land uses are already in place along this segment of Tukwila Parkway, and land use patterns probably will not change due to the revision in access.

Lind-Talbot-SR 167 Interchange Area and Associated Frontage Road

Businesses along Lind Avenue and Talbot Road will have increased accessibility and visibility from vehicles entering and exiting the interstate system due to this change.¹⁶ Since auto-oriented commercial and office uses already characterize land use patterns in the area, land use changes are unlikely.

¹⁴ *Osborn, Linda, I-405 Project Team. Personal communication. Telephone communication June 18, 2007.*

¹⁵ *City of Renton Economic Development, Neighborhoods, and Strategic Planning Staff. Personal meeting, January 4, 2007.*

¹⁶ *Westby, Karl, I-405 Project Team. Personal communication. Email communication September 29, 2006.*

Closure of the Houser Way vehicle crossing of the Cedar River

Travel patterns and traffic volumes will not differ substantially in this area.¹⁷ We expect this closure will not affect land use patterns in the area since land uses abutting the closed portion of Houser Way are accessible from other nearby roads.

Replace two local street accesses to Renton Hill

We expect neither change in access to Renton Hill to change traffic patterns or volumes in the area since two access points will be maintained.¹⁸ We also do not expect the project to affect land use patterns in the area, as uses are predominantly residential.

Other Changes to Traffic Patterns

Some traffic that currently uses Grady Way and Main Avenue between Talbot and S 3rd Street will probably use I-405 via the new I-405 ramps at Talbot Road instead. This shift will alter the amount of traffic passing in front of approximately a dozen current commercial uses on Grady Way and Main Avenue.¹⁹ However, we do not expect the reduction in traffic passing these businesses to be substantial enough to change land use patterns in the area.

Changes to Nonmotorized Trail Access

Re-routing the Interurban Trail and the completion of a new pedestrian connection from Renton Hill to the Cedar River Trail will revise pedestrian and other nonmotorized access. Construction activity may temporarily close trails and trail accesses. However, we do not expect changes to pedestrian and nonmotorized routes to affect land use patterns.

Summary of Vehicular/Property Access Effects

Overall, the project will improve traffic flow, allowing travelers to get to their destinations with less delay, improved

¹⁷ Westby, Karl, I-405 Project Team. Personal communication. Email communication September 29, 2006.

¹⁸ Westby, Karl, I-405 Project Team. Personal communication. Email communication September 29, 2006.

¹⁹ Westby, Karl, I-405 Project Team. Personal communication. Email communication September 29, 2006.

corridor reliability, and minimized traffic congestion areas in places such as the I-405/SR 167 interchange. However, changes in traffic flow and access will not be substantial enough to change land use patterns in the study area.

Mill Avenue Design Option

Changes in vehicular and property access are the same under the Mill Avenue design option as described for the Build Alternative above.

Main Avenue Design Option

The Main Avenue design option will change vehicular and property access along the Bronson Way N/Main Avenue S corridor between Mill Avenue S and S 3rd Street as this corridor changes from a one-way southbound corridor to a two-way corridor. The cul-de-sac of Houser Way south of the Cedar River will alter traffic patterns by routing northbound traffic onto Main Avenue. This traffic will arrive at the same location (the SR 169/I-405 interchange) but via Main Avenue/Bronson Way instead of Houser Way.

Travel patterns and traffic volumes will not differ substantially in this area. The major difference is that northbound traffic coming from south of S 3rd Street can now continue north on Main Avenue to Bronson Way. We do not expect changes in vehicular and property access in this area to have a substantial effect on area land use patterns, which are commercial and mixed use in nature.

Does the project have other effects that may be delayed or distant from the study area?

WSDOT expects the freeway system to serve more traffic with the Build Alternative than with the No Build Alternative. This improvement will save travel time for vehicles using the I-405 and SR 167 corridors in the study area. Direct freeway-to-freeway HOV ramps at the I-405/SR 167 interchange will improve speed and reliability of regional bus transit and vanpool users.

Increased traffic volumes, improved access, and greater visibility may create some additional development interest in the study area, particularly near the new I-405 on- and off-ramps at Talbot Road and Lind Avenue. However, land use

designations near to the new ramps already allow a wide range of commercial uses and intensities appropriate to easy freeway access. Therefore, the I-405 Team does not expect substantial delayed changes in land use patterns. If appropriate, however, the cities of Tukwila and Renton would consider any potential changes in land use designation as part of their comprehensive plan and zoning amendment processes in a phased manner.

Mill Avenue Design Option

The Mill Avenue design option is addressed within the Build Alternative's narrative detailed above.

Main Avenue Design Option

Improved access along Main Avenue S and Bronson Way North between Mill Avenue S and S 3rd Street may create some additional development interest in this portion of the study area in the future. However, land use designations in this area already allow development to occur with a wide range of densities and uses. Therefore, the I-405 Team does not expect changes in land use patterns delayed in time as a result of the Main Avenue design option.

Did we consider potential cumulative effects for land use patterns?

The team did not evaluate cumulative effects for this discipline report. An analysis of cumulative effects is not necessary for every discipline studied for NEPA and SEPA documentation. Disciplines studied for cumulative effects are Air Quality, Surface Water and Water Quality, Fisheries and Aquatic Habitat, and Wetlands. Cumulative effects for these disciplines appear in the *Cumulative Effects Analysis Technical Memorandum*.

What effects to land use patterns will occur under the No Build Alternative?

Traffic volumes and congestion will continue to increase on I-405 and SR 167 and nearby arterials without the Tukwila to Renton Project. However, we do not expect changes in traffic and congestion under the No Build Alternative to be substantial enough to affect established land use patterns.

Under the No Build Alternative, achieving the planning goals for the redevelopment areas described under baseline conditions (Tukwila Urban Center, Employment Area Valley, Commercial Corridor, and Urban Center Downtown) would be more difficult than under the Build Alternative due to higher levels of congestion and traffic diverted to local roads within the study area.

What land use plans and policies apply to the study area, and is the project consistent with them?

**RELEVANT CITY OF TUKWILA
LAND USE AND DESIGN
POLICIES**

- 1.3.1 Develop a set of distinctive physical features or gateways to be located at freeway off-ramps and at City limits lines where they cross major arterial streets; use graphics, ...specimen trees, plantings with seasonal color, ... or combination thereof.
- 1.3.4 Work with the Washington State Department of Transportation to develop a planting plan distinctive to Tukwila for freeways and limited-access state routes.
- 1.4.2 Coordinate a planting program with the Washington State Department of Transportation to introduce major trees along the freeway corridors...
- 7.2.2 Discourage noise levels which are incompatible with current or planned land uses...
- 7.2.7 Ensure that urbanization and development do not negatively impact current neighborhood noise levels or EPA standards.
- 8.4.7 Work with the Washington State Department of Transportation to landscape and maintain the appearance of its properties and provide noise attenuation where technically feasible.

City of Tukwila

This section reviews Tukwila’s Comprehensive Land Use Plan²⁰ policies for consistency with the Build and No Build alternatives. The plan elements listed contain the goals and policies addressed in this section: Community Image, Residential Neighborhoods, Transportation Corridors, Tukwila Urban Center, Transportation, and Capital Facilities. Policies appear in groups organized under the topics of land use and design, transportation, and capital facilities:

Land Use and Design Policies

Tukwila goals and policies encourage landscaping and noise attenuation along all freeways in the Tukwila community.

Consistency Discussion – Build Alternative

The Tukwila to Renton Project meets land use and design goals through implementation of context-sensitive solutions addressing lighting and landscaping where improvements will be permanent. Context-sensitive landscaping includes revegetation in disturbed areas and the use of trees where they will pose no safety hazard. Revegetation and tree planting will follow WSDOT guidelines for ensuring that a “clear zone” remains for roadside hazards. The clear zone accounts for slope, volumes, and speeds and determines the distance of trees from the paved roadway.

As part of its context-sensitive solutions, WSDOT worked with the cities along the corridor to identify theme trees that relate

²⁰ City of Tukwila. 2006. *Tukwila Comprehensive Land Use Plan*.

to the community.²¹ For example, WSDOT has chosen hazelnut trees as part of the landscaping theme in Tukwila since this tree is on the City logo. These aspects of the proposed project are consistent with policies 1.3.1, 1.3.4, 1.4.2, and 8.4.7.

Additional travel lanes on I-405 and higher vehicle speeds may increase perceived noise levels at sensitive receptors (e.g., residential areas). In Tukwila, affected areas may include lands zoned and used for single- and multi-family residences north of I-405. The Tukwila to Renton Project *Air Quality* and *Noise Discipline Reports* analyze whether noise barriers are warranted to buffer roadway noise to nearby residential uses. The noise analysis and agency coordination efforts will meet policies 7.2.2 and 7.2.7. See the project *Air Quality* and *Noise Discipline Reports* for more detail.

Consistency Discussion – No Build Alternative

Policies and objectives regarding landscaping and acoustical buffering would not be supported under the No Build Alternative. Baseline conditions show partial landscaped features due to earlier I-405 construction efforts. The No Build Alternative provides only for maintenance, repair and safety improvements, and would not install additional landscaping or noise attenuation as congestion increases.

Historic Resource Policies

The City of Tukwila's historic resource policies call for identification and recognition of historic sites and structures. Tukwila policy also encourages development and implementation of projects and programs to protect and promote historic sites. Please see the Tukwila to Renton *Cultural, Historical, and Archaeological Technical Memorandum* for more detailed information.

Consistency Discussion - Build Alternative

Buildings and sites developed in the late 20th century or more recently characterize the Tukwila portion of the study area. The James Nelsen House, located near the new extension of Tukwila Parkway across the Green River, represents the most

RELEVANT CITY OF TUKWILA HISTORIC RESOURCES POLICIES

1.2.1 Identify sites and structures of historic importance.

1.2.2 Install interpretive markers that describe the importance of buildings, sites, events, or persons.

1.2.5 Develop and implement plans, projects, and programs to protect and promote the historical legacy of the Green River Valley and its natural and built environment.

²¹ *Washington State Department of Transportation, Interstate-405 Context-Sensitive Solutions Master Plan, March 2006.*

important historical resource within the Tukwila portion of the study area. The Build Alternative maintains its consistency with Tukwila's historic resources policies by avoiding the Nelsen House, allowing it to be protected and promoted as part of the historical legacy of the Green River Valley.

**RELEVANT CITY OF TUKWILA
TRANSPORTATION POLICIES**

10.3.1 Regional Access. Promote transportation and transit services and facilities, as well as traffic management systems that increase and improve access to and from the Tukwila Urban Center for all transportation modes; encourage a range of solutions, including but not limited to local circulator systems, regional-serving park-n-ride sites, connections to regional rail alignments, and regional and local high-occupancy vehicle systems.

13.2.5 Regional or non-local traffic will be discouraged on residential access streets.

13.4.1 Recommend and pursue a bus route along Interstate 405 connecting a Tukwila multimodal center, located at Interstate 405 and Interurban, with Everett (Boeing) and serving the freeway stations, such as the Bellevue Transit Center.

13.4.10 Encourage and support public transportation services..., transportation system management (TSM) program, the continued development of commuter and light rail particularly with service to the Tukwila Urban Center area, and continue to provide and support Commute Trip Reduction service.

Consistency Discussion - No Build Alternative

The No Build Alternative is consistent with the City of Tukwila's historic resources policies since this alternative will not affect known historic resources by the maintenance, repair and safety improvements along I-405.

Transportation Policies

Transportation policies support a balanced transportation network and regional solutions. (Note: LOS policies are addressed in the Tukwila Levels of Service section.)

Consistency Discussion – Build Alternative

The Build Alternative will improve regional access (Policies 10.3.1 and 13.2.5) by delaying the onset of I-405 peak-hour congestion and clearing congestion faster than in the No Build Alternative as described in the LOS section. (See also the *Transportation Discipline Report*.)

Although the Build Alternative does not include transit elements, it will reduce projected congestion for transit as well as single-occupancy vehicles (SOVs) and high-occupancy vehicles (HOVs). The Build Alternative is one part of implementing the overall I-405 Corridor Program, which support both transit and roadway improvements.

Transportation System Management (TSM) and Commute Trip Reduction (CTR) programs (Policy 13.4.10) seek to make improve efficiency of existing capacity by such measures as ramp metering, variable message signs, and others. Currently, WSDOT provides a TSM program on I-405, including ramp meters, incident response, and closed circuit television. The Build Alternative is a limited expansion that implements in part an overall package of transit, intelligent transportation systems, and capacity improvements described in the I-405 Corridor EIS and is therefore consistent with City policies overall.

Consistency Discussion – No Build Alternative

Tukwila would be less likely to realize benefits anticipated in its transportation policies under the No Build Alternative since baseline conditions will not include vehicular capacity changes beyond those installed in the prior Renton Nickel Improvement Project, and only repair, maintenance, and safety activities are proposed.

Capital Facilities Policies

Capital Facility Element goals and policies are broad and focus primarily on City-provided facilities. A general goal is:

Goal 14.1 Public facilities that reflect desired levels of quality, address past deficiencies, and anticipate the needs of growth through acceptable levels of service, prudent use of fiscal resources, and realistic timelines.

What are Capital Facilities?

Capital facilities include any infrastructure resources within a city, including roads, parks, water, wastewater, and other utilities, as well as the infrastructure needs of school districts and other local government services.

Consistency Discussion – Build Alternative

The Build Alternative reduces congestion and responds to growth in the region. The proposed project design will maximize the congestion reduction benefits considering the funds available for the project. The Build Alternative makes prudent use of fiscal resources and realistic timeframes to anticipate needs of growth and reduce congestion in the I-405 corridor, meeting the intent of Tukwila's Capital Facilities policies.

Consistency Discussion – No Build Alternative

Under the No Build Alternative, no further capital improvements are included. Improvements were installed in a prior project phase, and no further improvements addressing growth needs or levels of quality are included, as promoted in City policies.

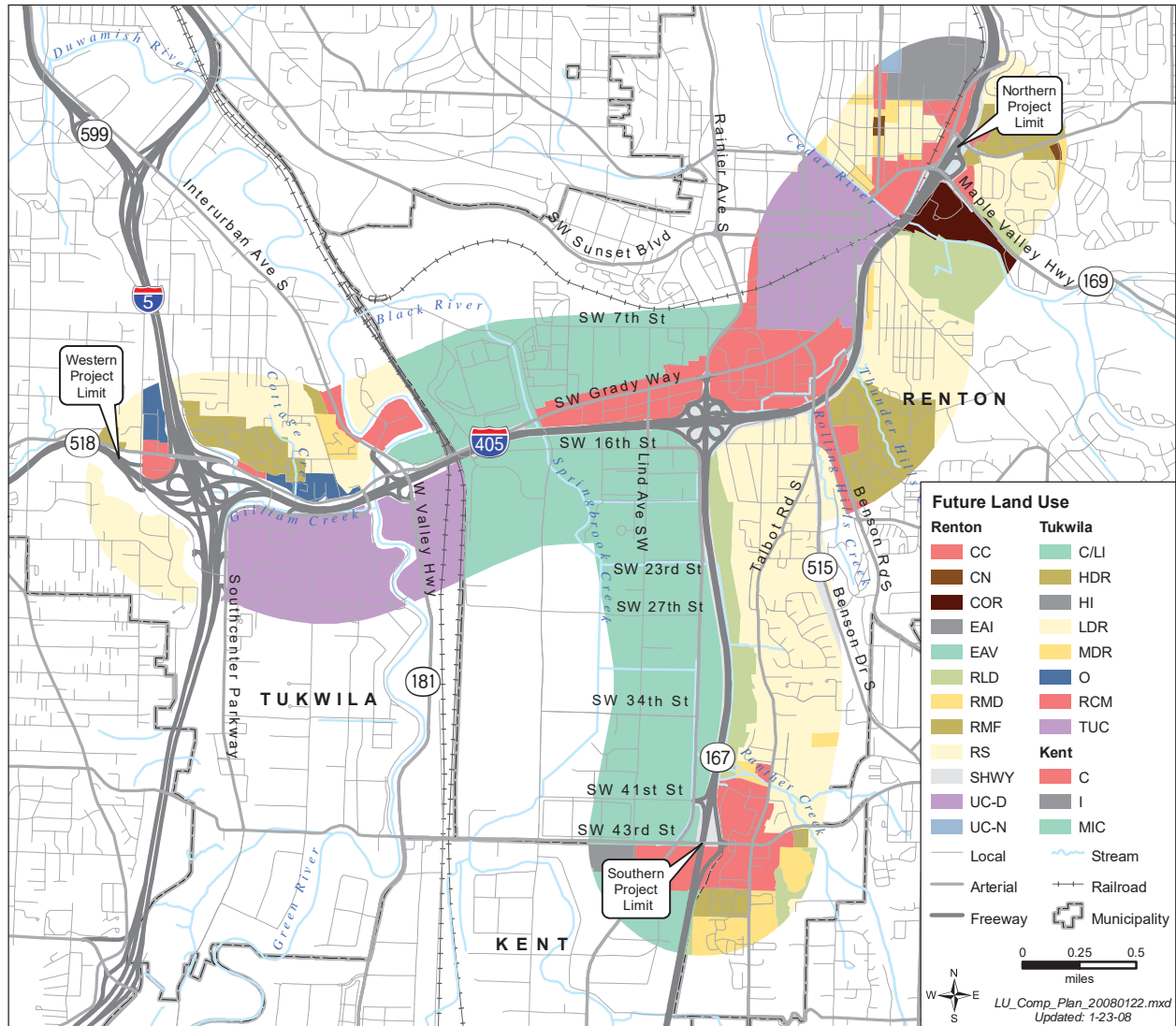
Tukwila Comprehensive Land Use Map

Tukwila lands abutting the Tukwila to Renton Project are designated on the Comprehensive Plan map as follows:

- North side of I-405, Office, Regional Commercial Mixed Use, Commercial Light Industrial, Low Density Residential, Medium Density Residential, and High Density Residential.
- South side of I-405, Tukwila Urban Center.

Most of the land has been developed with these uses and little if any vacant land remains. The Tukwila Comprehensive Plan designations within the study area appear in Exhibit 5-14.

Exhibit 5-14: Comprehensive Plan Designations within the Study Area



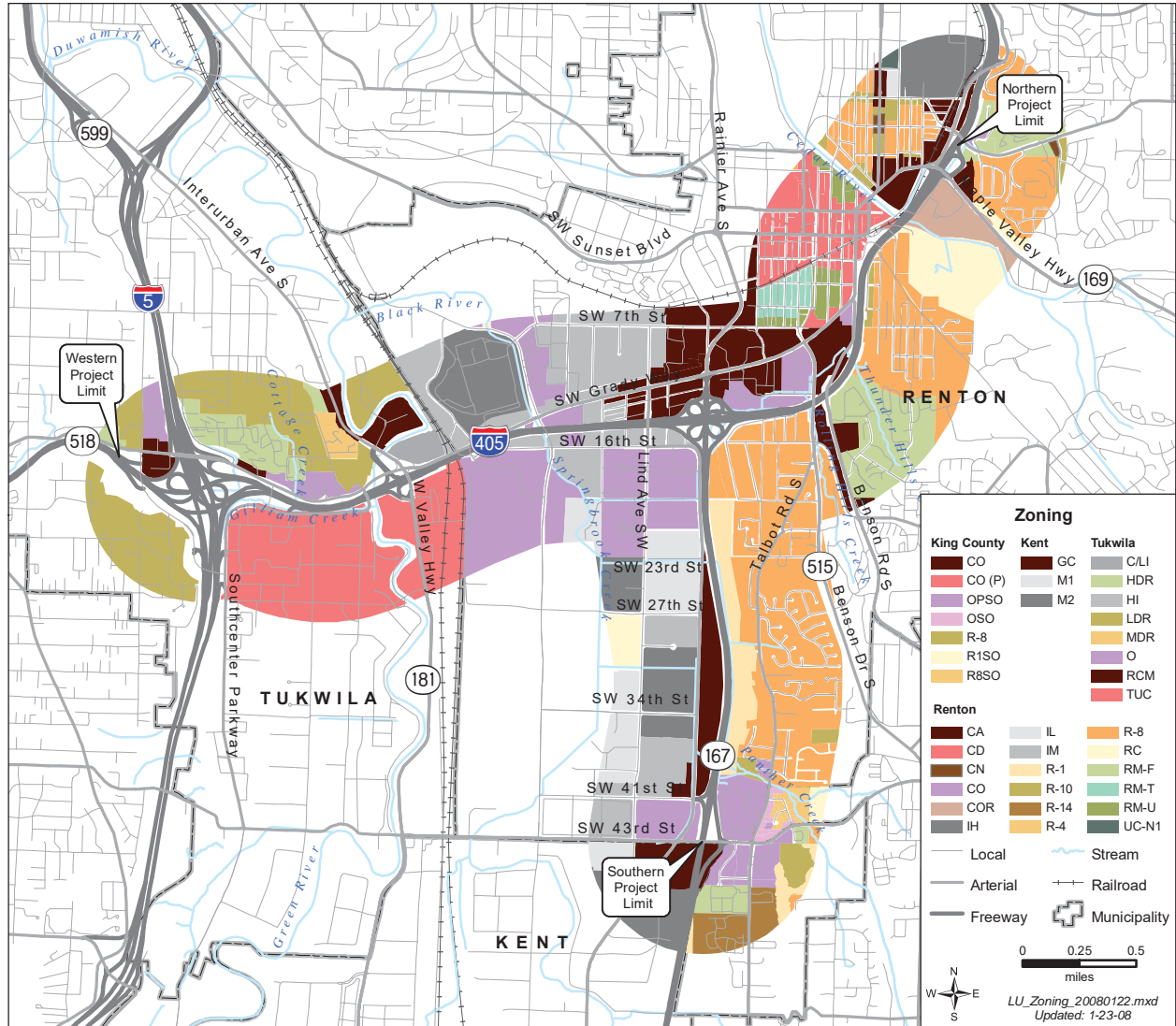
Tukwila: C/LI - Commercial Light Industrial; HDR - High Density Residential; HI - Heavy Industrial; LDR - Low Density Residential; MDR - Medium Density Residential; O - Office; RCM - Regional Commercial Mixed Use; TUC - Tukwila Urban Center

Renton: CC - Commercial Corridor; CN - Center Neighborhood; COR - Commercial Office Residential; EAI - Employment Area Industrial; EAV - Employment Area Valley; RLD - Residential Low Density; RMD - Residential Medium Density; RMF - Residential Multi-Family; RS - Residential Single-family;

UC-D - Urban Center Downtown Kent; C - Commercial; I - Industrial; MIC - Manufacturing/Industrial Center

Zoning implements the City's Comprehensive Plan designation. The zoning designations within the study are shown in Exhibit 5-15.

Exhibit 5-15: Zoning Designations within the Study Area



Tukwila: C/LI - Commercial Light Industrial; HDR - High Density Residential; HI - Heavy Industrial; LDR - Low Density Residential; MDR - Medium Density Residential; O - Office; RCM - Regional Commercial Mixed Use; TUC - Tukwila Urban Center

Renton: CA - Commercial Arterial; CD - Center Downtown; CN - Center Neighborhood; CO - Commercial Office; COR - Commercial/Office/Residential; IH - Heavy Industrial; IL - Light Industrial; IM - Medium Industrial; R-1 - Residential 1 du/acre; R-10 - Residential 10 du/acre; R-14 - Residential 14 du/acre; R-4 - Residential 4 du/acre; R-8 - Residential 8 du/acre; RC - Resource Conservation; RM-F - Residential Multi-family; RM-T - Residential Multi-family Traditional; RM-U - Residential Multi-family Urban; UC-N1 - Urban Center North 1

Kent: GC - General Commercial; M1 - Industrial Park; M2 - Limited Industrial

King County: CO - Commercial Outside of Center; CO(P) - Commercial Outside of Center with Parcel-specific development condition; OPSO - Office with Parcel-specific development condition and special overlay; OSO - Office with Special district overlay; R-8 - Residential 8 du/acre; R1SO - Residential 1 du/acre with Special district overlay; R8SO - Residential 8 du/acre with Special district overlay

Consistency Discussion –Build Alternative

The Build Alternative will require full acquisition of three properties (a former gasoline station and two motels) for the extension of Tukwila Parkway to SR 181. Improvements may affect existing land uses marginally (see Land Use Patterns discussion in previous sections); however, the modified and expanded facility probably will not alter the City's planned land use concepts overall. The Build Alternative will support the City's land use plan and its resultant growth, as well as regional growth.

Consistency Discussion – No Build Alternative

The No Build Alternative will not affect future land use patterns since no acquisitions are required for maintenance, repair and safety activities. Without the improvements of the Build Alternative, the City of Tukwila would be able to achieve less of the growth potential anticipated in the City's Comprehensive Plan.

Tukwila Capital Improvement Plans

The City of Tukwila 2007–2012 Capital Improvement Program²² includes the following programmed improvements in the vicinity of I-405:

- Gilliam Creek Fish Barrier Removal,
- Nelson Salmon Habitat Side Channel,
- Lower Gilliam Creek Channel Improvements,
- Klickitat/Southcenter Parkway/I-5 Access Revisions,
- Southcenter Boulevard Widening (I-5 – 61st Avenue S Bridge),
- Andover Park West (Tukwila Parkway to Strander Boulevard),
- SR 181/S 156th Street Intersection,
- SR 181 (I-405 – Strander Boulevard),
- Tukwila Urban Center – Transit Center, and.

²² *City of Tukwila. December 11, 2006. City of Tukwila, Washington, Adopted 2007-2012 Financial Planning Model and Capital Improvement Program.*

- Nelsen Place (S 158th Street - S 156th Street).

Consistency Discussion –Build Alternative

The Build Alternative does not affect the planned Tukwila capital improvements in the vicinity of the project limits. The relationships between the Tukwila to Renton Project and the City of Tukwila’s capital improvement projects are as follows:

- The Build Alternative will affect Gilliam Creek and the Nelson Side Channel. Therefore, WSDOT will coordinate with the City during construction in this area.
- Although they are in the vicinity, the Klickitat/Southcenter Parkway/I-5 Access Revisions are not in the Build Alternative improvement limits.
- Southcenter Boulevard widening is proposed in the area west of where the proposed project will affect Southcenter Boulevard (east of 62nd Avenue S). Therefore, coordination between WSDOT and the City will be needed in this area.
- The Andover Park West/Tukwila Parkway Intersection is in the vicinity of a planned expansion. The City CIP project is located west of where the proposed project connects Tukwila Parkway to SR 181.
- The Build Alternative improvements are in the vicinity of the two SR 181 projects. The proposed project will affect SR 181 from south of S 158th Street to just north of the Green River bridge. The overall reconstruction of the southern leg of the I-405/SR 181 interchange includes reconstruction of the intersection of SR 181 and S 156th Street. The proposed project should have less effect on the SR 181 widening from I-405 to Strander Boulevard.
- The Tukwila Urban Center zone abuts I-405 to the south. Possible locations for the Transit Center include Andover Park East or near the existing bus zone near the Westfield Shoppingtown Mall. The Transit Center is unlikely to be located within the improvement limits of the proposed project.

Regarding individual local intersection operations, please see the LOS discussion below.

**RELEVANT CITY OF TUKWILA LOS
POLICIES**

13.3.1 ...Level of Service Standards shall vary by differing levels of development patterns, desired character of streets, and growth management objectives. Use the following LOS standards to guide City improvement and development approval decisions:

The Tukwila Urban Center corridor LOS average is not to exceed E, except for Strander Boulevard and a portion of the Andover Park E corridor...

The Strander Boulevard corridor average is not to exceed LOS F with an average delay not to exceed 120 seconds. The Andover Park E, between Tukwila Parkway and Strander Boulevard, is not to exceed LOS F with an average delay not to exceed 120 seconds.

All other nonresidential arterial intersections are not to exceed LOS E.

The LOS of minor and collector arterials in predominantly residential areas is not to exceed LOS D for each specific arterial.

West Valley Highway (SR 181), as a state highway of regional significance, is not to exceed LOS E/Mitigated, as defined by PSRC...

13.3.4 Provide capacity improvements or trip reduction measures so that the LOS standard is not exceeded.

13.3.8 Highways of Statewide significance (HSS), including Interstate 5 (I-5), Interstate 405 (I-405), and State Route 518 (SR 518), are exempt from concurrency requirements.

Consistency Discussion – No Build Alternative

The No Build Alternative activities will be contained within existing I-405 right-of-way extents. The Build Alternative would not affect the location of Tukwila’s planned capital projects.

Tukwila Levels of Service

Tukwila designates LOS standards for city streets; consistent with state law, it does not designate LOS standards for Highways of Statewide Significance such as I-405. Local LOS standards equal an average “E” in the study area.

Consistency Discussion – Build Alternative

WSDOT expects that all intersections in the Tukwila portion of the study area will maintain the same LOS or improve LOS for peak hour traffic compared to the No Build Alternative.²³ Under the proposed project, the relocation of the northbound on-ramp from Tukwila Parkway to the SR 181 interchange will change traffic patterns in the area. We expect this change to either improve or maintain local intersection LOS compared to the No Build Alternative.²⁴ Please see the project Traffic and Transportation Discipline Report for more detailed information.

Consistency Discussion – No Build Alternative

Over time, with no capacity improvements beyond baseline conditions, LOS will probably be worse under the No Build Alternative than if congestion relieving improvements of the proposed project were implemented.

Tukwila Shoreline Master Program

The Green River and lands within 200 feet of the OHWM are subject to the City’s SMP. The Green River is considered a Shoreline of Statewide Significance under the State of Washington Shoreline Management Act.

²³ Westby, Karl, I-405 Project Team. Personal communication, October 24, 2006.

²⁴ Westby, Karl, I-405 Project Team. Personal communication. Email communication September 29, 2006.

The City’s shoreline policies establish a shoreline use environment, priority activities, and design principles to minimize adverse environmental effects. Portions of the Tukwila to Renton Project take place in the shoreline jurisdiction and are in the Urban-Open Space Environment of that jurisdiction.

Consistency Discussion – Build Alternative

The proposed project includes several improvements in the vicinity of the Green River, including:

- Extending Tukwila Parkway east to SR 181 over the Green River,
- Rebuilding or widening five bridges over the Green River, and
- Lowering a section of the Green River Trail to match the lowest section of the trail under the existing I-405 bridge.

The proposed project will reconstruct new piers in water for widening within the OHWM for bridges where piers currently exist in the OHWM.²⁵ It will include construction of retaining walls and addition of fill within the shoreline area for all five bridges considered in the proposed project, with most activity occurring within 200 feet from the OHWM.²⁶ For more details on the improvements in and near the Green River, please see the Section 2, *Project Description*. These activities will occur within the City’s “Urban-Open Space” shoreline use environment. Proposed project improvements will not substantively affect the location or extent of priority uses identified in Policy 5.1.1 (i.e., single-family residential, commercial, or industrial areas).

Several measures will protect the natural environment (policies 5.1.1, 5.3.2, 5.7.3, and 5.9.1), such as compliance with SMP regulations, critical area regulations, and stormwater requirements. The City regulations guide habitat effects assessment and mitigation, fill and compensatory storage in floodplains, and water quality treatment measures.

²⁵ Hanson, Barrett, I-405 Project Team. Personal communication, September 5, 2006.

²⁶ Hanson, Barrett, I-405 Project Team. Personal communication, September 5, 2006.

**RELEVANT CITY OF TUKWILA
SMP POLICIES**

5.1.1 ...priority shall be given to the following: ... and redevelopment of existing commercial and industrial area, with enhanced access to the river; and protection and restoration of natural environmental features...

5.3.2 ...minimize impacts on areas identified as important for other river uses, such as wildlife and aquatic habitat, river vegetation, public access and recreation, historical resources, and flood control.

5.3.3 Allow structures to be placed in the water, or structural reinforcement of the riverbank, only when this provides a significant, long-term public benefit or is essential to a water dependent use.

5.3.7 Design and locate shoreline development in the Tukwila Urban Center to encourage water enjoyment uses that:

Provide for shoreline multiple uses;

Provide additional benefits such as riverbank restoration, ... river views, or interpretive signs; and

Encourage efficient use of land ...

5.6.1 Retain and improve areas identified as important in the network of public access to the river, including cross town connections, former railroad rights-of-way and unimproved street rights-of-way, historic sites, unique natural features, or other areas valuable for their interpretive potential.

**RELEVANT CITY OF TUKWILA
SMP POLICIES (CONTINUED)**

5.6.5 Support the implementation of the King County Green River Trail, per the existing King County Green River Trail Master Plan.

5.6.7 Where shoreline public access is provided, ensure that it is designed to be safe and convenient and includes access amenities ... consistent with the river access guidelines.

5.7.1 Design and locate transportation uses... to provide for shoreline multiple uses, such as trees or other habitat features, turn-outs or parking areas for public access, ... and biofiltration swales to protect water quality, public art, or interpretive signs.

5.7.2 Ensure that transportation uses within the Shoreline Zone and within those corridors identified as river cross connections provide safe, convenient, and attractive pedestrian, bicycle and boater access ...

See the project *Water Resources and Ecosystems Discipline Reports* for more detailed information.

Since the only structures proposed within the water are replacement piers for existing bridges, and no structures are proposed to reinforce the riverbank, there are no conflicts with Policy 5.3.3. Retaining walls constructed for the proposed project will lie within the 200-foot jurisdictional area, but they will not be located in the water or result in structural hardening of the riverbank.²⁷

Context-sensitive solutions will provide appropriate landscaping in areas where vegetation is disturbed, implementing Policies 5.9.2 and 5.9.3.

Policies 5.7.1 and 5.7.2 require design of transportation uses to provide for shoreline multiple uses; safe, convenient, and attractive crossings; and multiple transportation modes. The I-405 improvements will meet the function of I-405 as a regional roadway minimizing adverse environmental effects as much as possible. I-405 today and in the future gives access to those wishing to travel between communities to destinations such as public open space and parks along the river in Tukwila. Provision of local access to shorelines as indicated in Policies 5.7.1 and 5.7.2 is not among the intended uses of I-405. The extension of Tukwila Parkway will improve access to I-405 and SR 181, and thus improve flows on and off of the state highway system. However, there will be no new public access to the Green River on this segment of the extension.

The project improvements will maintain the Green River Trail access, thus maintaining consistency with Policies 5.6.1, 5.6.5, and 5.6.7.

The proposed project will meet Shoreline Policy 5.10.1 regarding stormwater control by applying water quality BMPs to new project-related impervious surfaces in the Green River watershed. Flow control and conveyance systems designs will use BMPs that minimize discharge or conveyance of pollutants into Gilliam Creek and the Green River. Additional detail on stormwater control appears in the project *Water Resources Discipline Report*.

²⁷ Hanson, Barrett, I-405 Project Team. *Personal communications, September 5, 2006.*

The design of I-405 improvements will avoid or reduce adverse effects to the river, consistent with Policy 5.11.1.

Consistency Discussion – No Build Alternative

The No Build Alternative is consistent with the Tukwila Shoreline policies as no improvements are planned beyond baseline conditions and the repair, maintenance and safety activities that are projected are not anticipated within the shoreline jurisdiction.

Tukwila Shoreline Regulations

Tukwila’s Shoreline regulations implement the Shoreline Element policies discussed earlier. The Green River shoreline is Urban, consistent with the Shoreline Element Policy 5.1.1 described previously. However, the 200-foot shoreline jurisdictional area is divided into three “management environments” (Tukwila Municipal Code 18.44.120) (see Exhibit 5-16):

1. River environment. The area between the mean high water mark and the low-impact environment, having the most environmentally protective land use regulations.
2. Low-impact environment. The area between the river environment and 100 feet from the mean high water mark.
3. High-impact environment. The area between 100 feet and 200 feet from the mean high water mark having the least environmentally protective land use regulations. It is intended that this area be aesthetically and architecturally oriented to the low-impact environment.

RELEVANT CITY OF TUKWILA SMP POLICIES (CONTINUED)

5.7.3 Minimize impacts on the natural environment (such as noise, odors, and air or water pollution).

5.9.1 Ensure that shoreline development minimizes impacts on wildlife and that significant vegetation, sandbars, wetlands, watercourses, and other areas identified as important for habitat are maintained...

5.9.2 ...protect riverbank vegetation and, where feasible, restore degraded riverbanks, in order to minimize and compensate for impacts on fish and wildlife habitat.

5.9.3 Mitigate unavoidable disturbances of significant vegetation or habitat through replacement of habitat and provisions of interpretive features consistent with the River access guidelines.

5.10.1 Design, locate, and manage shoreline development including streets, flood control projects, surface water drainage and sewer systems, clearing and grading activities, and landscaping in a manner that minimizes opportunities for pollutants to enter the river, provides erosion control, and otherwise protects water quality.

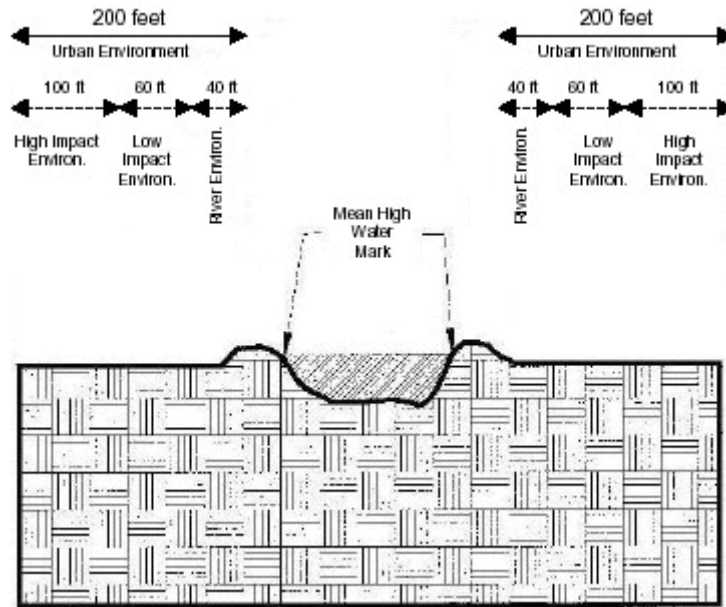
5.11.1 Design, locate, and manage shoreline uses, such as capital improvement projects and private development, in a manner which does not endanger public health, safety and welfare, or the capacity of the river to provide long-term benefits and resources to the community.

**RELEVANT CITY OF TUKWILA
 SHORELINE REGULATIONS**

Tukwila’s shoreline regulations (Tukwila Municipal Code 18.44.110) include the following performance standards (more specific “management environment” standards can be found in Appendix A):

3. No structures or accessory facilities shall be located over the river unless such structure protects or promotes the public interest;
4. There shall be no disruption of existing trees or vegetation within the river environment unless necessary for public safety or flood control, or if allowed as a part of an approved shoreline substantial development permit;
5. No effluent shall be discharged into the Green River which exceeds the water quality classification as established by the state for the adjacent portion of the river;
6. All state and federal water quality regulations shall be strictly complied with;
7. Wildlife habitat in and along the river should be protected;
8. All perimeters of landfills (fill) or other land forms susceptible to erosion shall be provided with ... satisfactory mechanisms for erosion prevention;

Exhibit 5-16: Tukwila Shoreline Environments



Source: City of Tukwila Municipal Code, 2003.

Exhibit 5-16 illustrates these three environments. General shoreline regulations, which are applicable to all management environments, address design or environmental performance standards related to vegetation/tree retention, water quality, wildlife, habitat, permitting, and similar topics.

Consistency Discussion – Build Alternative

All shoreline regulation use environments, as described in Tukwila Municipal Code 18.44.130, 140, and 150,²⁸ permit public roads, accommodating the proposed project and the related improvements within the Green River shoreline jurisdiction.

All of the management environments will allow the I-405 improvements proposed in the Green River shoreline jurisdiction. Tukwila Municipal Code Section 18.44.130.A.6²⁹ allows bridges in the river environment. Tukwila Municipal Code Section 18.44.140³⁰ allows bridges and public roads in the Low-Impact environment. All activities are allowed in the

²⁸ City of Tukwila. July 2006. *Tukwila Municipal Code, Title 18 Zoning.*

²⁹ *Tukwila Municipal Code Title 18, July 2006.*

³⁰ *Tukwila Municipal Code Title 18, July 2006.*

High-Impact environment in Tukwila Municipal Code
18.44.150.³¹

The Build Alternative includes reconstruction of existing piers within the OHWM for existing bridges over the Green River. Reconstruction of the existing I-405 bridge across the Green River will accommodate additional lanes. The proposed project also includes widening or reconstruction of Southcenter Boulevard, Interurban Avenue, and I-405 southbound on- and off-ramps at SR 181 over the Green River. A newly constructed bridge over the Green River will extend Tukwila Parkway to SR 181. In addition, the project also proposes adding fill and retaining walls in the reconstruction or widening of five bridges and the construction of one new bridge over the Green River. Most retaining wall and fill will occur in the high-impact area (100 to 200 feet from OHWM). Improvements proposed within 200 feet of the OHWM will meet design or environmental performance standards in Tukwila Municipal Code 18.44.110.

The proposed project design includes stormwater detention ponds located partially within the high-impact area of the shoreline zone and the creation of one new discharge to the Green River from a new flow control facility southwest of the new Tukwila Parkway/SR 181 intersection. Water quality BMPs used on the project will ensure that effluents discharged into the Green River meet state and federal water quality regulations, which comply with Tukwila Shoreline Management compliance in Section 18.44.110.5 and 6.³²

Context-sensitive solutions will provide appropriate landscaping in areas with disturbed vegetation, implementing Tukwila Municipal Code Subsections 18.44.110.4, 8, and 15.³³

Habitat effects assessment and mitigation will protect habitat as required by Tukwila Municipal Code Subsection 18.44.110.7³⁴ (See the project *Ecosystems Discipline Report*, covering fish, wetlands, and upland vegetation for more detail).

**RELEVANT CITY OF TUKWILA
SHORELINE REGULATIONS
(CONTINUED)**

9. All necessary permits shall be obtained from federal, state, county or municipal agencies;

14. Landfilling (Filling) is prohibited within the river channel unless such landfill (fill) is determined by the Planning Commission to protect and promote the public interest.

15. Notwithstanding any provisions of this Code to the contrary, removal of any cottonwood tree within the river environment or the low-impact environment, which tree is 12 inches or greater in diameter as measured 4.5 feet above grade, shall be subject to the requirements of Tukwila Municipal Code Chapter 18.54, Tree Regulations.

³¹ *Tukwila Municipal Code Title 18, July 2006.*

³² *Appendix I: Tukwila to Renton Improvement Project, Preliminary Hydraulic Report, WSDOT Technical Review Draft, October 18, 2006.*

³³ *City of Tukwila. July 2006. Tukwila Municipal Code, Title 18 Zoning.*

³⁴ *City of Tukwila. July 2006. Tukwila Municipal Code, Title 18 Zoning.*

Regarding Tukwila Municipal Code Subsection 18.44.110.14,³⁵ design of the proposed project includes bridge piers within the river channel, and these structures will require approval by the Tukwila Planning Commission. Design of the improvements proposed within the 200-foot jurisdictional area will meet applicable flood regulations.

WSDOT will obtain a shoreline substantial development permit and federal and state permits for work in the shoreline jurisdiction consistent with Tukwila Municipal Code Subsection 18.44.110.9.³⁶

The I-405 freeway and associated improvements are essential public facilities that promote the public interest consistent with Tukwila Municipal Code 18.44.110.3.

Consistency Discussion – No Build Alternative

At baseline conditions no further congestion improvements are proposed. The No Build Alternative is not expected to affect the City's shoreline regulations, since only minor repair, maintenance and safety activities would occur in the right-of-way.

Tukwila Zoning Regulations

The City of Tukwila Zoning Code Title 18 does not apply to roads and highways in terms of permitted, conditional, accessory, or unclassified uses or development standards. Certain zones indicate that essential public facilities (including Highways of Statewide Significance) are allowed subject to unclassified use permits. However, the zoning map does not apply a designation to the I-405 right-of-way.

The project will remove three uses on existing parcels (former gasoline station and two motels) and replace them with new right-of-way and stormwater facilities. The project will also acquire commercial parking at Lowe's. These effects on existing lots will require demolition of existing structures and affect required parking for an existing use.

³⁵ *City of Tukwila. July 2006. Tukwila Municipal Code, Title 18 Zoning.*

³⁶ *City of Tukwila. July 2006. Tukwila Municipal Code, Title 18 Zoning.*

Consistency Discussion – Build Alternative

The proposed project improvements do not conflict with zoning use provisions but installation of improvements will require permits. Demolition for removal of the former gasoline station and the motels will require permits.

Acquisition of parking for the project increases the nonconformity of Lowe's existing on-site parking.³⁷ Since on-site parking at Lowe's does not meet the minimum requirements, it is subject to Tukwila's Nonconforming Lots, Structures, and Uses code (Chapter 18.70 Tukwila Municipal Code). Uses that do not comply with on-site parking requirements must go through an administrative variance procedure contained in the City's Off-Street Parking and Loading Regulations (Tukwila Municipal Code 18.56.140). City staff can process the administrative variance if under 10% of required parking, or the Planning Commission can process variances exceeding 10% of required parking. Property owners without the required amount of parking can seek alternatives, including shared parking, employee commute trip reduction, and other measures to mitigate the lack of parking through the administrative variance procedure. An administrative variance will be necessary once the business seeks a building or engineering permit for activities such as expansion.³⁸

Consistency Discussion – No Build Alternative

The No Build Alternative does not conflict with Tukwila zoning provisions. No local land use permits are required for this alternative.

City of Renton

The I-405 team reviewed Land Use, Community Design, Transportation, Environment, and Capital Facilities Comprehensive Plan Elements for this discipline report. Analysis of selected policies appears below.³⁹

³⁷ *Nonconformity of parking was calculated based on King County Assessor's data of square footage and city municipal codes for parking requirements.*

³⁸ *Tukwila Municipal Code 18.56.140*

³⁹ *City of Renton. 2006. City of Renton Comprehensive Plan.*

**RELEVANT CITY OF RENTON
LAND USE, DESIGN, AND
ESSENTIAL PUBLIC FACILITIES
POLICIES**

LU-79. Guide and modify development of essential public facilities to meet Comprehensive Plan policies and to mitigate impacts and costs to the City.

LU-80. Use public processes and create criteria to identify essential public facilities...

Objective LU-T. Site and design regional facilities to provide the most efficient and convenient service for people while minimizing adverse impacts on adjacent uses and the Urban Center.

LU-90. Siting of regional facilities that are specialized ... should rely more strongly on the special locational needs of the facility and the compatibility of the facility with surrounding uses.

CD-20. Development should be visually and acoustically buffered from adjacent freeways.

CD-27. New streets should be designed to provide convenient access and a choice of routes between ... community destinations.

CD-58. Aesthetic improvements along street frontages should be provided, especially for properties abutting major streets and boulevards...

Land Use, Design, and Essential Public Facilities Policies

Renton land use and design policies address regional facilities, essential public facilities, and roadway design and compatibility. Design and compatibility policies address visual and acoustical buffer and aesthetic improvements in particular.

Consistency Discussion – Build Alternative

WSDOT will design permanent proposed project improvements in a context-sensitive manner implementing Policies CD-20 and LU-90. Context-sensitive solutions will include design standards and guidelines for the corridor, and will address landscaping and lighting, among other elements. Consistent with its approach in Tukwila, WSDOT has chosen a theme tree for the Renton portion of the I-405 corridor. In Renton, this theme tree is the western red cedar, a tie-in to the name of the Cedar River.⁴⁰ As described under the previous Tukwila policy review, the proposed project implements a part of the overall Corridor Program.

WSDOT will design modified streets (e.g., East Valley Road, South 14th Street, Renton Avenue S, and Mill Avenue S) to provide convenient access and a choice of routes between residences, workplaces, and community destinations. WSDOT will provide aesthetic improvements along the corridor in the form of context-sensitive solution guidelines per Policies CD-27 and CD-58.

WSDOT implemented policies and objectives addressing essential public facilities (Policies LU-79 and LU-80, and Objective LU-T) with the broad environmental and public review process conducted as part of the overall I-405 Corridor Program in 2001-2002.

Consistency Discussion – No Build Alternative

The No Build Alternative maintains the partial landscaping installed in a prior phase (Renton Nickel Improvement Project), but does not further implement City policies regarding screening. Essential public facilities policies would be applicable for the Renton Nickel Improvement Project improvements, similar to the proposed project.

⁴⁰ *Washington State Department of Transportation, Interstate-405 Context-Sensitive Solutions Master Plan, March 2006.*

Historic Resource Policies

The City of Renton's historic resource policies call for identification and recognition of historic resources within the City. Historic resource policies also call for mitigation for projects that impact significant historic resources. Within the Renton portion of the study area, the downtown Renton area has a number of buildings of an age that could qualify them as historic structures. Other parts of the study area in Renton developed within the past 40 years are not as likely to have historic structures.

Consistency Discussion - Build Alternative

We do not expect improvements made in the Renton portion of the study area to affect any known historic resources. Improvements to arterials and streets in the downtown Renton area avoid potentially historic buildings. The proposed project is consistent with City of Renton Historic Resource policies.

Consistency Discussion - No Build Alternative

The No Build Alternative, contained in the baseline right-of-way, would not affect any known historic resources. The No Build Alternative is consistent with City of Renton Historic Resource policies.

Transportation Policies

Renton transportation policies address multimodal systems, agency coordination, reducing regional traffic on local roads, and other related issues. Functional class and LOS policies and programs are addressed separately.

Consistency Discussion – Build Alternative

The proposed project will add general-purpose lanes on I-405 and SR 167 in the study area consistent with Policy T-14. Per Policy T-72, WSDOT will address surface water management. The project *Water Resources Discipline Report* provides additional information on this topic.

Project design includes newly constructed direct HOV connections for the southbound I-405 to southbound SR 167 and for northbound SR 167 to northbound I-405. Design features also include the addition of HOV bypass lanes to new

RELEVANT HISTORICAL RESOURCE GOALS AND POLICIES

Goal: Maintain the City's natural and cultural history by documenting and appropriately recognizing its historic ... sites.

Policy LU-61. Historic resources should continue to be identified and mapped within the City as an on-going process.

Policy LU-63. Potentially adverse impacts on cultural resources deemed to be significant should be mitigated as a condition of project approval...

**RELEVANT CITY OF RENTON
TRANSPORTATION POLICIES**

T-14. Proactively work with the state and neighboring jurisdictions to provide capacity on regional transportation systems and to reduce regional traffic on local streets.

Objective T-G: Develop HOV facilities on freeways and arterials to support and encourage ridesharing by enabling HOVs to bypass or avoid severe congestion on Renton and regional street and highway networks.

T-30. The City should support completion of a comprehensive system of HOV improvements and programs on state highways and regional arterials that give high-occupancy vehicles a travel time advantage over single-occupancy vehicles.

T-72. Incorporate in transportation facilities vehicular pollutant and surface water runoff management and treatment techniques that maximize water quality.

T-76. WSDOT should provide funding for and construct grade-separated inside HOV lanes with direct access (or barrier-separated HOV facility) in the SR 167 corridor from Auburn to Renton and I-405 corridor, extending from Sea-Tac Airport north to Bothell.

on-ramps. These improvements partially implement Objective T-G and Policies T-30 and T-76.

Consistency Discussion – No Build Alternative

Beyond baseline conditions, the No Build Alternative will not construct capacity or HOV improvements and will not implement transportation policies.

Capital Facility Policies

Capital facility policies are general and apply to any utility or facility. The Capital Facility Element provides text and analysis for each capital facility, (e.g., transportation, water system, and parks). See Renton Levels of Services section for more detail policies and projects related to capital facilities.

Environmental Policies

Policies addressing surface- and stormwater, rivers and streams, groundwater, and water supply are found in the Environmental Element. These policies are addressed in this section because of potential effects on stormwater and the city's aquifer recharge area.

Consistency Discussion –Build Alternative

The project occurs within the City's Lower Cedar River basin (roughly SR 169 through Renton Hill area) and the Black River basin (roughly south of Renton Hill to Tukwila City limits). The City's stormwater and surface water policies include requirements to minimize erosion and sedimentation during construction; to limit discharge of pollutants to surface waters; and to meet water quality standards prior to discharging from surface waters to wetlands. The project complies with Policy EN-17 by meeting City water quality requirements.

The proposed project will use appropriate construction BMPs to minimize erosion and sedimentation during construction, meeting Policy EN-3. The project will apply stormwater BMPs for water quality treatment to ensure that water being discharged from project-related impervious surfaces meets federal and state water quality requirements, complying with policies EN-27 and EN-36.

The net effect of the water quality treatment will be an improvement of the pre- versus post-project average annual

pollutant loading from highway pavements within the study area⁴¹ (Policy EN-27). In addition to meeting WSDOT Highway Runoff Manual flow control requirements, the design will ensure that the City of Renton storm drainage systems do not experience increased peak flow rates during 100-year recurring events. These measures will ensure that the project meets the City of Renton environmental policies relating to stormwater.

Portions of the proposed project include construction in the City's Zone 1 and Zone 2 Aquifer Protection Areas (APA). Designers of widening and construction activities within the vicinity of the City's wells have avoided interference with the wells and maintained access to them. Affected elements include design and construction of northbound off-ramps from I-405 that pass east of two of the City's well stations and the chemical treatment building. The portion of the project extending over the City of Renton APA will meet the Washington State Wellhead Protection Requirements and the City of Renton APA regulations. These project features meet Objective EN-1. See Appendix D for a map of Renton's APA.

Application of the City's APA regulations will minimize effects during project construction. Appendix C includes the City's APA regulations.

Applicable aquifer protection requirements relate to limiting the application of pesticides and nitrates during construction and operation, and meeting construction activity requirements and fill material requirements.

- Application of pesticides and nitrates: Construction and operations may include treatment of landscaped areas with pesticides and nitrates, if landscaping is installed along the study area as part of context-sensitive solutions. Application of pesticides and nitrates is allowed in the City regulations subject to conditions (e.g., limiting the amount of application, meeting EPA application requirements, and following state reporting requirements). However, application of pesticides and nitrates is not permitted within 100 feet of a well or 200 feet of a spring.

RELEVANT CITY OF RENTON ENVIRONMENTAL POLICIES

EN-3. Minimize erosion and sedimentation by requiring appropriate construction techniques...

EN-4. Limit discharge of pollutants such as chemicals, insecticides, pesticides, and other hazardous wastes to surface waters.

EN-17. Meet water quality standards prior to discharging surface water into wetlands.

EN-27. Control quantity and quality of stormwater runoff from all new development to be consistent with or improved over existing conditions.

EN-36. Promote the return of precipitation to the soil at natural rates near where it falls ... where feasible.

EN-38. Manage the cumulative effects of stormwater through a combination of engineering and preservation of natural systems.

Objective EN-1: Ensure the long-term protection of the quality and quantity of the groundwater resources of the City of Renton in order to maintain a safe and adequate potable water supply for the City.

EN-43. Emphasize the use of ... stormwater management techniques that maximize water quality and infiltration where appropriate and which will not endanger groundwater quality.

⁴¹ WSDOT. *I-405 Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Water Resources Discipline Report, 2007.*

What are Aquifer Protection Area (APA) Zones?

APA Zone 1 is defined in RMC 4-3-050.H as: "The land areas situated between a well or well field owned by the City and the three hundred and sixty five (365) day groundwater travel time contour."

APA Zone 2 is defined as: "The land area situated between the three hundred and sixty five (365) day groundwater travel time contour and the boundary of the zone of potential capture for a well or well field owned or operated by the City."

- Construction activity requirements: Standards require secondary containment for hazardous material storage, dispensing, and refueling areas. These requirements would apply if construction vehicles were refueled on site and/or the quantity of hazardous materials that will be stored, dispensed, used, and handled on the construction site exceeded 20 gallons (these standards do not apply to fuel tanks of vehicles). Other requirements apply for security, storage, and records.
- Fill material requirements: These requirements for cleanliness and other material aspects are included in the regulations and will apply where fill material will be used.

Since the proposed project improvements will not involve ongoing hazardous materials storage, handling, treatment, usage or production, requirements for "facilities" (such as limiting amounts and requiring secondary containment) will not apply. However, it is possible that similar requirements will be applied only at the construction stage (see previous discussion).

Consistency Discussion - No Build Alternative

Compared to the proposed project, there is no additional impervious surface or construction work outside of existing conditions rights-of-way in Zones 1 or 2 for the No Build Alternative. There are no inconsistencies with EN-I or the City's aquifer protection regulations in the No Build Alternative.

Renton Comprehensive Land Use Plan Classifications

Future land use classifications vary along the study area in Renton. Commercial Corridor and Urban Center Downtown designations lie along the north side of I-405. South of I-405 and west of SR 167, the City has designated "Employment Area Valley." East of SR 167 and south of I-405, the City has designated residential land uses, principally Residential Single Family with some Commercial Corridor, Residential Medium Density, and Residential Multi-family classifications flanking the area along Benson Road. Zoning classifications implement the comprehensive plan map classifications. See Exhibit 5-14 for the Comprehensive Plan Land Use Map classifications in the study area and Exhibit 5-15 for the City of Renton zoning designations in the study area.

Consistency Discussion – Build Alternative

We do not expect the changes in configuration and expansion of I-405 and SR 167 to alter the City’s planned land use concepts overall. The proposed project will support the City’s land use plan and its resultant growth.

Consistency Discussion – No Build Alternative

The No Build Alternative would not extend beyond the right-of-way and thus is not anticipated to alter the City’s planned land use concepts. The No Build Alternative supports the City’s land use plan to a lesser degree than the proposed project as it would not support growth.

Renton Transportation and Capital Improvement Plan

Transportation Networks

City policies and plans manage the local street system, shown on Exhibit 5-17, based on the hierarchy and function of streets, as described in Policy T-8:

Policy T-8. Each street in the City should be assigned a functional classification based on factors including traffic volumes, type of service provided, land use, and preservation of neighborhoods.

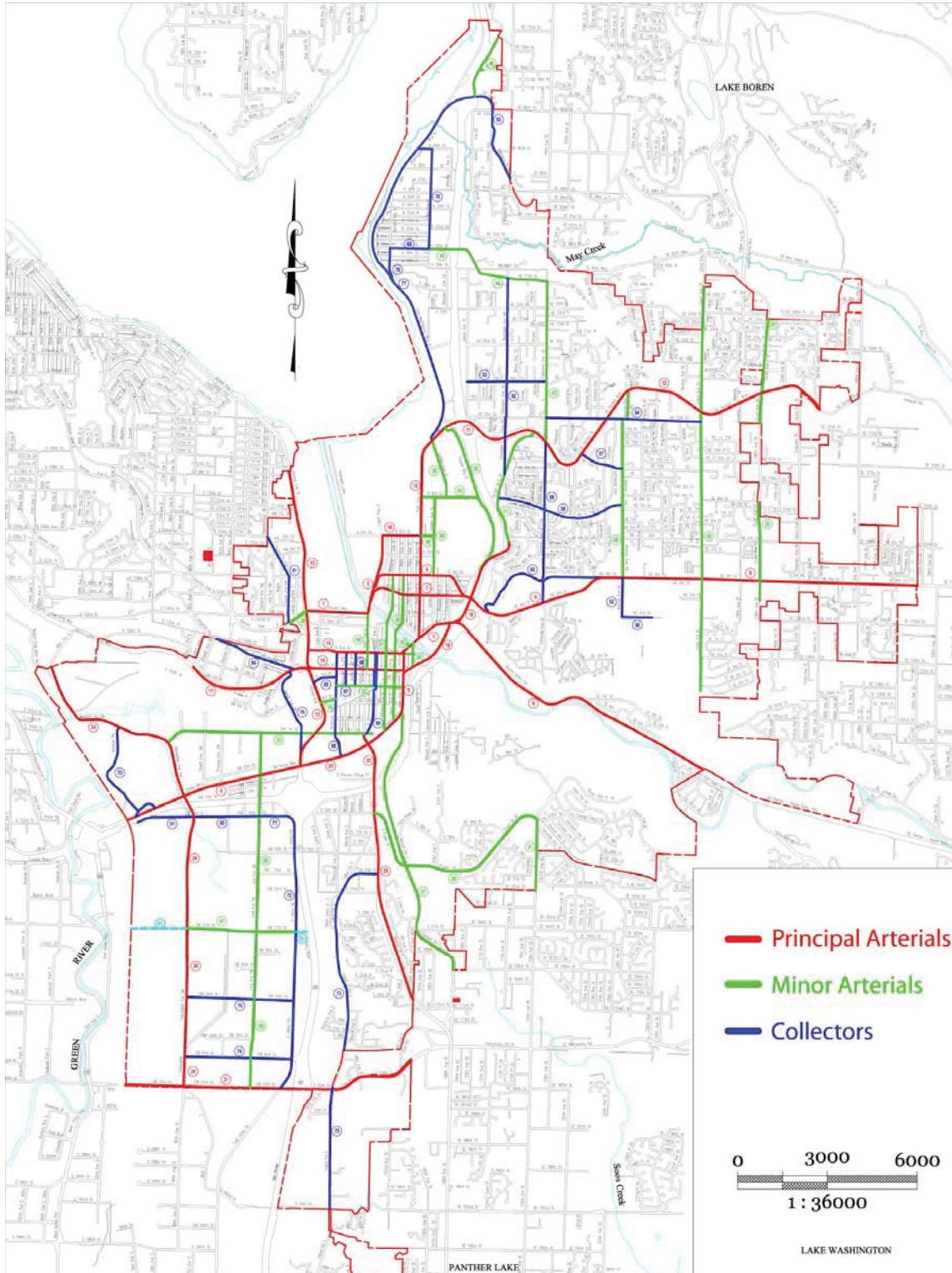
Renton’s Transportation Element does not assign freeways as a functional classification. For local streets, Renton has classifications that include principal arterials, minor arterials, and collectors. The Renton street classification system appears in Exhibit 5-17.

Renton’s Arterial Plan (Exhibit 5-18) anticipates needed improvements to the local arterial system. Some improvements are likely as City-provided improvements, including the Bronson Way bridge rehabilitation between S 2nd Street to Park Avenue N. In addition, the Renton Arterial Plan includes a number of WSDOT projects within City right-of-way related to the I-405 Corridor Plan.

What is a transportation network?

A network comprises a system of streets within a specified area. Networks are used by cities to measure how well their street systems function to provide needed capacity and move people. These networks often include planned improvements that are in their Transportation Improvement Programs.

Exhibit 5-17: City of Renton Arterial Streets



Source: City of Renton Comprehensive Plan, 2006

The City has plans for a bicycle route along Talbot Road through the study area and the Renton HOV plan includes HOV lanes on Talbot Road (SR 515) south of I-405. However, these facilities are not part of the proposed project.

**CITY OF RENTON ARTERIAL
CLASSES**

The City of Renton specifies arterial street functional classifications in its 2006 Comprehensive Plan as follows:

"Principal Arterials' are streets and highways that connect major intra-city activity centers, have primarily high traffic volumes that travel at relatively fast vehicle speeds, and therefore, have less emphasis on land use access." Grady Way is an example of a principal arterial."

"Minor Arterials' are streets that provide links between principal arterials and collector arterials, and carry moderately high traffic volumes at less vehicle speed than on principal arterials. These arterials also connect intra-city activity centers with some emphasis on land use access." Lind Avenue is an example of a minor arterial.

"Collector Arterials' are streets that distribute traffic between principal and minor arterials and local access streets. Collector arterials include streets that provide major traffic circulation with more emphasis on land use access within commercial and industrial areas, and residential neighborhoods." East Valley Road is an example of a collector arterial.

Consistency Discussion – Build Alternative

Motorized and nonmotorized improvements for the proposed project will meet City design standards. Although arterial improvements to accommodate the Tukwila to Renton Project are anticipated in Renton's Arterial Plan, the I-405 Team expects that a change to the functional classifications of Houser Way and Mill Avenue S may be necessary to account for changes the Build Alternative will create in roadway structure and traffic patterns. This set of changes would require a Renton Comprehensive Plan amendment. The City would initiate such amendments in an incremental fashion as improvements are completed.

Consistency Discussion – No Build Alternative

With only standard repair, maintenance and safety improvements, the No Build Alternative would not affect the City's functional classification of its transportation network or the City's nonmotorized modes plans contained within the Transportation element of the City's Comprehensive Plan.

Planned Capital Facilities

The City's Transportation and Capital Facilities Elements for the 2006 to 2011 period includes plans for several improvements to I-405 or to the City's affected roadway network.

These projects appear in the City's Transportation Improvement Program (TIP) 2006 - 2011 within the City's Comprehensive Plan:

- SR 167/SW 27th Street/Strander Boulevard,
- Rainier Avenue Corridor Study/Improvement,
- Rainier Avenue – SW 7th to 4th Place,
- I-405 Improvements in Renton,
- Sound Transit HOV Direct Access,
- Grady Way Corridor Study,

- WSDOT Coordination Program,
- Park-Sunset Corridor,
- SR 169 HOV – 140th Avenue SE to SR 900, and
- Benson Road – S 26th Street to Main Street.

The City’s TIP and Capital Facilities Element identify Renton’s total costs of its share of joint projects with WSDOT. Projects for which the City is not contributing are not listed, including several I-405 improvements. However, the City has been modeling LOS and concurrency citywide, assuming the implementation of I-405 Corridor improvements.

The 2006 Renton Transportation Element⁴² identifies City, county, and state improvements, including I-405 Corridor improvements that support the City’s land use plans. WSDOT projects assumed by the City between the years 2002 and 2022 (the City of Renton plan horizon year) include those listed in Exhibit 5-19. City-listed improvements that lie in the Tukwila to Renton Project study area appear in bold text.

What is a horizon year?
 Horizon Year is the expected completion date of a project, or the year that a plan is effective.

Exhibit 5-19: Improvements Assumed to be WSDOT Responsibility in Renton Transportation Element 2002 to 2022

Arterial Plan#	Roadway/Section	Type of Improvement
47.	I-405 – I-5 to SR 167	Add one lane in each direction
48.	I-405 – SR 167 to North City Limits	Add two lanes in each direction
49.	SR 167 – I-405 to SW 43rd Street	Add one lane in each direction
50.	I-405/SR 167 Interchange	Construct direct connection ramp
	Southbound I-405 to southbound SR 167	Construct direct connection ramp
	Northbound SR 167 to Northbound I-405	Construct direct connection ramp
51.	Northbound I-405 to Southbound SR 167	Construct direct connection ramp
	I-405 between Lind Avenue and Talbot Road	Construct one-way frontage road in each direction with ramp connections to I-405 and Lind and Talbot

⁴² City of Renton. 2006. City of Renton Comprehensive Plan.

Exhibit 5-19: Improvements Assumed to be WSDOT Responsibility in Renton Transportation Element 2002 to 2022

Arterial Plan#	Roadway/Section	Type of Improvement
52.	I-405/SR 169 Interchange	Construct split-diamond interchange
	SR 169/N 3rd Street	
53.	Southbound I-405 to Eastbound SR 169	Construct direct connection ramp
	I-405/Park Avenue N Interchange	
54.	I-405/N 30th Street Interchange	Reconstruct to accommodate I-405 widening
55.	I-405/NE 44th Street Interchange	Reconstruct to accommodate I-405 widening and future improvements
56.	SW 43rd Street – Lind Avenue to Talbot Road	Arterial widening
57.	East Valley Road – SW 16th to SW 34th Street	Arterial realignment
58.	Lind Avenue – Grady Way to SW 16th Street	Arterial widening to accommodate frontage road and I-405 ramps
59.	Talbot Road – S Renton Village Place to S 15th Place.	Arterial widening to accommodate frontage road and I-405 ramp
60.	Mill Avenue S – Houser Way to Bronson Way	Convert to one-way northbound
61.	Renton and Cedar Avenue Overpasses of I-405	Realignment/revisions to accommodate I-405 widening
62.	Sunset Boulevard – west of I-405	Realignment/revisions to accommodate I-405 widening
63.	Houser Way – north of N 4th Street	Realignment/revisions to accommodate I-405 widening
64.	Lake Washington Boulevard – north of NE 44th Street	Realignment to accommodate I-405 widening
65.	Benson Road Crossing Over I-405	Replacement to accommodate I-405 widening

Source: City of Renton 2006

Note: **Bold text** indicates that listed improvements are in the Tukwila to Renton Project study area.

The 2006 Transportation Element also includes state highway improvements beyond the Tukwila to Renton Project and the I-405 Corridor Program scope, but this City element identifies

these as post-2022 improvements. These post-2022 improvements appear in Exhibit 5-20. Bold text indicates City-listed improvements that lie in the Tukwila to Renton Project study area.

Exhibit 5-20: Improvements Assumed to be WSDOT Responsibility in Renton Transportation Element Post-2022

Roadway/Section	Type of Improvement
I-405 – I-5 to SR 167	Add one lane in each direction
I-405/SR 167 Interchange	
Northbound SR 167 to Southbound I-405	Construct direct connection ramp
East Valley Road at SW 34th Street	Construct new ramps connecting to SR 167
I-405 at N 10th Street	Construct direct connection ramps to and from the north
I-405 at SR 169	
Northbound I-405 to Houser Way	Construct direct connection ramp
Southbound Houser Way to Southbound I-405	Construct direct connection ramp
Northbound SR 169 to Northbound I-405	Construct direct connection ramp
Rainier Avenue – Grady Way to East Valley Road	Realign roadway to connect to East Valley Road at SW 16th Street
East Valley Road – SW 16th to SW 34th Street	Arterial widening

Source: City of Renton 2006

Note: **Bold text** indicates that listed improvements are in the Tukwila to Renton Project study area.

Improvements beyond the I-405 Corridor Program scope would require WSDOT and Federal Highway Administration (FHWA) approval.

Consistency Discussion – Build Alternative

The City's adopted Transportation Element generally addresses I-405 improvements that affect Renton. City modeling for the recent Transportation Element assumed I-405 improvements, and modeling prepared as part of land use plan amendments in 2003 (Boeing redevelopment) fully integrated the planned I-405 improvements. The City studied improvements consistent with the I-405 Corridor Program as well as additional improvements.

As the second step towards the I-405 Corridor Program in the Renton area, the Tukwila to Renton Project implements the following additional improvements (beyond those anticipated in the No Build Alternative) shown on Exhibit 5-19:

- 49. SR 167 – I-405 to SW 43rd Street (lane added in northbound direction).
- 50. I-405/SR 167 Interchange – Construct direct connection ramps.
- 51. I-405 between Lind Avenue and Talbot Road – Construct one-way frontage roads in each direction with ramp connections to I-405 and Lind Avenue and Talbot Road.
- 57. East Valley Road – SW 16th to SW 34th Street – Arterial re-alignment.
- 58. Lind Avenue – Grady Way to SW 16th Street – Arterial widening to accommodate frontage road and I-405 ramps.
- 59. Talbot Road – South Renton Village Place to S 15th Place – Arterial widening to accommodate frontage road and I-405 ramp.
- 60. Mill Avenue S – Houser Way to Bronson Way – convert to one-way northbound.
- 61. Renton and Cedar Avenue Overpasses of I-405 – Realignment/revisions to accommodate I-405 widening.

WSDOT has not included some of the freeway and local road improvements assumed in Exhibit 5-19 in the Build Alternative (e.g., project 56). However, WSDOT and the City of Renton could implement these improvements with other future projects. The Tukwila to Renton Project takes steps toward achieving the Renton Transportation Element, and the project is consistent with City goals and policies.

Consistency Discussion – No Build Alternative

As of the baseline condition, the No Build Alternative maintains the capital improvements installed in the Renton Nickel Improvement Project and anticipated in the City's plans. However, additional improvements may be necessary to remain consistent with the City's capital improvement plans and for the City to fully achieve the growth anticipated in its plans. Re-evaluation of LOS and/or land use may be necessary.

Renton Levels of Service

City policy establishes LOS for roadways, which account for multiple travel modes. The City of Renton Policy T-11 addresses LOS:

Policy T-11. An LOS should be maintained that: maximizes mobility by emphasizing transit and HOV improvements; is coordinated with LOS standards of adjacent jurisdictions; and meets state requirements under GMA and concurrency.

Travel times form the basis of the City’s LOS policy and "letter" standard is only a gauge of operational impacts. The City uses the travel times LOS policy to evaluate citywide transportation plans.

The City determined a 2002 LOS travel time index by establishing the sum of the average 30-minute travel distance for SOVs, HOVs, and transit as shown in Exhibit 5-21 (the 30-minute distance is a City of Renton standard).

Exhibit 5-21: Average PM Peak Travel Distance in 30 Minutes from the City in All Directions

Year	SOV – HOV	2 Times Transit ^a (includes access time)	LOS Index
2002	16.6 miles – 18.7 miles	6.8 miles	42
2022	15 ^b miles – 17 ^b miles	10 ^b miles	42

^aThe transit index value takes into account the time to walk from the work site or residence to the bus stop and the time spent waiting for the bus to arrive. The initial value is then weighted by doubling it to recognize the advantage that the transit mode has over SOV and HOV modes in its passenger-carrying capacity.

^bRounded

Source: City of Renton 2006

Since the Renton network is not field-tested for travel time as developers submit applications for new construction, a practical concurrency measure is applied to individual developments. The committed network improvements support a “bank” of projected new trips, and the City compares trips for each development with the total annual and 6-year “bank” of trips (net new trips supported by the 6-year transportation improvement project are divided into equal annual projections). If the annual, or at least the 6-year bank, is not exceeded, development may be allowed. The City

also tracks rates for funding and implementation of transportation improvements. If the annual improvement program meets or exceeds the Transportation Plan, the City may allow development.

The City uses "letter" standards of concurrency (rated A through F) as a gauge for operational impacts. Through project and environmental review, the City additionally requires applicants to identify the need for road improvements based on operational LOS of "D" or "E," depending on location.

In 2003, the City completed a study of its future land use and transportation network. This study, *Final Boeing Renton Comprehensive Plan Amendment EIS*,⁴³ incorporated the I-405 assumptions. The City's analysis indicated that in the year 2015, with Boeing property redevelopment and with the I-405 Corridor Program improvements the following intersections would have the LOS listed below:

- The Main Avenue/Benson Road/Grady Way intersection will operate at LOS E.
- The Rainier Avenue/Grady Way intersection will operate at LOS D.
- The Houser Way/Factory Avenue/Bronson Way intersection will operate at LOS A.
- The Park Avenue N/N 1st Street/Bronson Way intersection will operate at LOS C.
- The Bronson/Main Avenue S/S 2nd Street/Bronson Way intersection will operate at LOS A.
- The Houser Way/Main Avenue S/S 3rd Street intersection will operate at LOS D.
- The Talbot Road/SR 515/ Grady Way intersection will operate at LOS C.

All intersections listed would meet the City's operational LOS guidelines.

⁴³ *City of Renton. 2003b. Boeing Renton Comprehensive Plan Amendment EIS, Final Environmental Impact Statement. October 21, 2003.*

Consistency Discussion – Build Alternative

Improvements constructed by the project will add freeway through lanes, auxiliary lanes, and change access points in Renton. The new interchanges at Lind Avenue and Talbot Road will redistribute traffic in this area, but will not cause LOS to deteriorate at local intersections beyond the No Build condition.

Traffic on Lind Avenue and Talbot Road will increase near the new freeway ramps, but project improvements to the roads in this area will accommodate the increase without decreasing intersection LOS.⁴⁴ Two access points from Renton Hill to Downtown Renton will change with the project. However, all intersection LOS associated with Renton Hill will either improve or remain the same when compared to the No Build Alternative.⁴⁵

Changing Houser Way to a cul-de-sac just south of the river and removing the existing bridge across the Cedar River will alter traffic patterns by routing northbound traffic onto either Mill or Main Avenues. This traffic will arrive at the same location (SR 169/I-405), but via Mill Avenue S, Main Avenue S, and Bronson Way instead of Houser Way. Intersection LOS in the area will improve or remain the same with this change compared to the No Build Alternative.⁴⁶

Overall, WSDOT expects project intersection LOS within the Renton portion of the study area to remain the same or improve compared to the No Build Alternative.⁴⁷

Consistency Discussion – No Build Alternative

At baseline conditions prior studies determined LOS would degrade to E or F in 2014 as follows:

- Grady Way at Lind Avenue S (PM);
- Grady Way at Rainier Avenue S (PM);

⁴⁴ Westby, Karl, I-405 Project Team. Personal communication, email correspondence September 28, 2006.

⁴⁵ Westby, Karl, I-405 Project Team. Personal communication, email correspondence September 28, 2006.

⁴⁶ Westby, Karl, I-405 Project Team. Personal communication, email correspondence September 28, 2006.

⁴⁷ Westby, Karl, I-405 Project Team. Personal communication, email correspondence October 24, 2006.

What are Renton's Shoreline Master Program Use Environments?

The adopted Renton Shoreline Master Program (SMP) applies three possible Use Environments to regulated shorelines (areas within 200 feet of streams greater than 20 cfs and lakes greater than 20 acres in size): Natural, Conservancy, and Urban. The Renton SMP generally defines the three use environments as follows:

Natural Environment: The objective in designating a Natural environment is to protect and preserve unique and fragile shoreline or wetland environments in their natural state. The Natural environment is intended to provide areas of wildlife sanctuary and habitat preservation.

Conservancy Environment: The objective in designating a Conservancy environment is to protect, conserve, and manage existing areas with irreplaceable natural or aesthetic features in essentially their native state, while providing for limited use of the area. The Conservancy environment is intended to provide a pleasant break in the surrounding urban community.

Urban Environment: The objective of the Urban environment is to ensure optimum utilization of shorelines within urbanized areas by providing for public use, especially access to and along the water's edge and by managing development so that it enhances and maintains shorelines for a multiplicity of viable and necessary urban uses.

- Rainier Avenue at SW 7th (PM); and
- East Valley Highway at SW 43rd Street (AM).

Therefore, there would be congestion and no further improvements under the No Build Alternative.

Renton Shoreline Master Program

Within the Tukwila to Renton Project study area, two waterbodies are subject to the Renton SMP: Springbrook Creek and the Cedar River. Springbrook Creek is classified as Urban in most instances, but is Conservancy where associated wetlands are present, as shown in Exhibit 5-22. The Cedar River is classified as Urban within the study area. The Urban Environment allows roads, and the Conservancy Environment allows "necessary" roads. The City SMP does not define "necessary" roads. However, we interpret this to mean that only roadways essential for access will be allowed in the Conservancy Environment. Discussion of applicable policies and regulations appears in the following section.

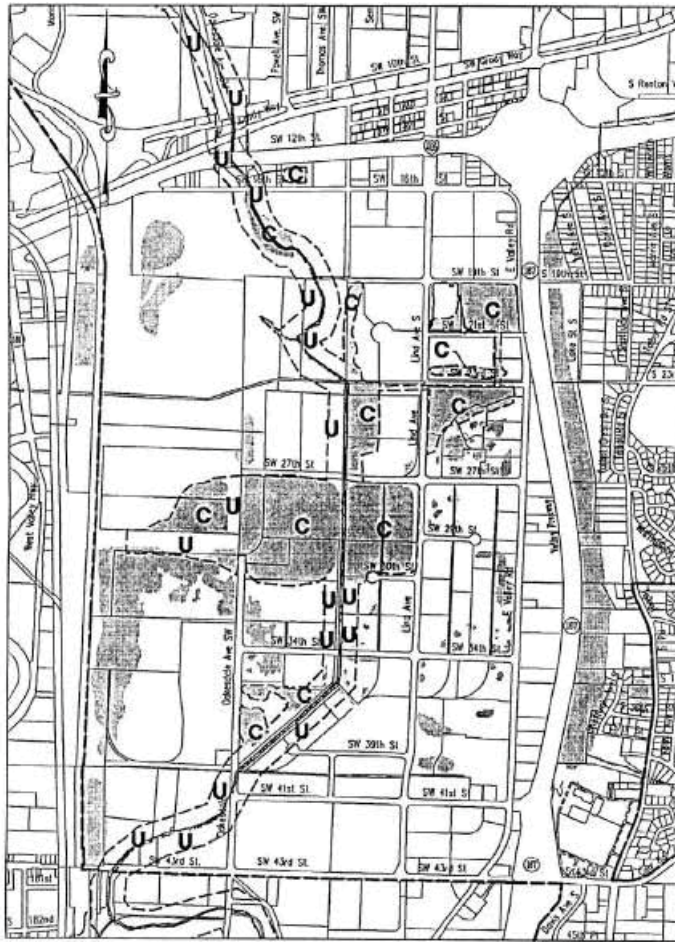
Renton Shoreline Master Program Policies

Renton shoreline goals and policies address natural resource protection, water quality, compatible permanent and temporary uses, roadway minimization, multimodal shoreline access, and roadway character. Construction and development in water or within 200 feet of Springbrook Creek or the Cedar River will be subject to the SMP policies. In addition, the City SMP has identified associated wetlands with Springbrook Creek, and any activities within these wetlands are also subject to SMP policies. Shoreline conservation and circulation policies in particular are the most relevant.⁴⁸

The City adopted shoreline policy amendments in April 2005, but the amendments are not effective until the City receives Washington State Department of Ecology (Ecology) approval. As part of Renton's April 2005 ordinance, the City amended its shoreline policies, but the changes are editorial in nature rather than substantial.

⁴⁸ *City of Renton. 1998. City of Renton Shoreline Master Program.*

Exhibit 5-22: City of Renton Shoreline Master Program Springbrook Creek Boundary Map



PLANNING/BUILDING/PUBLIC WORKS
 R. MacGill, D. Vianeski, M. Dolean
 January 1994

0 1000 2000
 1:12000

U Urban Environment
C Conservancy Environment
W Wetlands
S Shoreline Boundary
--- City Limits

Note: This map depicts the approximate location of the Springbrook Creek shoreline boundary and associated wetlands governed by the Renton Shoreline Master Program. Application of the Renton Shoreline Master Program to a property is determined on a site-specific basis by the Development Services Division utilizing the regulations and definitions in the Program and any site specific environmental analysis.

RELEVANT RENTON SHORELINE MASTER PROGRAM CONSERVATION POLICIES FROM CONSERVATION ELEMENT 4.02.02:

- A. Existing natural resources should be conserved.
 - 1. Water quality and water flow should be maintained...
 - 2. Aquatic habitats and spawning grounds should be protected, improved, and, if feasible, increased.
 - 3. Wildlife habitats should be protected, improved, and, if feasible, increased.
 - 4. Unique natural areas should be designated and maintained as open space... Access and use should be restricted, if necessary...
- B. Existing and future activities... should be designed to minimize adverse effects on the environment.
- C....assure that discharges from all drainage basins are considered an integral part of shoreline planning.
 - 1. Soil erosion and sedimentation, which adversely affect any shoreline within the City of Renton, will be avoided or controlled.
 - 2. The contamination of existing water courses will be avoided or controlled.
- D. Shoreline areas having historical, cultural, educational, or scientific value should be identified and protected...
- E. ...temporary uses involving public interest and not substantially or permanently impairing water quality, water flow, or unique and fragile areas would be permitted...

Consistency Discussion –Build Alternative

The project is consistent with City of Renton shoreline policies. The project does not include expansion of the I-405 bridge over Springbrook Creek. However, project activities include removal, replacement, and/or relocation of bridges over the Cedar River in an urban area. Bridges being replaced and/or relocated are necessary for access. Due to the removal of the Houser Way bridge, there will be one fewer bridge crossing the Cedar River as a result of the Build Alternative.

**RELEVANT RENTON SHORELINE
MASTER PROGRAM
CONSERVATION POLICIES
(CONTINUED)**

F. All further development of the shorelines of... that portion of Springbrook Creek (...SW 27th Street on the north to SW 31st Street on the south, ...and... the west side of the Creek in the vicinity of SW 38th Street...) should be compatible with the existing natural state of the shoreline.

1. Low density development should be encouraged...
2. The existing waterway... should be left in an undeveloped natural state as much as possible.

**RELEVANT RENTON SHORELINE
MASTER PROGRAM
CIRCULATION POLICIES
(CIRCULATION ELEMENT
4.06.02):**

A. Shoreline roadways should be scenic boulevards, where possible.

B. Public transportation should be encouraged to facilitate access to shoreline recreation areas

C. Pedestrian and bicycle pathways...should be developed.

1. Access points to and along the shoreline should be linked by pedestrian and bicycle pathways.
2. Separate pedestrian and bicycle pathways should be included in new or expanded bridges or scenic boulevards within the shorelines.
3. Separate pedestrian and bicycle pathways should be included in publicly-financed transportation systems or rights-of-way, consistent with public interest and safety.

Stormwater improvements, including relocation and/or reconfiguration of existing spill containment ponds at the Cedar River are also part of the proposed project. WSDOT will use water quality BMPs in portions of the shoreline management area as part of this project.⁴⁹

Although the Build Alternative improvements occur in an urban area, some areas of natural riparian vegetation and wetlands may need replanting and enhancement depending on specific construction design. See the project *Ecosystems Discipline Report* for further information on wetlands and upland vegetation. WSDOT will comply with conservation Policies 4.02.02.A through D.

WSDOT will accomplish erosion control and stormwater management required by City shoreline policies in a way that is consistent with applicable state and local requirements. The project *Water Resources Discipline Report* outlines the approach in detail. This meets conservation Policies 4.02.02 A and C.

The I-405 improvements will not inhibit future public access opportunities along Cedar River through its design (Circulation Policy 4.06.02 C) and will minimally disrupt the shoreline character by replacing existing facilities and not interfering with shoreline use or access (conservation Policies 4.02.02 B and F and Circulation Policy 4.06.02 C). Construction of a pedestrian pathway from Renton Hill to the Cedar River Trail will enhance pedestrian access to the Cedar River.

Context-sensitive solutions described in the project *Visual Quality Technical Memorandum* (Circulation Policy 4.06.02 A) will reduce visual effects. Improvements will decrease congestion that will benefit transit operation as well as other modes (Circulation Policy 4.06.02 B). The project proposal does not include bikeways on I-405, because the facility is a freeway, and freeways—given their purpose—generally do not include bicycle paths. However, bicycles will be able to access the Cedar River trail on the replaced pedestrian bridge over the Cedar River at the Renton/Carco Community Center.

⁴⁹ Appendix I: I-405, Tukwila to Renton Improvement Project, Preliminary Hydraulic Report, WSDOT Technical Review Draft, October 18, 2006.

Consistency Discussion – No Build Alternative

Beyond baseline conditions, no additional over-the-water construction is anticipated in the No Build Alternative. Therefore, the SMP is not applicable.

Renton Shoreline Master Program Regulations

As permitted uses in the Urban or Conservancy Use Environments, construction and operation of roadway improvements will require a substantial development permit. The permit will require the project to comply with shoreline regulations. In particular, the project will need to comply with standards related to environmental conditions, preservation of opportunities for public access, landscaping, fill limitations, and roadway design.⁵⁰

The City adopted amendments to its SMP in April 2005. It also adopted amendments to its stream regulations (critical area regulations) to meet GMA “best available science” requirements. These recent amendments may affect the design of I-405 and related local roadway improvements that cross the Cedar River.

The City will apply a 100-foot buffer along Class 1 watercourses (i.e., Springbrook Creek and Cedar River within the study area) when the shoreline amendments become effective after Ecology approval.⁵¹ The April 2005 City amended standards are included in Appendix D.

Consistency Discussion –Build Alternative

SMP regulations emphasize minimizing negative effects on water quality, habitat, and aquatic resources, erosion, and aesthetics; fitting in with natural topography; providing public access; and minimizing roadways in shoreline areas. The discussion of the proposed project and SMP policies applies to these related regulatory topics as well (see previous discussion of Renton SMP policies).

⁵⁰ *City of Renton. 1998. City of Renton Shoreline Master Program.*

⁵¹ *Similar requirements were adopted in the City's critical areas ordinance for other streams in the City. These critical areas ordinance requirements took effect in early May 2005. A 100-foot buffer would be required along Class 2 salmonid bearing waters, including Panther Creek.*

RENTON'S SHORELINE REGULATIONS RELATED TO ENVIRONMENTAL, ACCESS AND LANDSCAPING REQUIREMENTS

6.02. Environmental Effects

6.02.01. Pollution and Ecological Disruption: The potential effects on water quality... vegetation, water life and other wildlife...soil quality, and all other environmental aspects must be considered...

6.02.03. ...Erosion is to be controlled through the use of vegetation rather than structural means where feasible.

6.02.04. Geology: ...Whatever activity is planned... must be safe and appropriate...

6.03. Use Compatibility and Aesthetic Effects:

6.03.01. The potential impact of any of the following on ...land and shoreline users shall be considered ...and efforts made to avoid or minimize detrimental aspects:

A. View Obstruction:...

B. Community Disturbances: Noise, odors, night lighting, water and land traffic, and other structures and activities.

C. Design Theme: ...design...shall be a uniform or coordinated design...

D. Visually Unpleasant Areas: Landscaped screening shall be used to hide from public view any area that may impinge upon the visual quality of a site...

6.04. Public Access

6.04.01. Where possible, space and ROW shall be left available on the immediate shoreline so that trails, nonmotorized bike paths, and/or other means of public use may be developed...

**RENTON'S SHORELINE
REGULATIONS RELATED TO
ENVIRONMENTAL, ACCESS AND
LANDSCAPING REQUIREMENTS
(CONTINUED)**

6.06. Landscaping.

6.06.01. General:

...landscaping should represent the indigenous character of the ...waterway... The scenic, aesthetic, and ecological qualities of...shorelines should be recognized and preserved...

6.07. Unique and Fragile

Areas: Unique features and wildlife habitats should be preserved and incorporated into the site. Fragile areas should be protected...

7.08. Landfill (i.e., Fill)

7.08.01 Landfills (i.e., fill) shall be permitted in the following cases:

C. When in a public use area, landfill (i.e., fill) would be advantageous to the general public; or,...

7.15. Roads and Railroads

7.15.01 Design Requirements

A. Shoreline roadways should be scenic boulevards where possible.

B. Roadways located in shoreland areas should be limited and designed and maintained to avoid soil erosion and to permit natural movement of groundwater.

C. All debris and other waste materials from construction are to be disposed of in such a way as to avoid their entry by erosion into the water.

D. Road locations are to be planned to fit the topography, where possible,...

Regarding fill, the Renton SMP regulations allow fill "in a public use area" when it is advantageous to the general public." The Build Alternative involves fill to improve a public highway important to the Renton community and region. This is consistent with SMP Section 7.08.01.

When Ecology adopts new City SMP regulations, the proposed project will be subject to stricter standards, such as buffers and setbacks. The SMP amendments will apply a 100-foot-wide buffer along Shorelines of the State, which include the Cedar River. New shoreline setbacks may be reduced under proposed criteria upon an environmental study and compliance with criteria. New criteria and requirements for roadways include, but are not limited to, the following:

- Demonstrating that there is no other feasible alternative route with less negative effects;
- Avoiding parallel routes;
- Designing bridges according to Washington Department of Fish and Wildlife (WDFW) guidelines; and
- Meeting seasonal work window requirements.

The City will require compliance with these new standards if Ecology requests permits after adoption of SMP amendments.

Consistency Discussion – No Build Alternative

Under the No Build Alternative, no improvements beyond those of the baseline conditions are proposed in the shoreline areas, and the regulations would not comply.

Renton Zoning Regulations

Renton zoning districts extend to the centerline of streets. However, streets and highways do not appear specifically in the tables identifying permitted uses by zones. Generally, the City of Renton considers streets and infrastructure necessary to support land uses, at a minimum, as a permitted accessory use (RMC 4-2-050.C.4⁵²). In practice, the City treats streets of any type as permitted uses.⁵³ The City has not required site

⁵² *City of Renton. 2005. Renton Municipal Code, Title 4 Development Regulations.*

⁵³ *I-405 Renton Nickel Improvement Project, I-5 to SR 169, Land Use Plans and Policies Discipline Report, October 2005.*

plan review permits for City or other agency roadway improvements.

Street designs will need to meet City street and arterial standards (4-6-060 Street Standards), particularly for those local roads where plan improvements may have an effect (e.g., Mill Avenue S, Renton Avenue S, and East Valley Road, among others). State roads will follow state standards. City permit requirements such as those for environmental review, critical areas, and shoreline permits will apply in any case.

Consistency Discussion – Build Alternative

WSDOT will design the proposed project to meet City regulatory requirements. The proposed project improvements do not require local land use permits, except for shoreline substantial development permits. The project will acquire portions of six parcels that will reduce parking at various locations in Renton to complete the freeway widening and construct the on-ramp at Talbot Road. The I-405 Team finds that five parcels will still meet the parking requirements in the Renton Municipal Code.⁵⁴

One parcel with a restaurant use (Golden Palace Chinese Restaurant) currently does not have adequate parking to meet the RMC requirements for eating and drinking establishments.⁵⁵ The project will increase this nonconformity by removing an additional 11 parking spaces. Removing commercial parking will increase the nonconformity of the use and structure on this property. RMC 4-10 for Nonconforming structures will apply to any potential future change in use or development of this property.

The City of Renton has a Rebuild Approval Permit that applies to legally existing nonconforming uses and structures. This permit process allows the expansion within an existing building footprint and/or rebuild of a damaged legally nonconforming structure. The permit process and associated regulations (RMC 4-10-050) will potentially provide a method for the property owner of a legally existing nonconforming structure to expand or repair the structure depending on the

⁵⁴ *City of Renton. 2006. Renton Municipal Code, 4-4-080F10*

⁵⁵ *Nonconformity of parking was calculated based on King County Assessor's data of square footage and city municipal codes for parking requirements.*

value of the improvement in relation to the value of the remaining structure.⁵⁶

Consistency Discussion – No Build Alternative

Only improvements associated with the Renton Nickel Improvement Project are in place under the No Build Alternative. The maintenance, repair and safety activities anticipated under No Build Alternative does not require local land use permits.

Mill Avenue Design Option

The plans, policies, and regulations consistency analysis for the Build Alternative described in the previous section addresses the consistency analysis of the Mill Avenue design option.

Main Avenue Design Option

The Main Avenue design option is consistent with City of Renton land use plans, policies, and regulations.

Comprehensive Plan Land Use Consistency Discussion- Main Avenue Design Option

The Main Avenue design option will acquire and relocate businesses on six parcels from the eastern edge of Renton Downtown Core. However, the City regards the affected parcels in this area to be underutilized. If WSDOT sells remaining portions of acquired parcels as surplus after the project, then the Main Avenue design option could help spur redevelopment of this small area of Renton's downtown. Therefore, the Main Avenue design option complies with the City's goals and policies of the Urban Center - Downtown in that it would help spur redevelopment in a concentrated area of the Renton Downtown Core after completion of the project.

Environmental Policies Consistency Discussion - Main Avenue Design Option

The Main Avenue design option will comply with the Washington State Wellhead Protection Program and the City of Renton's APA regulations, similar to other portions of the project located in the City's APA zones.

⁵⁶ *City of Renton. 2006. Renton Municipal Code, 4-10-050.*

Transportation Policies Consistency Discussion - Main Avenue Design Option

If WSDOT chooses this design option, then the City would have to add converting Main Avenue from a one-way to a two-way street between Bronson Way and S 3rd Street to the City's Arterial Plan through a Comprehensive Plan amendment. The design option is otherwise consistent with City transportation and capital facility plans and policies.

Historical Resource Policies Consistency Discussion - Main Avenue Design Option

The Main Avenue design option results in acquisition and removal of six buildings in the eastern edge of Renton's downtown. The project's *Cultural, Historical, and Archaeological Technical Memorandum* and *Section 4(f) Evaluation* contain details about the historical integrity of area buildings affected by the design option. If the Department of Archaeology and Historic Preservation determines any building to be historically important, then WSDOT could take the following measures to satisfy City Policy LU-63: preserve the building on paper and in electronic form, or move the building out of the area of impact if that is found to be feasible.⁵⁷ These mitigation measures will satisfy City Policy LU-63. Thus, the Main Avenue design option is consistent with the City's historical resources goals and policies.



Uptown Glassworks viewed from Veterans Memorial Park.

⁵⁷ Goetz, Linda, Landau, Inc. Telephone conversation. January 30, 2007.

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SECTION 6 MEASURES TO AVOID OR MINIMIZE EFFECTS

What measures will be taken to mitigate effects during construction?

Land Use Patterns

WSDOT will prepare and implement a traffic management plan. This plan will include steps for communicating traffic detours and delays to businesses and local residents. If construction requires temporary closure of local streets, WSDOT will provide detour routes clearly marked with signs. WSDOT will maintain access to businesses and residences throughout construction.

WSDOT will stage construction of the project that maintains accesses at existing overpasses, underpasses, and interchanges until we can open the replacements or provide a suitable detour route. This approach will minimize effects on access between Renton Hill and Downtown Renton.⁵⁸

In those situations where it is necessary to acquire property, WSDOT will comply with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and implemented by FHWA under 49 CFR Part 24, and according to Washington state relocation laws.

Land Use Plans, Policies, and Regulations

Measures to reduce and avoid effects during construction for noise, transportation, wetlands and streams, and parks appear in the following Tukwila to Renton Project discipline reports: Noise, Transportation, Ecosystems, Section 4(f) Evaluation, and Water Resources. Measures to reduce and avoid effects during construction for hazardous materials, geologic hazards, relocation, and stormwater appear in the following project technical memorandums: Hazardous Materials; Geology and Soils; Social Elements, Public Services, and Utilities.

Acquisition of on-site parking of several commercial businesses for project construction may require compliance with the cities of Tukwila and Renton nonconforming use and

⁵⁸ Hanson, Barrett, I-405 Project Team. *Personal correspondence, email with traffic control notes, September 29, 2006.*

structure regulations. In Tukwila, if an affected business wants to rebuild or expand, the City will require it to obtain an administrative variance from on-site parking regulations to obtain a building or engineering permit. In Renton, if an affected business wants to rebuild or expand, the City will require it to obtain a Rebuild Approval Permit.

Mill Avenue Design Option

The Mill Avenue design option is addressed in the Build Alternative construction mitigation narrative above.

Main Avenue Design Option

If the State Department of Archaeology and Historic Preservation designates any buildings in this area as historically important, then compliance with mitigation measures outlined in the *Cultural, Historical, and Archaeological Technical Memorandum* would be necessary to attain consistency with Renton Comprehensive Plan Policy LU-63 on historical and cultural resources.

What measures will be taken to mitigate effects of operation?

Land Use Plans, Policies and Regulations

Concurrency policies adopted by WSDOT and the cities of Tukwila and Renton minimize inconsistencies in future capital plans and LOS policies. The cities of Tukwila and Renton will monitor development and implement concurrency programs as required by the GMA or other state legislative authority. (See Appendix E for WSDOT's LOS policy. See LOS narratives in Section 5 for Tukwila and Renton concurrency policies.)

Changing the functional classification of several arterials shown in the City of Renton's Arterial Plan would require a Comprehensive Plan amendment. The I-405 Team expects that a change to the functional classifications for Houser Way, Mill Avenue, and Lind Avenue may be necessary to account for how the project will change roadway structures and traffic patterns. The City of Renton will make the appropriate amendments to the Comprehensive Plan as WSDOT makes improvements to each of the roadway segments listed above.

Mill Avenue Design Option

The previous section discussing measures to mitigate effects of operation address the Mill Avenue design option.

Main Avenue Design Option

There are no specific operations mitigation measures proposed for the Main Avenue design option. Mitigation measures mentioned for the proposed project are sufficient for this design option.

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SECTION 7 UNAVOIDABLE ADVERSE EFFECTS

Does the project cause any substantial adverse effects that cannot be avoided?

Mitigation measures outlined under Measures to Avoid or Minimize Effects are sufficient to ensure that there are no substantial and unavoidable adverse effects for this project.

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SECTION 8 REFERENCES

GIS data sources

Exhibit 3-1

Jones & Stokes.
2007 Study Area Boundary.

Exhibit 4-1 and 4-2

King County Standard GIS Data Disk, extract April 2006:
2006 Parcels.

Exhibit 4-3

All data from base data referenced below.

Exhibit 5-12

David Evans and Associates.
2007. Full and Partial Acquisitions.

Exhibit 5-13

City of Kent.
2006 Kent Future Land Use.

City of Renton.
2006 Renton Future Land Use.

City of Tukwila.
2006 Tukwila Future Land Use.

Exhibit 5-14

King County Standard GIS Data Disk, extract April 2006:
2006 Parcels.

City of Kent.
2006 Kent Zoning.

City of Renton.
2006 Renton Zoning.

City of Tukwila.
2006 Tukwila Zoning.

Base data

All GIS exhibits contain one or more of the following as base layers:

- Geographic Data Technology, Inc. (GDT).
2005 GDT – Dynamap Transportation. April 2005.
- King County Standard GIS Data Disk, extract June 2006:
2004. Cities with annexations.
2005. Open Water.
2006. Parks in King County. Data updated by I-405 staff to match data from cities of Renton and Tukwila.
2005. Streams and Rivers. Data updated by I-405 staff to match fieldwork, 2002 LiDAR, and orthorectified aerial photography.
2005. Trails in King County. Data updated by I-405 staff to match fieldwork, 2002 LiDAR and orthorectified aerial photography.
- United States Geological Survey (USGS).
2002 Color Aerial Photography. June 2002.
<http://edc.usgs.gov/products/aerial/hiresortho.html>
- Washington State Department of Transportation (WSDOT).
2001 Aerial photography program. March 2001.
- WSDOT
1997 Spatial Data Catalog, Railroads.

Text references and verbal communications

Published Documents

- Entrix, Inc.
2002 Historic Resource Inventory for the Renton Downtown Core. Seattle, WA.
- Renton, City of.
2006 Comprehensive Plan (latest version).
2006 Renton Municipal Code, 4-4-080F10.
2006 Renton Municipal Code, 4-10-050.
2006 Renton Municipal Code (or latest version).
2003b Boeing Renton Comprehensive Plan Amendment FEIS. October 21, 2003.
2003a Boeing Renton Comprehensive Plan Amendment DEIS. July 8, 2003.
1998 City of Renton Shoreline Master Program.

Tukwila, City of.

- 2006 Tukwila Municipal Code (or latest version). July, 2006.
- 2006 Tukwila Municipal Code 18.56.140. July, 2006.
- 2005 2005 Tukwila Comprehensive Land Use Plan. Updated December 5, 2005, Figure 10, page 73.
- 2005 2005 Tukwila Comprehensive Land Use Plan (or latest version).
- 2005 City of Tukwila 2007-2012 Financial Planning Model and Capital Improvement Program. Adopted December 11, 2006.

Washington State Department of Transportation (WSDOT).

- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Water Resources Discipline Report. Prepared by David Evans and Associates, Inc.
- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Ecosystems Discipline Report. Prepared by Anchor Environmental, Inc.
- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Social Elements, Public Services, and Utilities Technical Memorandum. Prepared by David Evans and Associates, Inc.
- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Visual Quality Technical Memorandum. Prepared by David Evans and Associates, Inc.
- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Cultural, Historic, and Archaeological Technical Memorandum. Prepared by Landau and WSDOT.
- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Section 4(f) Evaluation. Prepared by Osborn Pacific Group, Inc.
- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Cumulative Effects Analysis Technical Memorandum. Prepared by HDR, Inc.

- 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Geology and Soils Technical Memorandum. Prepared by GeoEngineers.
 - 2007 I-405, Tukwila to Renton Improvement Project (I-5 to SR 169 – Phase 2) Hazardous Materials Technical Memorandum. Prepared by GeoEngineers.
 - 2006 Washington State Transportation Plan 2007–2026. November 2006.
 - 2006 Interstate-405 Context-Sensitive Solutions Master Plan.
 - 2005 I-405 Renton Nickel Improvement Project, I-5 to SR 169, Land Use Plans and Policies Discipline Report. Prepared by Jones & Stokes. October 2005
 - 2002 I-405 Corridor Program NEPA/SEPA Final Environmental Impact Statement.
- Washington State Legislature, Office of the Code Reviser.
- 2005 Washington Administrative Code (WAC 365-195-800). July 20, 2005.
 - 2005 Washington Administrative Code (WAC 365-197). July 20, 2005.
 - 2005 Revised Code of Washington (RCW 36.70A.420). January 2005
 - 2005 Revised Code of Washington (RCW 36.70B). January 2005

Personal Communication

Goetz, Linda, Landau, Inc. Telephone conversation. January 30, 2007.

Hanson, Barrett, I-405 Project Team. Telephone conversation January 2, 2007.

Hanson, Barrett, I-405 Project Team. Personal correspondence, email with traffic control notes, September 29, 2006.

Hanson, Barrett, I-405 Project Team. Personal communication, September 5, 2006.

Osborn, Linda, I-405 Project Team. Personal communication. Telephone communication June 18, 2007.

Renton, City of. Economic Development, Neighborhoods, and Strategic Planning Staff. Personal meeting, January 4, 2007.

Westby, Karl, I-405 Project Team. Personal communication, email correspondence October 24, 2006.

Westby, Karl, I-405 Project Team. Personal communication. Email communication September 29, 2006.

Westby, Karl, I-405 Project Team. Personal communication, email correspondence September 28, 2006.

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APPENDIX A TUKWILA SHORELINE REGULATIONS: RIVER AND LOW IMPACT ENVIRONMENTS

This appendix includes more specific “management environment” standards than are shown in Section 5 of the report. These more specific standards appear to be directed to local access roads rather than state highways.

Tukwila Municipal Code 18.44.130

B. River environment uses shall conform to the following standards:

1. Access roads, parking or storage areas, the closest edge of which shall be a minimum of 40 feet from the mean high water mark;
2. The centerline of railroad lead tracks shall be located no closer than 40 feet from the mean high water mark, except where the railroad lead track is bridging the river;
3. Where the riverbank has been reconstructed, it shall be landscaped with suitable plant material consistent with flood control measures to include large hardy shade or fruit trees, at maximum of 30 feet on center, such as maple, alder, poplar, cottonwood, sycamore, willow, oak, beech, walnut, ash and birch, or other species approved by the Director. In addition, at least one of the following landscape materials shall be used:
 - a. Live groundcover at a maximum of 18 inches on center;
 - b. Natural grass;
 - c. Addition to the existing natural vegetation where appropriate;
4. Facilities such as pumps, pipes, etc., shall be suitably screened with hardy plant material;
5. Utility easements where necessary shall be landscaped with live groundcover or natural grass cover.

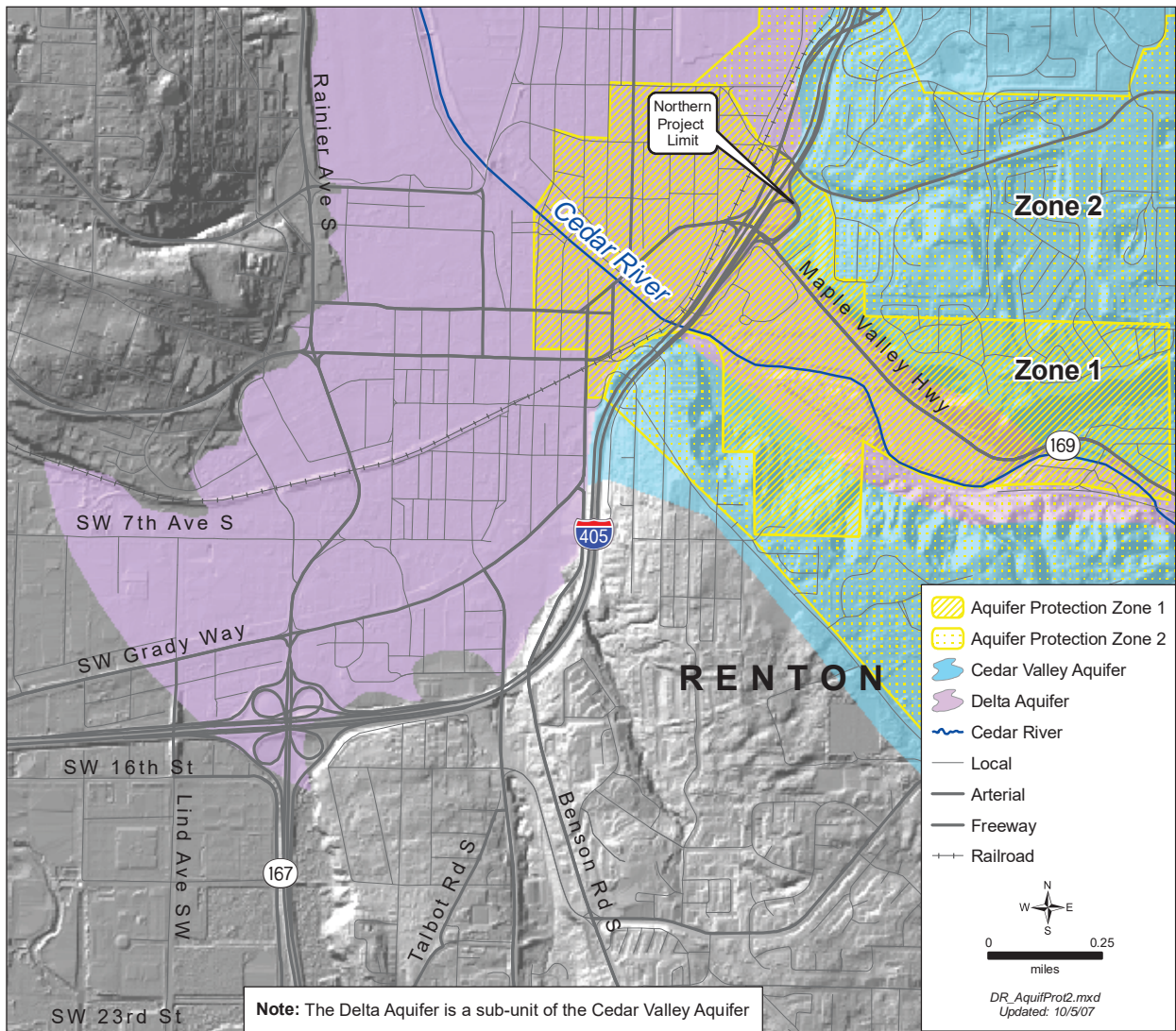
Tukwila Municipal Code 18.44.140

B. Low-impact environment uses shall conform to the following standards:

1. Structures shall be sited and appropriately landscaped in accordance with underlying zoning regulations;
2. Access roads shall be located no closer than ten feet to buildings, spur tracks or parking/loading and storage facilities, and the effective setback area shall be suitably landscaped. This shall not prohibit ingress and egress points between an access road and the described facilities;
3. Parking, loading, and storage facilities shall be appropriately screened from the river with:
 - a. A solid evergreen screen of a minimum six-foot height; or

- b. Decorative fence six feet high. (Note: Chain link fence shall be slatted and planted with ivy or other trailing vine except where a safety hazard may exist.); or
 - c. Large hardy shade or fruit trees such as maple, alder, poplar, cottonwood, sycamore, willow, oak, beech, walnut, ash, birch or other species approved by the Director at a maximum of 30 feet on center; or
 - d. Earth berms at a minimum of four feet high, suitably planted with live groundcover or natural grass;
4. Railroad lead trackage shall be no closer than 15 feet to parking/loading and storage facilities, and shall be suitably landscaped.

APPENDIX B CITY OF RENTON AQUIFER PROTECTION ZONES



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APPENDIX C CITY OF RENTON AQUIFER PROTECTION REGULATIONS

Following are selected Renton Municipal Code (RMC) sections that present the main requirements for development and construction in Aquifer Protection Areas. Universal sections such as permit procedures are not repeated here.

4-3-050 Critical Areas Regulations

H. AQUIFER PROTECTION:

1. Applicability: The aquifer protection regulations apply to uses, activities, and facilities located within an aquifer protection area (APA) as classified below.

a. Aquifer Protection Area (APA): Aquifer protection areas are the portion of an aquifer within the zone of capture and recharge area for a well or well field owned or operated by the City, as depicted in Subsection Q.1 of this Section, Maps.

b. Aquifer Protection Zones: Zones of an APA are designated to provide graduated levels of aquifer protection. Zone boundaries are determined using best available science documented in the City of Renton Wellhead Protection Plan, an appendix of the City of Renton Water System Plan, as periodically updated. The following zones may be designated:

i. Zone 1: The land area situated between a well or well field owned by the City and the three hundred sixty five (365) day groundwater travel time contour.

ii. Zone 1 Modified: The same land area described for Zone 1 but for the purpose of protecting a high-priority well, well field, or spring withdrawing from an aquifer that is partially protected by overlying geologic strata. Uses, activities, and facilities located in this area are regulated as if located within Zone 1 except as provided by C.6(a)(iii) of this section.

iii. Zone 2: The land area situated between the three hundred sixty five (365) day groundwater travel time contour and the boundary of the zone of potential capture for a well or well field owned or operated by the City. If the aquifer supplying water to a well, well field, or spring is naturally protected by overlying geologic strata, the City may choose not to subdivide an APA into two (2) zones. In such a case, the entire APA will be designated as Zone 2.

c. Mapping:

i. Determination of Location within a Zone of an Aquifer Protection Area: In determining the location of facilities within the zones defined by Subsection Q.1 of this Section, the following rules shall apply.

(a) Facilities located wholly within an APA zone shall be governed by the restrictions applicable to that zone.

(b) Facilities having parts lying within more than one zone of an APA shall be governed as follows: Each part of the facility shall be reviewed and regulated by the requirements set forth in this Section for the zone in which that part of the facility is actually located.

(c) Facilities having parts lying both in and out of an APA shall be governed as follows:

That portion which is within an APA shall be governed by the applicable restrictions in this Section; and

That portion which is not in an APA shall not be governed by this Section.

ii. Zone Maps: The locations of aquifer protection areas (APA) in the City are depicted by the map in Subsection Q.1 of this Section, Maps.

d. Performance Standards: In addition to the general standards of Subsection E of this Section, the following performance standards, Subsections H2 to H10, apply to all non-exempt uses, activities, and facilities on sites located within an aquifer protection area per Subsection H1, Applicability.

e. Authority to Require Hydrogeologic Assessment: The City may require an applicant to prepare a hydrogeologic study if the proposal has the potential to significantly impact groundwater quantity or quality, and sufficient information is not readily available. Such a report shall be prepared by a qualified professional at the applicant's expense. Report content requirements may be specified by the City in accordance with state or federal guidelines or tailored to the particular development application. Peer review of the applicant's report may be required in accordance with Subsection F.7 of this Section.

2. Facilities:

a. Removal of Existing Facilities – Zone 1:

i. The storage, handling, use, treatment or production of hazardous materials in aggregate quantities greater than five hundred (500) gallons shall not be allowed within Zone 1 of an APA after October 14, 2002. The storage, handling, use, treatment or production of tetrachloroethylene (e.g., dry-cleaning fluid) shall not be allowed within Zone 1 of an APA after March 31, 1999.

ii. Once a facility in Zone 1 is closed, relocated, or the use of hazardous materials is terminated, reinstatement of the use of hazardous materials on the site in quantities greater than that allowed for new facilities locating in Zone 1 as described in Subsection C.8.e(ii), Prohibited Activities, Zone 1, shall be prohibited.

iii. Closure of a facility or termination of any or all facility activities shall be conducted in accordance with the closure requirements in RMC 4-9-015.F, Closure Permit.

b. Existing Facilities Change in Quantities – Zone 1: In Zone 1 of an APA, no change in operations at a facility shall be allowed that increases the aggregate quantity of

hazardous materials stored, handled, treated, used, or produced with the following exception: The aggregate quantity of hazardous materials may be increased not to exceed 500 gallons.

c. Existing Facilities – Allowances in Zone 2: The storage, handling, treatment, use or production of hazardous materials at existing facilities shall be allowed within Zone 2 of an APA upon compliance with the provisions of this Section.

d. Requirements for Facilities – Zones 1 and 2: The following conditions in Subsections H.2.d(i) to (vi) of this Section will be required as part of any operating permit issued for facilities in Zone 1 of an APA. Conditions in Subsections H.2.d(i) to (v) shall apply to facilities in Zone 2 of an APA.

i. Secondary Containment – Zones 1 and 2:

(a) Materials Stored in Tanks subject to DOE – Zones 1 and 2: Hazardous materials stored in tanks that are subject to regulation by the Washington Department of Ecology under chapter 173-360 WAC are exempt from containment requirements in Subsection H.2.d(i) of this Section, Secondary Containment – Zones 1 and 2, but are subject to applicable requirements in RMC 4-5-120, Underground Storage Tank Secondary Containment Regulations.

(b) Secondary Containment Devices and Requirements – Zones 1 and 2: Every owner of a facility shall provide secondary containment devices adequate in size to contain on-site any unauthorized release of hazardous materials from any area where these substances are either stored, handled, treated, used, or produced. Secondary containment devices shall prevent hazardous materials from contacting soil, surface water, and groundwater and shall prevent hazardous materials from entering storm drains and, except for authorized and permitted discharges, the sanitary sewer. Design requirements for secondary containment devices are as follows:

(1) The secondary containment device shall be large enough to contain the volume of the primary container in cases where a single container is used to store, handle, treat, use, or produce a hazardous material. In cases where multiple containers are used, the secondary containment device shall be large enough to contain the volume of the largest container. Volumes specified are in addition to the design flow rate of the automatic fire extinguishing system, if present, to which the secondary containment device is subjected. The secondary containment device shall be capable of containing the fire flow for a period of twenty (20) minutes or more.

(2) All secondary containment devices shall be constructed of materials of sufficient thickness, density, and composition to prevent structural weakening of the containment device as a result of contact with any hazardous material. If coatings are used to provide chemical resistance for secondary containment devices, they shall also be resistant to the expected

abrasion and impact conditions. Secondary containment devices shall be capable of containing any unauthorized release for at least the maximum anticipated period sufficient to allow detection and removal of the release.

(3) Hazardous materials stored outdoors and their attendant secondary containment devices shall be covered to preclude precipitation with the exception of hazardous materials stored in tanks that have been approved by and are under permit from the City of Renton Fire Prevention Bureau. Secondary containment for such tanks, if uncovered, shall be able to accommodate the volume of precipitation that could enter the containment device during a twenty four (24) hour, twenty five (25) year storm, in addition to the volume of the hazardous material stored in the tank. Storage of hazardous materials, both indoors and outdoors, shall, at all times, meet both the requirements of this Section and the Uniform Fire Code.

(4) Secondary containment devices shall include monitoring procedures or technology capable of detecting the presence of a hazardous material within twenty four (24) hours following a release. Hazardous materials shall be removed from the secondary containment device within twenty four (24) hours of detection and shall be legally stored or disposed.

(5) Areas in which there are floor drains, catchbasins, or other conveyance piping that does not discharge into a secondary containment device that meets the requirements of this Chapter shall not be used for secondary containment of hazardous materials. Closure of existing piping shall be according to procedures and designs approved by the Department.

(6) Primary containers shall be impervious to the contents stored therein, properly labeled, and fitted with a tight cover which is kept closed except when substances are being withdrawn or used.

(7) Hazardous materials stored outdoors when the facility is left unsupervised must be inaccessible to the public. Such techniques as locked storage sheds, locked fencing, or other techniques may be used if they will effectively preclude access.

(8) Stored hazardous materials shall be protected and secured, as needed, against impact and earthquake to prevent damage to the primary container that would result in release of hazardous materials that would escape the secondary containment area.

ii. Hazardous Material Monitoring Requirements for Existing Facilities – Zones 1 and 2:

(a) The owners of all existing facilities shall implement hazardous materials monitoring.

(b) All hazardous material monitoring activities shall include the following:

(1) A written routine monitoring procedure which includes, when applicable: the frequency of performing the monitoring method, the methods and equipment to be used for performing the monitoring, the location(s) from which the monitoring will be performed, the name(s) or title(s) of the person(s) responsible for performing the monitoring and/or maintaining the equipment, and the reporting format.

(2) Written records of all monitoring performed shall be maintained on-site by the operator for a period of three (3) years from the date the monitoring was performed. The Department may require the submittal of the monitoring records or a summary at a frequency that the Department may establish. The written records of all monitoring performed in the past three (3) years shall be shown to the Department upon demand during any site inspection.

Monitoring records shall include but not be limited to:

- The date and time of all monitoring or sampling;
- Monitoring equipment calibration and maintenance records;
- The results of any visual observations;
- The results of all sample analysis performed in the laboratory or in the field, including laboratory data sheets;
- The logs of all readings of gauges or other monitoring equipment, groundwater elevations or other test results; and
- The results of inventory readings and reconciliations.

(3) Visual monitoring must be implemented unless it is determined by the Department to be infeasible to visually monitor.

(c) On every day of operation, a responsible person designated by the permittee shall check for breakage or leakage of any container holding hazardous materials. Electronic sensing devices approved by the Department may be employed as part of the inspection process, provided that the system is checked daily for malfunctions.

iii. Emergency Collection Devices – Zones 1 and 2: Vacuum suction devices, absorbent scavenger materials, or other devices approved by the Department shall be present on site (or available within an hour by contract with a cleanup company approved by the Department), in sufficient quantity to control and collect the total quantity of hazardous materials plus absorbent material. The presence of such emergency collection devices and/or cleanup contract are the responsibility and at the expense of the owner and shall be documented in the operating permit.

iv. Inspection of Containment and Emergency Equipment – Zones 1 and 2: Owners shall establish procedures for monthly in-house inspection and routine maintenance of containment and emergency equipment. Such procedures shall be in writing, a regular checklist and schedule of maintenance activity shall be established, and a log

shall be kept of inspections and maintenance activities. Such logs and records shall be made available at all reasonable times to the Department for examination.

v. Employee Training – Zones 1 and 2: Operators shall schedule training for all new employees upon hiring and once per year thereafter to explain the conditions of the operating permit such as emergency response procedures, proper hazardous waste disposal, monitoring and reporting requirements, record keeping requirements, and the types and quantities of hazardous materials on site. These training sessions will be documented and recorded and the names of those in attendance will be recorded. These records shall be made available at all reasonable times to the Department for inspection.

vi. Additional Facility Requirements for Zone 1: Owners shall complete the following:

(a) Site Monitoring: For facilities located in Zone 1 of an APA, an owner of a facility may, at their own expense, be required to institute a program to monitor groundwater, surface water runoff, and/or site soils. The Department may require that the owner of a facility install one or more groundwater monitoring wells in a manner approved by the Department in order to accommodate the required groundwater monitoring. Criteria used to determine the need for site monitoring shall include, but not be limited to, the proximity of the facility to the City's production or monitoring wells, the type and quantity of hazardous materials on site, and whether or not the hazardous materials are stored in underground vessels.

Every owner required to monitor groundwater, surface water runoff, and/or soils shall perform such monitoring semi-annually and obtain independent analytical results of the presence and concentration of those chemicals requiring monitoring (including breakdown and transformation products) as identified by the Department in the operating permit. The analytical results shall be obtained through the use of Department of Ecology-approved methods for water and/or soils. The results shall be filed within ten (10) days with the Department.

If a facility is required to perform site monitoring pursuant to Subsection H.2.d(vi) of this Section, Additional Facility Requirements for Zone 1, Site Monitoring, then a site monitoring plan will be required. This plan must indicate procedures to be followed to assess groundwater, surface water runoff, and/or soil for concentrations of those chemicals requiring monitoring as identified by the Department in the operating permit. If a groundwater monitoring program is in effect per the requirements of 40 CFR 264 or 265, and this program includes all of the chemicals identified in the operating permit, then it shall be incorporated into the site monitoring plan which shall also include provisions to address the groundwater monitoring requirements of Subsection H.2.d(vi) of this Section, Additional Facility Requirements for Zone 1, Site Monitoring, and RMC 4-9-015.G.3, Unauthorized Releases, Monitoring Results.

(b) Site Improvements:

(1) For facilities located in Zone 1 of an APA, the owner may be required to pave all currently unpaved areas of their facility that are subject to any vehicular use or storage, use, handling, or production of hazardous materials.

(2) For those facilities located in Zone 1 of an APA in which the nature of the business involves the use of hazardous materials outside of fully enclosed structures, the City shall evaluate the existing stormwater collection and conveyance system, and reserves the right to require the owner to upgrade the system to meet the provisions of RMC 4-6-030.E.3, Additional Requirements in Aquifer Protection Areas – Amendments to King County Surface Water Design Manual.

(3) For those facilities located in Zone 1 of an APA, the City may require the owner to test interior wastewater plumbing and the building side sewer for tightness according to Subsection H.6.a(ii), Pipeline Requirements – Zone 1, and reserves the right to require that such wastewater conveyance be repaired or replaced according to Subsection H.6.a(i), Pipeline Requirements – Zone 1.

(c) Capital Cost Reimbursement for Additional Operating Permit Requirements: The City shall pay fifty percent (50%) of documented capital costs up to twenty five thousand dollars (\$25,000.00) for required installation and construction of monitoring wells, site paving, wastewater conveyance, and stormwater improvements as required in Subsections H.2.d(vi)(a) and (b), Site Monitoring and Site Improvements. Payment by the City shall be made according to adopted administrative rules.

3. Use of Pesticides and Nitrates – APA Zones 1 and 2:

a. Use of Pesticides: The application of hazardous materials such as pesticides shall be allowed in an APA, except within one hundred feet (100') of a well or two hundred feet (200') of a spring, provided that:

i. The application is in strict conformity with the use requirements as set forth by the EPA and as indicated on the containers in which the substances are sold.

ii. Persons who are required to keep pesticide application records by RCW 17.21.100.1 and WAC 16-228-190 shall provide a copy of the required records to the Department within seventy two (72) hours of the application.

b. Nitrate-Containing Materials: The application of fertilizers containing nitrates shall be allowed in an APA except within one hundred feet (100') of a well or two hundred feet (200') of a spring; provided, that:

i. No application of nitrate-containing materials shall exceed one-half (0.5) pound of nitrogen per one thousand (1,000) square feet per single application and a total yearly application of five (5) pounds of nitrogen per one thousand (1,000) square

feet; except that an approved slow-release nitrogen may be applied in quantities of up to nine-tenths (0.9) pound of nitrogen per one thousand (1,000) square feet per single application and eight (8) pounds of nitrogen per one thousand (1,000) square feet per year; and

ii. Persons who apply fertilizer containing nitrates to more than one contiguous acre of land located in the APA either in one or multiple application(s) per year shall provide to the Department within seventy two (72) hours of any application the following information:

- (a) The name, address, and telephone number of the person applying the fertilizer;
- (b) The location and land area of the application;
- (c) The date and time of the application;
- (d) The product name and formulation;
- (e) The application rate.

4. Wastewater Disposal Requirements – Zones 1 and 2: Refer to RMC 4-6-040J, Sanitary Sewer Standards, Additional Requirements that Apply within Zones 1 and 2 of an Aquifer Protection Area.

5. Surface Water Requirements – Zones 1 and 2: Refer to RMC 4-6-030E, Drainage Plan Requirements and Methods of Analysis for additional surface water requirements applicable within Zones 1 and 2 of an Aquifer Protection Area.

6. Pipeline Requirements:

a. Pipeline Requirements – Zone 1:

i. All new and existing pipelines in Zone 1 shall be constructed or repaired in accordance with material specifications contained in Subsection S of this Section, Pipeline Material. All existing product pipelines in Zone 1 shall be repaired and maintained in accordance with BMPs and best available technology.

ii. All new pipelines constructed in Zone 1 shall be tested for leakage in conformance with the following provisions prior to being placed into service.

(a) Pipeline leakage testing shall be conducted in accordance with best available technology, to the satisfaction of the Department.

(b) Pipeline leakage testing methods shall be submitted to the Department for review prior to testing and shall include: a detailed description of the testing methods and technical assumptions; accuracy and precision of the test; proposed testing durations, pressures, and lengths of pipeline to be tested; and scale drawings of the pipeline(s) to be tested.

(c) Upon completion of testing, pipeline leakage testing results shall be submitted to the Department and shall include: record of testing durations, pressures, and lengths of pipeline tested; and weather conditions at the time of testing.

(d) Routine leakage testing of new pipelines constructed in Zone 1 may be required by the Department.

iii. If the Department has reason to believe that the operation or proposed operation of an existing pipeline in Zone 1 of an APA may degrade groundwater quality, the Department may require leakage testing of the existing pipeline in accordance with Subsection H.6.a(ii) of this Section; and installation, sampling, and sample analysis of monitoring wells. Routine leakage testing of existing pipelines in Zone 1 may be required by the Department. Criteria for this determination is specified under Subsection D.2.b(ii), Potential to Degrade Groundwater – Zone 2, Criteria.

iv. Should pipeline leakage testing reveal any leakage at any level then the Department shall require immediate repairs to the pipeline to the satisfaction of the Department such that no infiltration of water into the pipeline or exfiltration of substances conveyed in the pipeline shall occur. Any repairs which are made shall be tested for leakage pursuant to Subsection H.6.a(ii) of this Section.

b. Pipeline Requirements – Zone 2: If the Department has reason to believe that the operation or proposed operation of an existing pipeline in Zone 2 of an APA may degrade groundwater quality, the Department may require: leakage testing in accordance with Subsection H.6.a(ii) of this Section; installation, sampling, and sample analysis of groundwater monitoring wells; repair of the pipeline to the satisfaction of the Department such that degradation of groundwater quality is minimized or eliminated. Criteria for this determination is specified under Subsection D.2.b(ii), Potential to Degrade Groundwater – Zone 2, Criteria.

7. Construction Activity Standards – Zones 1 and 2: Refer to RMC 4-4-030.C.8, Construction Activity Standards – APA Zones 1 and 2.

8. Fill Material Requirements – Zones 1 and 2: Refer to RMC 4-4-060L4, Fill Material, regarding quality of fill and fill material source statement requirements within aquifer protection areas.

9. Regulations for Existing Solid Waste Landfills – Zones 1 and 2:

a. Materials: Earth materials used as fill or cover at a solid waste landfill shall meet the requirements of RMC 4-4-060L4, Fill Material.

b. Groundwater Monitoring: The Department shall have the authority to require an owner of a solid waste landfill to implement a groundwater monitoring program equal to that described by King County Board of Health Title 10 (King County Solid Waste Regulations) Section 10.72.020 and a corrective action program equal to that described by Section 10.72.030. The Department shall have the authority ascribed to the health officer in said regulations. Quarterly reports shall be provided to the Department detailing groundwater monitoring activity during the preceding three (3) months.

Reports detailing corrective action required by the Department shall be submitted according to a written schedule approved by the Department.

10. Hazardous Materials – Release Restrictions – Zones 1 and 2: Hazardous materials shall not be spilled, leaked, emitted, discharged, disposed, or allowed to escape or leach into the air, into groundwater, surface water, surface soils or subsurface soils. Exception: Intentional withdrawals of hazardous materials for the purpose of legitimate sale, use, or disposal and discharges permitted under federal, state, or local law. Any unauthorized releases shall be subject to the procedural requirements of RMC 4-9-015G, Unauthorized Releases.

R. GENERIC HAZARDOUS MATERIALS LIST:

GENERIC HAZARDOUS MATERIALS LIST FOR INFORMATIONAL USE ONLY

Acid and basic cleaning solutions

Antifreeze and coolants

Arsenic and arsenic compounds

Battery acid

Bleaches, peroxides

Brake and transmission fluids

Brine solution

Casting and foundry chemicals

Caulking agents and sealants

Cleaning solvents

Cooling water (not isolated from process chemicals)

Corrosion and rust prevention solutions

Cutting fluids

Degreasing solvents

Deicing materials

Disinfectants

Dyes

Electroplating solutions

Engraving solutions

Etching solutions

Explosives

Fertilizers

Food processing wastes
Formaldehyde
Fuels and additives
Glues, adhesives, and resins
Greases
Hydraulic fluid
Indicators
Industrial and commercial janitorial supplies
Industrial sludges and stillbottoms
Inks, printing, and photocopying chemicals
Laboratory chemicals
Medical, pharmaceutical, dental, veterinary, and hospital solutions
Metal dusts
Mercury and mercury compounds
Metals finishing solutions
Oils
Paints, pigments, primers, thinners, dyes, stains, wood preservatives, varnishing, and cleaning compounds
Painting solvents
PCBs
Pesticides and herbicides
Plastic resins, plasticizers, and catalysts
Photo development chemicals
Poisons
Polishes
Pool chemicals
Processed dust and particulates
Radioactive sources
Reagents and standards
Refrigerants
Roofing chemicals and sealers

Sanitizers, disinfectants, bactericides, and algacides

Soaps, detergents and surfactants

Solders and fluxes

Stripping compounds

Tanning industry chemicals

Transformer and capacitor oils/fluids

Wastewater treatment sludges

(Ord. 4851, 8-7-2000)

S. PIPELINE MATERIAL:

1. PIPELINE MATERIAL REQUIREMENT								
Pipe Material	Pipe Diameter in Inches						Suggested Material Spec	Considerations (See Subsection S2)
	<4	4-8	10-12	14-20	24-30	36-54		
Ductile Iron, Rubber Gaskets Cement Mortar-Lined Polyethylene-Lined		1,2	1,2	1,2	1,2	1,2	AWWA C151, C104 AWWA C151	abcdnopr abcdnopr
Ductile Iron, Nitrile Gaskets Cement Mortar-Lined Polyethylene-Lined		1,2	1,2	1,2	1,2	1,2	AWWA C151, C104 AWWA C151	bcdinopr bcdeinopr
PVC, Rubber Gasket Joints CL 150 or 200 SDR 35	1,2 1	1,2 1	1,2				AWWA C900 ASTM D3034 AWWA C900	abjlnoprt bijlnoprt
PVC, Nitrile Gasket Joints CL 150 or 200			1,2,3	1,2,3				
PVC, Solvent Welded Joints Sch 80	2,3	1,2,3	1,2,3				ASTM D1784, D1785	hijklnoprt
Welded Steel, Rubber Gaskets Cement Mortar-Lined Dielectric-Lined					1,2	1,2	AWWA C200, C205 AWWA C200, C210	abfghnopr abfghnopr
Welded Steel, Welded Joints Cement Mortar-Lined Dielectric-Lined		1,2	1,2	1,2		1,2	AWWA C200, C205 AWWA C200, C210	fghnopr fghnopr
High Density Polyethylene Pipe Corrugated High Density Polyethylene Pipe - Smooth Interior		1,2 1	1,2 1	1,2 1	1,2 1	1 1	ASTM D1248 and D3350 ASTM D1248 and AASHTO	hkpq kpqsu
Slip Form Liner		4,5	4,5	4,5	4,5	4,5	ASTM D638	mnoqr
PIPELINE SERVICE 1. Storm Sewer 2. Sanitary Sewer and Side Sewer 3. Leachate Pipeline								

1. PIPELINE MATERIAL REQUIREMENT								
Pipe Material	Pipe Diameter in Inches						Suggested Material Spec	Considerations (See Subsection S2)
	<4	4-8	10-12	14-20	24-30	36-54		
4. Rehab Existing Storm Sewer								
5. Rehab Existing Sanitary Sewer								

2. CONSIDERATIONS ON SELECTION OF PIPE MATERIALS
The Utility maintains a list of materials meeting performance standards. Other materials meeting similar performance standards or developed as the result of new technology may be approved by the Utility.
a. Rubber gaskets may be severely damaged by petroleum products, particularly in prolonged exposures to concentrated flows containing little or no stormwater or sanitary sewage. In cases where heavy concentrations of petroleum products may be experienced, nitrile (Nitrile-Butadiene; i.e., NBR) gaskets should be used.
b. Gasketed joints may not be leak-proof at zero or low pressures, if improperly installed.
c. Mechanical joints may be less likely to leak at low pressures than push-on joints.
d. May need protective coatings and/or cathodic protection against external corrosion.
e. Considered most reliable gasket and lining material for ductile iron leachate pipeline.
f. Very difficult to repair linings on inside of joints in pipe smaller than 24-inch diameter.
g. Almost always needs protective coatings and cathodic protection against external corrosion.
h. Properly made joints are considered leak-proof.
i. Nitrile gaskets may require long delivery time.
j. Requires special attention to bedding and backfill depth to avoid structural failure of pipe.
k. Large thermal expansion coefficient. May need to limit solvent welded joints to 4-inch and smaller pipe. May require careful evaluation of pipe installation temperature and temperature of piped liquids to ensure joint integrity.
l. Pipe not available over 12-inch diameter.
m. Slip form lining is available in 6-inch through 60-inch diameter for almost any pressure, if sufficient pipe cross sectional-area is available.
n. Pressure grouts and gels are not acceptable for rehabilitation or patching of storm and sanitary sewers.
o. Suitability of pipe lining and gasket material to resist chemical attack by conveyed fluids must be determined for each pipeline service considered.
p. All storm and sanitary sewer manholes, catch basins, and inlets should be equipped with precast concrete bottom and sidewalls with rubber gasketed joints between sections, water-tight epoxy grout or other approved pipe entrances through walls, and approved waterproof coating of all interior floor and wall surfaces. Manholes, catch basins, and inlets should have no leakage when hydrostatically tested at atmospheric pressure.
q. Has good resistance to a number of chemicals, petroleum products, and hydrogen sulfide corrosion.
r. "Zero leakage" test requirement may be impossible to achieve under the best conditions for any pipe materials because trapped air may distort test results, even in a drop-tight pipe. Pressure and leakage test requirements should consider whether the pipe has steep slope or will stand full of liquid. Pipelines should be tested with the intent to prevent or minimize leakage. Air testing should not be allowed; hydrostatic testing should be as stringent as any found in the industry. Pipe materials, without regard for chemical attack, corrosion, or puncture, are generally ranked as follows, in decreasing order of liquid-tight reliability: welded steel with welded joints PVC with solvent welded joints slip form liner

2. CONSIDERATIONS ON SELECTION OF PIPE MATERIALS
ductile iron with viton or rubber gaskets welded steel with rubber gasketed joints PVC with viton or rubber gasketed joints
s. Joints should consist of "heat-shrink" wrap, standard corrugated coupling, and full pipe band clamps.
t. The use of PVC may be restricted by other Utility policy in regards to depth of pipe cover.
u. HDPE may be adversely affected by solvents; its use is not recommended where contact with solvents may occur.

(Ord. 4851, 8-7-2000)

4-4-030C8, Construction Activity Standards – APA Zones 1 and 2.

C. CONSTRUCTION STANDARDS:

8. Construction Activity Standards – Aquifer Protection Area (APA) Zones 1 and 2: The following standards shall apply to construction activities occurring in the Aquifer Protection Area if construction vehicles will be refueled on site and/or the quantity of hazardous materials that will be stored, dispensed, used, and handled on the construction site, exclusive of the quantity of hazardous materials contained in fuel or fluid reservoirs of construction vehicles, will exceed twenty (20) gallons. Weight of solid hazardous materials will be converted to volumes for purposes of determining whether de minimus amount is exceeded. Ten (10) pounds shall be considered equal to one gallon.

- a. Designated Person: There shall be a designated person on site during operating hours who is responsible for supervising the use, storage, and handling of hazardous materials and who shall take appropriate mitigating actions necessary in the event of fire or spill.
- b. Secondary Containment: Hazardous material storage, dispensing, and refueling areas and, to the extent possible, use and handling areas shall be provided with secondary containment in accordance with RMC 4-3-050H2d(i), Secondary Containment – Zones 1 and 2.
- c. Securing Hazardous Materials: Hazardous materials left on site when the site is unsupervised must be inaccessible to the public. Locked storage sheds, locked fencing, locked fuel tanks on construction vehicles, or other techniques may be used if they will preclude access.
- d. Removal of Leaking Vehicles and Equipment: Construction vehicles and stationary equipment that are found to be leaking fuel, hydraulic fluid, and/or other hazardous materials shall be removed from the site and the aquifer protection area or repaired in place as soon as possible and may remain on the site in the interim only if leakage is completely contained.
- e. Flammable and Combustible Liquids – Storage and Dispensing: Storage and dispensing of flammable and combustible liquids from tanks, containers, and tank vehicles into the fuel and fluid reservoirs of construction vehicles or stationary equipment on the construction site

shall be in accordance with these standards and the Uniform Fire Code Section 7904.2, as adopted or amended by the City.

f. Clean-Up Equipment and Supplies: Equipment and supplies adequate for the immediate clean-up of the worst case release shall be stored on the construction site in close proximity to hazardous materials.

g. Unauthorized Releases: Unauthorized releases as defined in RMC 4-11-210, Definitions U, shall immediately be contained, reported, and cleaned up as required by RMC 4-9-015G, Unauthorized Releases. Contaminated soil, water, and other materials shall be disposed of according to state and local requirements.

h. Application of Pesticides and Fertilizer: Application of pesticide and fertilizer shall be in accordance with the requirements of RMC 4-3-050H3, Use of Pesticides and Nitrates – APA Zones 1 and 2.

i. Hazardous Materials Management Statement: A hazardous materials management statement as described in RMC 4-8-120D8, Definitions H, Hazardous Materials Management Statement, shall be submitted to and approved by the Department prior to issuance of a permit regulating construction activity in the APA.

RMC 4-4-060L4, Fill Material

L. FILLS:

4. Fill Material: Fill materials shall have no more than minor amounts of organic substances and shall have no rock or similar irreducible material with a maximum dimension greater than eight inches (8"). Fill material shall meet the following requirements:

a. Construction, Demolition, and Land Clearing Waste Prohibited: Fill material shall be free of construction, demolition, and land clearing waste except that this requirement does not preclude the use of recycled concrete rubble per Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction.

b. Cleanliness of Fill Material: Fill material shall not contain concentrations of contaminants that exceed cleanup standards for soil specified in WAC 173-340-740, Model Toxics Control Act.

c. Special Requirement for Projects Located in Zone 1 of the Aquifer Protection Area and Which Will Involve Placement of More than Fifty (50) Cubic Yards of Imported Fill: A source statement certified by a professional engineer or geologist licensed in the State of Washington shall be provided to the Department and shall be reviewed and accepted by the Department prior to stockpiling or grading imported fill at the project site. The source statement, as defined in RMC 4-8-120D19, shall be required for each source location from which imported fill will be obtained.

d. Special Requirement for Projects Located in Zone 2 of the Aquifer Protection Area and Which Will Involve Placement of More than One Hundred (100) Cubic Yards of Imported

Fill: The source statement described in RMC 4-8-120D19 is required for each source location from which imported fill will be obtained.

e. Abbreviated Source Statement for Aquifer Protection Area: The Department may accept a source statement, as defined in RMC 4-8-120D19, that does not include results of sampling and analysis of imported fill if a professional geologist or engineer licensed in the State of Washington certifies that the source location from which fill will be obtained has never been filled, developed, or subjected to use that could have introduced chemical contamination to the site.

f. Department Authority to Request Additional Information or Reject Certified Source Statement: The Department has the authority to request additional information regarding imported fill material and the source thereof and to reject a source statement or abbreviated source statement if they do not demonstrate that the fill material to be imported to a project site meets fill material standards in Subsections L4a and L4b of this Section and/or the Department has reason to suspect that the fill material could be contaminated. Such requests or rejections shall be made in writing to the applicant.

g. Source Statement Not Required for Imported Fill Obtained from Washington State Department of Transportation Approved Source: The source statement defined in RMC 4-8-120D19 is not required for those projects located in the aquifer protection area if documentation is provided that imported fill will be obtained from a Washington State Department of Transportation approved source. (Amd. Ord. 4851, 8-7-2000)

h. Sampling and Analysis Procedures: The licensed professional engineer or geologist or person under their supervision who samples earth materials to be used as imported fill, oversees analysis, and prepares the source statement required by Subsections L4c and L4d of this Section shall follow procedures specified in WAC 173-340-820 and 173-340-830 of the Model Toxics Control Act Cleanup Regulation.

i. Permittee Subject to Required Actions after Illegal Placement of Imported Fill: A permittee who stockpiles or grades imported fill at the site without Department review and acceptance of the source statement required by Subsections L4c and L4d of this Section or who stockpiles or grades fill at the site that does not meet the fill quality standards of Subsections L4a and L4b of this Section is subject to measures specified by the Department to reduce risk of contamination of the site due to illegal placement of fill. Such measures may include, but are not limited to, any or all of the following and shall be implemented at the permittee's expense:

- i. Provide the Department with the source statement defined in RMC 4-8-120D19 within a time-period specified by the Department;
- ii. Immediately cover fill with a waterproof cover;
- iii. Immediately remove fill;
- iv. Installation of monitoring wells and monitoring of groundwater quality;

v. Remediation of contamination of the site caused by the illegal placement of fill according to a schedule specified by the Department and in accordance with cleanup standards for soil and groundwater described in the Model Toxics Control Act Cleanup Regulation, chapter 173-340 WAC.

j. Department Authority to Conduct Independent Sampling and Analysis: The Department shall have the authority to enter on to private property to conduct independent sampling and analysis of fill. If the Department determines that fill does not meet fill quality standards of Subsections L4a and L4b of this Section, then it may require the permittee to accomplish any or all of the measures listed in Subsection L4i of this Section at his or her own expense.

k. Department Authority to Implement Removal and Remediation Measures: The Department or its authorized agents shall have the authority to implement measures listed in Subsection L4i of this Section if the permittee fails to accomplish such measures in a timely manner. The permittee shall be responsible for any costs incurred by the Department or its authorized agents in the conduct of such activities. (Amd. Ord. 4740, 7-19-1999; Ord. 4992, 12-9-2002)

RMC 4-6-030E, Drainage Plan Requirements and Methods of Analysis

E. DRAINAGE PLAN REQUIREMENTS AND METHODS OF ANALYSIS:

1. Content: All persons applying for any of the permits and/or approvals contained in Subsection C1 of this Section shall provide a drainage plan for surface water flows entering, flowing within and leaving the subject property. The drainage plan and supportive calculation report(s) shall be stamped by a professional civil engineer registered in the state of Washington. The drainage plan shall be prepared in conformance with the Core and Special Requirements contained in sections 1.2 and 1.3 of chapter 1, the hydrologic analysis methods contained in chapter 3, the hydraulic analysis and design criteria in chapter 4, and the erosion/sedimentation control plan and practices contained in chapter 5 of the 1990 King County Surface Water Design Manual, except where amended or appended by the Department. (Ord. 4367, 9-14-1992; Amd. Ord. 4851, 8-7-2000)

2. Special Requirement #13; Aquifer Recharge and Protection Areas:

a. Threshold: If a proposed project lies within an Aquifer Recharge and/or Protection Area as defined and designed by City ordinance and as indicated on the Aquifer Recharge and Protection Map at the City Permit Counter.

b. Requirement: Then the proposed project drainage review and engineering plans shall be prepared in accordance with the special requirements, methods of analysis and design standards that have been adopted for aquifer recharge and protection areas by City ordinance.

3. Additional Requirements in Aquifer Protection Areas – Amendments to King County Surface Water Design Manual, Chapter 1: The following sections of chapter 1 of the 1990 King County Surface Water Design Manual (which has been incorporated in the Renton Municipal Code by

reference) is hereby amended to read as follows by adding additional requirements following the end of each section: (Amd. Ord. 4851, 8-7-2000)

a. Section 1.2.1, CORE REQUIREMENT #1: DISCHARGE AT THE NATURAL LOCATION:

i. Requirements that Apply within Zones 1 and 2 of an Aquifer Protection Area: Surface water and stormwater runoff from a proposed project that proposes to construct new, or modify existing drainage facilities must be discharged at the natural location so as not to be diverted onto, or away from, the adjacent downstream property, except that surface and storm runoff from new or existing impervious surfaces subject to vehicular use or storage of chemicals should be discharged at the location and in the manner which will provide the most protection to the aquifer, as directed and approved by the Stormwater Utility and the Water Utility.

ii. Discharge from the project must produce no significant adverse impact to the downhill property. Where no conveyance system exists at the adjacent downstream property line or other acceptable location and the discharge was previously unconcentrated flow, the runoff must:

Be conveyed across the downstream properties to an acceptable discharge point (see CORE REQUIREMENT #2; OFF-SITE ANALYSIS in § 1.2.2), with drainage easement secured from the downstream owners and recorded at the King County Office of Records and Elections prior to drainage plan approval, OR

Be discharged onto a rock pad shaped in a manner so as to disperse flow (see Figure 4.3.5I) if the runoff is less than 0.2 cfs runoff rate for the one hundred (100) year, twenty four (24) hour duration design storm event existing site conditions.

b. Section 1.2.3, CORE REQUIREMENT #3; RUNOFF CONTROL, "Biofiltration":

i. Requirements for Zone 1 of an Aquifer Protection Area: Proposed project runoff resulting from more than five thousand (5,000) square feet of impervious surface, and subject to vehicular use or storage of chemicals, shall not be treated prior to discharge from the project site by on-site biofiltration measures but shall instead be treated by a wet vault meeting the design criteria contained in § 1.3.5 SPECIAL REQUIREMENT #5; SPECIAL WATER QUALITY CONTROLS. New or existing retrofitted wet vaults and appurtenances shall meet the pipeline requirements specified in RMC 4-3-050H6a, Pipeline Requirements – Zone 1. (Amd. Ord. 4851, 8-7-2000)

ii. Requirements for Zone 2 of an Aquifer Protection Area: Proposed project runoff resulting from more than five thousand (5,000) square feet of impervious surface, and subject to vehicular use or storage of chemicals, shall be treated prior to discharge from the project site by on-site biofiltration measures as described in § 4.6.3 in Chapter 4 of the King County Surface Water Design Manual. Biofiltration facilities may require a liner per the design criteria described in the section Liner to Prevent Groundwater Contamination in the introduction to § 4.6, Water Quality Facility Design.

iii. The biofiltration design flow rate shall be based on the peak rate of runoff for the two (2) year, twenty four (24) hour duration design storm event total precipitation. Note,

biofiltration facilities installed following peak rate runoff control facilities may be sized to treat the allowable release rate (predeveloped) for the two (2) year, twenty four (24) hour duration design storm event for the peak rate runoff control facility. Biofiltration facilities installed prior to peak rate runoff control facilities shall be sized based on the developed conditions. (Amd. Ord. 4740, 7-19-1999)

c. Section 1.2.3, CORE REQUIREMENT #3; RUNOFF CONTROL, “Detention Facilities”:

i. Requirements for Zone 1 of an Aquifer Protection Area: The City of Renton prohibits the construction of new detention ponds to control the peak rate of runoff from new or existing impervious surfaces subject to vehicular use or storage of chemicals.

d. Section 1.2.3, CORE REQUIREMENT #3; RUNOFF CONTROL, “Retention Facilities”:

i. Requirements for Zone 1 of an Aquifer Protection Area: The City of Renton prohibits the construction of new retention ponds to control the peak rate of runoff from new or existing impervious surfaces subject to vehicular use or storage of chemicals. (Amd. Ord. 4740, 7-19-1999; Ord. 4851, 8-7-2000)

e. Section 1.2.3, CORE REQUIREMENT #3; RUNOFF CONTROL, “Infiltration Facilities”:

i. Requirement for Zone 1 of an Aquifer Protection Area: The City of Renton prohibits the construction of new infiltration facilities to control the peak rate of runoff from new or existing impervious surfaces subject to vehicular use or storage of chemicals.

f. Section 1.2.4, CORE REQUIREMENT #4; CONVEYANCE SYSTEM “(4) For new drainage ditches or channels”:

i. Requirements for Zone 1 of an Aquifer Protection Area: New drainage ditches or channels shall not be employed to convey the runoff resulting from impervious surface that is subject to vehicular use or storage of chemicals.

ii. Requirements for Zone 2 of an Aquifer Protection Area: New drainage ditches or channels may be employed in lieu of a pipe system. A groundwater protection liner may be required for new drainage ditches or channels per the design criteria, and existing drainage ditches or channels reconstructed, to convey the peak runoff from the twenty five (25) year design storm using the design criteria described in the section Liner to Prevent Groundwater Contamination in the introduction to § 4.6, Water Quality Facility Design, and the methods of analysis described in § 4.3.7 in Chapter 4 of the King County Surface Water Design Manual with a freeboard to overflow of 0.5 feet. In addition, new drainage ditches or channels must be demonstrated to convey the peak runoff from the one hundred (100) year design storm without overtopping. (Amd. Ord. 4740, 7-19-1999)

g. Section 1.2.4, CORE REQUIREMENT #4; CONVEYANCE SYSTEM, “Composition”:

i. Requirements for Zone 1 of an Aquifer Protection Area: New conveyance systems shall be constructed in accordance with the pipeline requirements specified in RMC 4-3-050H6a, Pipeline Requirements – Zone 1, of the aquifer protection regulations. Proposed projects shall provide an impervious surface for all new or existing areas that will be subject to vehicular use or storage of chemicals. Said impervious surface shall be

provided with the proper catch basins and a pipeline storm drainage system in order to collect surface water runoff and direct it into the downstream drainage conveyance system.

ii. Requirements for Zone 2 of an Aquifer Protection Area: A groundwater protection liner may be required for new drainage ditches or channels per the design criteria described in the section Liner to Prevent Groundwater Contamination in the introduction to § 4.6, Water Quality Facility Design. Exception: New drainage ditches or channels do not require a groundwater protection liner following the last water quality facility. Proposed projects shall provide an impervious surface for all new or existing areas that will be subject to vehicular use or storage of chemicals. Said impervious surface shall be provided with the proper catch basins and an approved conveyance system in order to collect surface water runoff and direct it into the downstream drainage conveyance system. (Amd. Ord. 4740, 7-19-1999; Ord. 4851, 8-7-2000)

h. Section 1.3.5, SPECIAL REQUIREMENT #5; SPECIAL WATER QUALITY CONTROLS:

i. Requirements for Zone 1 of an Aquifer Protection Area:

Threshold: If a proposed project will discharge runoff from more than one acre of impervious surface that will be subject to vehicular use or storage of chemicals, and:

- (1) Proposes direct discharge of runoff to a regional facility, receiving water, lake, wetland, or closed depression without on-site peak rate runoff control; or
- (2) The runoff from the project will discharge into a Type 1 or 2 stream, or Type 1 wetland, within one mile from the project site.

Requirement: The wet vault size shall be increased by a factor of 1.5 times the size of the wet vault normally required per § 4.6.2 of the 1990 King County Surface Water Design Manual and shall satisfy the wet vault required by § 1.2.3. CORE REQUIREMENT #3: RUNOFF CONTROL in Zone 1 of the aquifer protection area. New or existing retrofitted wet vaults and appurtenances shall meet the pipeline requirements specified in RMC 4-3-050H6a, Pipeline Requirements – Zone 1. (Amd. Ord. 4851, 8-7-2000)

ii. Requirements for Zone 2 of an Aquifer Protection Area:

Threshold: If a proposed project will construct more than one acre of impervious surface that will be subject to vehicular use or storage of chemicals, and

- (1) Proposes direct discharge of runoff to a regional facility, receiving water, lake, wetland, or closed depression without on-site peak rate runoff control; or
- (2) The runoff from the project will discharge into a Type 1 or 2 stream, or Type 1 wetland, within one mile from the project site.

Requirement: Then a wetpond meeting the standards described above shall be employed to treat a project's runoff prior to discharge from the site. A wet vault or water quality swale, as described above, may be used when a wetpond is not

feasible. A groundwater protection liner may be required for wetponds and water quality swales per the design criteria described in the section Liner to Prevent Groundwater Contamination in the introduction to § 4.6, Water Quality Facility Design. (Ord. 4367, 9-14-1992; amd. Ord. 4740, 7-19-1999)

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APPENDIX D DRAFT RENTON SHORELINE MASTER PROGRAM BUFFER REGULATIONS

The following presents the City of Renton's April 2005 adopted Shoreline Master Program (SMP) regulation amendments. They will not be effective until the Ecology approves them. However, several sections such as those relating to landfill and dredging have not changed in a substantive way since the 1998 adopted regulations.

J. GENERAL USE REGULATIONS FOR ALL SHORELINE USES:

1. Applicability and Exemptions:

a. Applicability:

- i. General: The Renton SMP regulations apply to any use, activity, or development on the Shorelines of the State within the City. No authorization to conduct a use, activity or development shall be granted unless such use, activity, or development is found consistent with the Renton SMP.
- ii. Nonconforming uses: See RMC 4-10-095 regarding the extent to which Renton SMP standards apply to nonconforming uses and activities.

b. Exemptions:

- i. Permit Exemptions: RMC 4-9-197.C identifies developments or activities which are not required to obtain a shoreline substantial development permit, but which must otherwise comply with all applicable provisions of the Renton SMP.
- ii. Use or Activity Exemptions: Reserved.

2. Studies Required:

- a. When Standard Stream or Lake Study Is Required: If a proposed development site contains a Shoreline of the state or associated buffer area, or the study area is within one hundred feet (100') of the Shoreline of the State even if the water body is not located on the subject property but the Reviewing Official determines that alterations of the subject property could potentially impact the water body in question, then the applicant shall be required to conduct a Standard Stream or Lake Study per RMC 4-8-120.
- b. When Supplemental Stream or Lake Study is Required: Changes to buffer requirements, or alterations of the Shoreline of the State requires a Supplemental Stream or Lake Study as identified in RMC 4-8-120.
- c. When Stream or Lake Mitigation Plan Required: A Stream or Lake Mitigation Plan shall be required per RMC 4-8-120.D., if impacts are identified within a required Supplemental Stream or Lake Study. The approval of the Stream or Lake Mitigation Plan by the Administrator shall be based on the criteria located in Subsection J.2.c.ii. below.
 - i. Timing of Mitigation Plan – Final Submittal and Commencement: When a Stream or Lake Mitigation Plan is required, the applicant shall submit a final mitigation plan for

the approval of the Administrator prior to the issuance of building or construction permits, whichever comes first. The applicant shall receive written approval of the final mitigation plan prior to commencement of any mitigation activity.

ii. Criteria for Approval of Stream or Lake Mitigation Plan for Alterations of Shorelines and Associated Buffers: In order to approve a Stream or Lake Mitigation Plan the Administrator shall find that the Plan demonstrates compliance with the following criteria:

(a) Mitigation Location: Mitigation location shall follow the preferences in (i) to (iv) below:

(i) On-site mitigation: On-site mitigation is required unless the Reviewing Official finds that on-site mitigation is not feasible or desirable;

(ii) Off-site mitigation within same drainage subbasin as subject site: Off-site mitigation may be allowed when located within the same drainage subbasin as the subject site and if it achieves equal or improved ecological functions over mitigation on the subject site;

(iii) Off-site mitigation within same drainage basin within City limits: Off-site mitigation may be allowed when located within the same drainage basin within the Renton City limits if it achieves equal or improved ecological functions within the City over mitigation within the same drainage subbasin as the project;

(iv) Off-site mitigation within the same drainage basin outside the City limits: Off-site mitigation may be allowed when located within the same drainage basin outside the Renton City limits if it achieves equal or improved ecological functions over mitigation within the same drainage basin within the Renton City limits and it meets City goals.

(b) Mitigation Type: Types of mitigation shall follow the preferences in (i) to (iv) below:

(i) Daylighting (returning to open channel) of streams or removal of manmade salmonid migration barriers;

(ii) Removal of impervious surfaces in buffer areas and improved biological function of the buffer;

(iii) In-stream or in-lake mitigation as part of an approved watershed basin restoration project;

(iv) Other mitigation suitable for site and water body conditions that meet all other provisions for a mitigation plan.

In all cases, mitigation shall provide for equivalent or greater biological functions per ii(e) below.

(c) Contiguous Corridors: Mitigation sites shall be located to preserve or achieve contiguous riparian or wildlife corridors to minimize the isolating effects of

development on habitat areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed; and

(d) Non-indigenous species: Wildlife, or fish species not indigenous to the region shall not be introduced into a riparian mitigation area unless authorized by a state or federal permit or approval. Plantings shall be consistent with Section 4-3-090.J.6.g.i; and

(e) Equivalent or greater biological functions: The Administrator shall utilize the report "City of Renton Best Available Science Literature Review and Stream Buffer Recommendations" by AC Kindig & Company and Cedarock Consultants, dated February 27, 2003, unless superceded with a City-adopted study, to determine the existing or potential ecological function of the stream or lake or riparian habitat that is being affected. Mitigation shall address each function affected by the alteration. Mitigation to compensate alterations to stream/lake areas and associated buffers shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. No-net-loss of riparian habitat or water body function shall be demonstrated; and

(f) Minimum Mitigation Plan Performance Standards: For any required Stream or Lake Mitigation Plans, the applicant shall:

(i) Demonstrate sufficient scientific expertise, the supervisory capability, and the financial resources to carry out the mitigation project; and

(ii) Demonstrate the capability for monitoring the site and making corrections during the monitoring period if the mitigation project fails to meet projected goals; and

(iii) Protect and manage, or provide for the protection and management of the mitigation area to avoid further development or degradation and to provide for long-term persistence of the mitigation area; and

(iv) Provide for project monitoring and allow City inspections; and

(v) Avoid mitigation proposals that would result in additional future mitigation or regulatory requirements for adjacent properties, unless it is a result of a code requirement, or no other option is feasible or practical; and

(vi) For onsite or offsite mitigation proposals, abutting or adjacent property owners shall be notified when wetland creation or restoration, stream relocation, critical area buffer increases, flood hazard mitigation, habitat conservation mitigation, or geologic hazard mitigation have the potential to considerably decrease the development potential of abutting or adjacent properties. For example, if a created wetland on a property would now result in a wetland buffer intruding onto a neighboring property, the neighboring property owner would be notified. Notification shall be given as follows:

(a) For applications that are not subject to notices of application per RMC 4-8, notice of the mitigation proposal shall be given by posting the site and notifying abutting or adjacent property owners with the potential to be impacted. Written notification may be made prior to or at the time of the SEPA determination.

(b) For applications that are subject to notices of application, the mitigation proposal shall be identified in the notice of application and mailed to abutting or adjacent property owners with the potential to be impacted; if the determination of the mitigation requirements is not known at the time of the notice of application, written notice to abutting or adjacent property owners shall be given instead at the time of the SEPA determination.

(g) Additional Conditions of Approval: The Administrator shall condition approvals of activities allowed within or abutting a stream/lake or its buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions may include, but are not limited to, the following:

(i) Preservation of critically important vegetation and/or habitat features such as snags and downed wood;

(ii) Limitation of access to the habitat area, including fencing to deter unauthorized access;

(iii) Seasonal restriction of construction activities; and

(iv) Establishment of a duration and timetable for periodic review of mitigation activities.

(h) Based on Best Available Science: The applicant shall demonstrate that the mitigation is based on consideration of the best available science as described in WAC 365-195-905; or where there is an absence of valid scientific information, the steps in RMC 4-9-250F are followed.

iii. Performance Surety: The Administrator shall require a performance surety to ensure completion and success of proposed mitigation, per RMC 4-1-230. The surety device shall be sufficient to guarantee that structures, improvements, and mitigation required by permit condition perform satisfactorily for a minimum of 5 years after they have been completed.

iv. Alternative Mitigation: The mitigation requirements set forth in this Subsection may be modified at the Administrator's discretion if the applicant demonstrates that improved habitat functions, on a per function basis, can be obtained in the affected sub-drainage basin as a result of alternative mitigation measures.

d. Studies Waived:

i. Standard Stream or Lake Study: May only be waived by the Administrator when the applicant provides satisfactory evidence that:

(a) A road, building or other barrier exists between the water body and the proposed activity, or

(b) The water body or required buffer area does not intrude on the applicant's lot, and based on evidence submitted, the proposal will not result in significant adverse impacts to nearby water bodies regulated under this Section, or

(c) Applicable data and analysis appropriate to the project proposed exists and an additional study is not necessary.

ii. Supplemental Stream or Lake Study: May only be waived by the Administrator when:

(a) No alterations or changes to the stream or lake, or its standard buffer are proposed; or

(b) Applicable data and analysis appropriate to the project proposed exists and an additional study is not necessary.

iii. Stream or Lake Mitigation Plan: May only be waived when no impacts have been identified through a Supplemental Stream or Lake Study.

e. Independent Secondary Review: Studies may require secondary review pursuant to RMC 4-9-197.E.4.

3. Disturbance Prohibited: Streams and lakes and their buffer areas shall be undisturbed, except where the buffer is to be enhanced or in conformance with allowances of Section J.4 or 5.

4. Shoreline Buffers: The following shoreline setbacks/buffers shall be required:

a. Buffer Width:

i. Standard Buffer Width: Shorelines shall have a minimum 100-foot buffer measured from the OHWM of the regulated shoreline of the state. Where streams enter or exit pipes, the buffer shall be measured perpendicular to the OHWM from the end of the pipe along the open channel section of the stream.

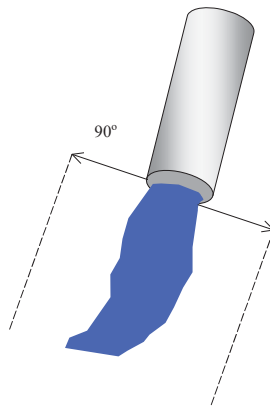


Figure 4-3-090.J.4.a.i. Buffer measurement at pipe opening.

ii. Piped Streams:

(1) Building structures over a natural stream located in an underground pipe or culvert except as may be granted by a variance is prohibited. Roads, bridges, trail, or utility crossings or other alterations pursuant to Section K are allowed. Pavement over a pre-existing piped stream is allowed. Relocation of the piped stream system around structures is allowed. If structure locations are proposed to be changed or the piped stream is being relocated around buildings, a hydrologic and hydraulic analysis of existing piped stream systems will be required for any development project site that contains a piped stream to ensure it is sized to convey the 100-year runoff level from the total upstream tributary area based on future land use conditions.

(2) No buffers are required along segments of piped or culverted streams. The City shall require easements and setbacks from pipes or culverts consistent with stormwater requirements in RMC 4-6-030 and the adopted drainage manual.

iii. Alternative Buffer Width: Shoreline buffers may be increased or reduced as required or allowed in Subsections b through d.

b. Use of Buffers:

i. Natural or Partially Developed Shorelines: Buffers shall be maintained as stated in Subsections J.3, Disturbance Prohibited; J.6.e, Native Growth Protection Areas Required; and J.6.g., Revegetation Required.

ii. Developed Shorelines: On sites predominantly containing impervious surfaces in the shoreline buffer areas the buffer widths shall be considered building setbacks, with the setback area to be managed in accordance with Subsection J.5.b, Sites with Developed Shorelines.

c. Increased Buffer Width:

i. Areas of High Blow-down Potential: Where the stream/lake area is in an area of high blow-down potential as determined by a qualified professional, the buffer width may be expanded up to an additional fifty feet (50') on the windward side, when determined appropriate to site circumstances and ecological function by the Responsible Official.

ii. Buffers Falling Within Protected Slopes or Very High Landslide Areas: When the required stream/lake buffer falls within a protected slope or very high landslide hazard area or buffer, the stream/lake buffer width shall extend to the boundary of the protected slope or the very high landslide hazard buffer.

iii. Notification: Notification of an increased buffer width may be required pursuant to J.2.c.ii(f)(vi).

d. Reduction of Buffer or Setback Width:

- i. Authority: Based upon an applicant's request, and the acceptance of a Supplemental Stream or Lake Study, the Administrator may approve a reduction in the standard buffer widths/setbacks where the applicant can demonstrate compliance with Subsections below and any mitigation requirements applied as conditions of approval.
- ii. Public Notice: Public notification of any buffer reduction determination shall be given as follows:
 - (a) For applications that are not subject to notices of application per RMC 4-8, notice of the buffer determination shall be given by posting the site and notifying parties of record in accordance with RMC 4-8.
 - (b) For applications that are subject to notices of application, per RMC 4-8, the buffer determination or request for determination shall be included with notice of application, and upon determination, notification of parties of record shall be made.
- iii. Criteria for Approval of Reduced Buffer Width: If a proposal meets Subsections (a) or (b) or (c) below and meets the environmental criteria of (d), minimum buffer widths may be reduced as stated in Subsection J.4.d.iv:
 - (a) Buffer condition: Either Subsection i and iii through v shall be met or Subsection ii through v shall be met:
 - i. The abutting land is extensively vegetated with native species, including trees and shrubs, and has less than 5 percent non-native invasive species cover and has less than fifteen percent (15%) slopes, or
 - ii. The buffer can be enhanced with native vegetation and removal of non-native species per criteria (d)(i), and has less than fifteen percent (15%) slopes; and
 - iii. The width reduction will not reduce stream or lake functions, including those of anadromous fish or non-fish habitat; and
 - iv. The width reduction will not degrade riparian habitat; and
 - v. No direct or indirect, short-term or long-term, adverse impacts to regulated water bodies, as determined by the City, will result from a regulated activity. The City's determination shall be based on specific site studies by recognized experts, pursuant to Subsection J.2 and RMC 4-8-120 and RMC 4-9-197 E.4; or
 - (b) The proposal includes daylighting of a stream through the entirety of its course through the property, or removal of a legally installed, as determined by the Administrator, salmonid passage barrier; or
 - (c) The proposal includes priority uses pursuant to RCW 90.58.020, as interpreted in the adopted Renton SMP, which cannot be accommodated reasonably using standard buffers/setbacks; and
 - (d) Environmental Criteria: Proposals meeting Subsection (a) or (b) or (c) above shall also meet the following environmental criteria:
 - (i) Buffer Enhancement:

The project includes a buffer enhancement plan using native vegetation and provides documentation that the enhanced buffer area will maintain or improve the functional attributes of the buffer; or

In the case of existing developed sites where a natural buffer is not possible, the proposal includes on- or off-site riparian/lakeshore or aquatic enhancement proportionate to its project specific or cumulative impact on shoreline ecological functions; or

In the case of construction activity connected with an existing single family residence and/or garage where the temporary or permanent construction work does not increase the footprint of the structure lying within the buffer and no portion of the new work occurs closer to the critical area or required buffers than the existing structure, enhancement is not required; and

(ii) The proposal will result in, at minimum, no-net loss of stream/lake/riparian ecological function; and

(iii) The proposal does not result in increased flood hazard risk; and

(iv) The applicant shall demonstrate that the proposal is based on consideration of the best available science as described in WAC 365-195-905; or where there is an absence of valid scientific information, the steps in RMC 4-9-250F are followed.

iv. Minimum Buffer Width Permissible by Administrator: If the criteria in Subsection J.4.d.iii are met, the reduced buffer or setback width shall not be less than the following minimum standards.

(a) 75 feet for non-water-oriented development, unless otherwise listed below.

(b) 50 feet for water related or water enjoyment development, unless otherwise listed below.

(c) 50 feet for multi-family development in the Urban Environment along the Cedar River.

(d) 25 feet for a single family residential dwelling on a pre-existing legal lot, where there is not enough developable area elsewhere on the site to reasonably accommodate building pads and off-street parking. The setback shall be equal to the existing structure setback in the case of construction activity connected with an existing single family residence and/or accessory garage where the work does not increase the footprint of the structure lying within the buffer and no portion of the new work occurs closer to the required buffers than the existing structure, unless the structure or addition can meet required buffers.

(e) 25 feet for existing essential public facilities (see Glossary) in the Urban Environment not otherwise considered water dependent. The appropriate buffer/setback shall be based on the facility type, conformance with adopted master plans, ability to provide for safe public access, or other legal or safety concerns.

(f) 25 feet for water dependent development that does not require an abutting shoreline location. Ancillary water dependent or water enjoyment uses may be co-located with water dependent uses.

(g) 0 feet for water dependent development if the use depends on an abutting shoreline location. Ancillary water dependent or water enjoyment uses may be co-located with water dependent uses.

(h) 0 feet for public access connections to the water's edge, or public access water body crossings, or public access segments connecting to existing trails where an alternate alignment is not practical, or where public access alignment avoids impacts to other critical areas, or where safety requires an abutting location; otherwise 25 feet for public access proposals paralleling the water.

(i) 0 feet for necessary roads, bridges, and railroads and utilities when consistent with the standards of Subsection K.

(j) 0 feet for piers, docks, marinas, boat launches, and bulkheads when consistent with applicable standards in Subsection K. Ancillary water dependent or water enjoyment uses may be co-located with water dependent uses.

(k) As determined by the Administrator, for development proposed on sites separated from the shoreline by pre-existing, intervening, and lawfully created structures, roads, bulkheads/hard structural shoreline stabilization, or other substantial existing improvements. For the purposes of this section, the intervening lots/parcels, roads, bulkheads/hard structural shoreline stabilization, or other substantial improvements shall be found to:

(i) Separate the subject upland property from the water body due to their height or width; and

(ii) Substantially prevent or impair delivery of most riparian functions from the subject upland property to the water body.

The buffer width established shall reflect the riparian functions that can be delivered to the regulated stream/lake.

v. Documentation: Reduced buffer width determinations and evidence shall be included in the application file.

vi. Variance Required for Narrower Buffer Width: Greater buffer width or setback reductions require review as a shoreline variance by the Land Use Hearing Examiner per RMC 4-9-197. The setback provisions of the zoning district for the use must also be met unless a variance to the zoning code is achieved.

e. Averaging of Buffer Width:

i. Authority: Based upon an applicant's request, and the acceptance of a Supplemental Stream or Lake Study, the Administrator may approve buffer width averaging.

ii. Criteria for Approval: Buffer width averaging may be allowed only where the applicant demonstrates all of the following:

(a) The water body and associated riparian area contains variations in ecological sensitivity or there are existing physical improvements in or near the water body and associated riparian area; and

(b) Buffer width averaging will result in no-net loss of stream/lake/riparian ecological function; and

(c) The total area contained within the buffer after averaging is no less than that contained within the required standard buffer width prior to averaging; and

(d) In no instance shall the buffer width be reduced to less than fifty feet (50'); and

(e) The proposed buffer standard is based on consideration of the best available science as described in WAC 365-195-905; or where there is an absence of valid scientific information, the steps in RMC 4-9-250F are followed.

iii. Buffer Enhancement May Be Required: Buffer enhancement in the areas where the buffer is reduced shall be required where appropriate to site conditions, habitat sensitivity, and proposed land development characteristics.

iv. Variance Required for Narrower Buffer Width: Greater buffer width or setback reductions require review as a shoreline variance by the Land Use Hearing Examiner per RMC 4-9-197. The setback provisions of the zoning district for the use must also be met unless a variance to the zoning code is achieved.

v. Notification: Notification may be required per Section J.2.c.ii.(f)(vi)

f. Incentives for Restoration of Streams Located in an Underground Pipe or Culvert: Daylighting of culverted watercourses should be encouraged and allowed with the following incentives:

i. Modified Standards:

(a) Residential Zones: Setbacks, lot width and lot depth standards of RMC 4-2 may be reduced by the Reviewing Official without requirement of a variance for lots that abut the daylighted watercourse to accommodate the same number of lots as if the watercourse were not daylighted.

(b) Mixed Use, Commercial, and Industrial Zones:

(i.) Where greater lot coverage allowances are provided for structured parking in RMC 4-2, lot coverage may be increased to the limit allowed for structured parking if instead a stream is daylighted. The increase in impervious surface allowed shall be equal to the area of stream restoration.

(ii.) Density bonuses may be allowed pursuant to RMC 4-9-065 where specified.

ii. Standard buffers may be reduced per 4-3-090J.4.d. If reduced buffers in J.4.d along with other development standards of the zone would not allow the same development

level as without the watercourse daylighting, the Administrator may approve a reduction consistent with the following criteria:

(a) The buffer is lowered only to the amount necessary to achieve the same amount of development as without the daylighting.

(b) The buffer width is no less than 50 feet.

(c) The proposed modification is based on consideration of the best available science as described in WAC 365-195-905; or where there is an absence of valid scientific information, the steps in RMC 4-9-250F are followed.

iii. When designed consistent with the City's flood regulations in RMC 4-3-050.I.6, portions of the daylighted stream/created buffer may be considered part of compensatory storage in flood hazard areas.

iv. Stream relocation is permitted subject to RMC4-3-090.K.

5. Stream/Lake Buffer Standards: Any proposal subject to RMC 4-3-090 shall comply with the following standards within required buffer areas:

a. Sites with Natural or Partially Developed Shorelines: Streams and lakes and their buffer areas shall be undisturbed, except where:

i. Buffer averaging or buffer reduction requests are evaluated in a Supplemental Stream or Lake Study and authorized pursuant to Subsections J.4.d, Reductions of Buffer or Setback Width and J.4.e, Averaging of Buffer Width, or

ii. The activity consists of a habitat or watershed enhancement proposal exempt from the Shoreline Substantial Development Permit process, or

iii. A variance has been approved for the use or activity.

iv. Where impervious surfaces exist in buffer areas the proposal is additionally subject standards of 5.b.

v. Specific criteria of Section K shall apply to the specific use or activity in addition to Subsection J.

b. Sites with Developed Shorelines: Where the shoreline is largely in an unnatural state and the buffer predominantly contains impervious surfaces due to existing, legally permitted activities, the following standards shall apply:

i. Streams and lakes shall be undisturbed.

ii. No new buildings may be constructed within the required buffer.

iii. Where impervious surfaces exist in buffer areas, such impervious surfaces shall not be increased or expanded within the buffer area. The extent of impervious surfaces within the buffer area may only be re-arranged if the reconfiguration of impervious surfaces and restoration of prior surfaced areas is part of an enhancement proposal that improves ecological function of the area protected by the buffer.

- iv. Existing native vegetation shall be preserved or enhanced to the extent possible, preferably in consolidated areas.
- v. The proposal will result in, at minimum, no-net loss of stream/lake/riparian ecological function;
- vi. Specific criteria of Subsection K shall apply to the specific use or activity in addition to Subsection J.

c. Proposed Activities Independent of a Use: Section K includes standards for practices or activities within waters or along the shoreline that can be unassociated with a land use, including but not limited to dredging, landfills, and stream alteration. Proposed activities or practices that are independent of a land use are subject to:

- i. Authorization in the Use Environment.
- ii. Evaluation in a Stream/Lake Reconnaissance and Supplemental Study.
- iii. Preparation of a Mitigation Plan consistent with Subsection J.2 as appropriate.
- iv. Consistency with applicable specific criteria in Subsection K in addition to Subsections J.2, J.5 and J.6.

6. Permit Evaluation Criteria for Shoreline Developments:

- a. Burden on Applicant: Applicants must explain to the satisfaction of the Administrator the methods that will be used to halt, avoid or otherwise control any harmful effects associated with the proposal.
- b. Erosion: Vegetation shall be used to control erosion rather than structural means where feasible.
- c. Geology: Important geological factors – such as possible slide areas – on a site must be considered. Whatever activity is planned under the application for the development permit must be safe and appropriate in view of the geological factors prevailing.
- d. No-Net-Loss of Functions: Shoreline uses or activities shall not adversely impact unique or fragile areas or stream/lake/riparian ecology function unless adequate mitigation measures are provided to ensure that there is no-net-loss of ecological functions as a result of the shoreline uses or activities.
- e. Native Growth Protection Areas Required: The Reviewing Official shall require the establishment of Native Growth Protection Areas consistent with RMC 4-3-050.E.4 to protect streams or lakes or riparian or lakeshore habitat where present. Where water body or buffer disturbance has occurred during construction or other activities, revegetation with native vegetation may be required as a condition of approval.
- f. Preservation of Existing Vegetation: Existing native vegetation shall be preserved to the extent possible, preferably in consolidated areas.
- g. Revegetation Required: Revegetation may be required in order to achieve reduced buffer widths; in cases where water body or buffer disturbance has occurred during construction

or other activities; or as a result of findings addressed in required studies. When revegetation is required, it shall meet the following standards:

- i. Use of Native Species: When revegetation is required, native species, or other appropriate species naturalized to the Puget Sound region and approved by the Reviewing Official, shall be used. A variety of species shall be used which serve as food or shelter from climatic extremes and predators, and as structure and cover for reproduction and rearing of young.
- ii. Removal of Noxious Species: When required as a condition of approval, noxious or undesirable species of plants shall be removed or controlled so as to not compete with native vegetation.

h. Studies Required: All required studies shall be submitted in compliance with Subsection J.2. and RMC 4-8-120.

i. Use Compatibility and Aesthetic Effects: The potential impact of any of the following on adjacent, abutting, and possibly distant land and shoreline users shall be considered in the design plans and efforts made to avoid or minimize detrimental aspects:

- i. View Obstruction: Buildings, smokestacks, machinery, fences, piers, poles, wires, signs, lights, and other structures.
- ii. Community Disturbances: Noise, odors, night lighting, water and land traffic, and other structures and activities.
- iii. Design Theme: Coordination and uniformity of architectural styles, exterior designs, landscaping patterns and other aspects of the overall design of a site.
- iv. Visually Unpleasant Areas: Landscaped screening shall be used to hide from public view any area that may negatively impact the visual quality of a site.
- v. Outdoor Activities:
 - (a) Residential Areas: Work areas, storage, and other activities on a site in a residential area shall be in enclosed buildings, as is reasonably possible, to reduce distractions and other effects on surrounding areas.
 - (b) Commercial and Industrial Areas: Outdoor activities of commercial and industrial operations shall be limited to those necessary for the operation of the enterprise. Outdoor areas shall not be used for storage of more than minimal amounts of equipment, parts, materials, products, or other objects.

j. Public Access:

- i. Where possible and consistent with this Section, space and right-of-way shall be left available on the immediate shoreline so that greater public use of the shoreline can be provided.
- ii. Trail systems shall be designed to avoid conflict with private residential property rights.

- iii. No property shall be acquired for public use without just compensation to the owner.
- k. Orientation: Where feasible, shoreline developments shall locate the water-dependent, water-related and water-enjoyment portions of their developments along the shoreline and place all other facilities inland.
- l. Other Permit Criteria: Also see criteria in Section 4-9-197.F.

K. SPECIFIC USE REGULATIONS:

6. Dredging:

- a. Definition: The removal of earth or sediment from the bottom or banks of a body of water.
- b. Permitted Dredging: Dredging is to be permitted only when:
 - i. Dredging is necessary for flood control purposes, if a definite flood hazard would exist unless dredging were permitted.
 - ii. Dredging is necessary to correct problems of material distribution and water quality, when such problems are adversely affecting aquatic life or recreational areas.
 - iii. Dredging is necessary to obtain additional water area so as to decrease the intrusion into the lake of a public, private or marina dock. This type of dredging may only be allowed if the following conditions are met: The water of the dredged area shall not be stagnant or polluted; and the water of the dredged area shall be capable of supporting aquatic life.
 - iv. Dredging may be permitted where necessary for the development and maintenance of public shoreline parks and of private shorelines to which the public is provided access. Dredging may be permitted where additional public access is provided and/or where there is anticipated to be a significant improvement to fish or wildlife habitat, provided there is no net reduction upon the surface waters of the lake.
 - v. Dredging may be permitted to maintain water depth and navigability.
 - vi. Dredging is performed pursuant to a remedial action plan, approved under authority of the Model Toxics Control Act or pursuant to other authorization by the Department of Ecology, U.S. Army Corps of Engineer or other agency with jurisdiction.
- c. Prohibited Dredging:
 - i. Dredging is prohibited in unique or fragile areas (see RMC 4-11-210) except for the purposes identified in Subsection K.6.b of this Section where appropriate federal and/or state authorization has been received, and any required environmental review and mitigation is conducted.
 - ii. Dredging solely for the purpose of obtaining fill or construction material, which dredging is not directly related to those purposes permitted in Subsection K.6.b of this Section, is prohibited.
- d. Regulations on Permitted Dredging:

- i. Report by Engineer Required: All proposed dredging operations shall be planned by an appropriate state licensed professional engineer. An approved engineering report shall be submitted to the Renton Development Services Division as part of the application for a shoreline permit.
- ii. Applicant's Responsibility: The responsibility rests solely with the applicant to demonstrate the necessity of the proposed dredging operation.
- iii. Minimal Adverse Effect: The responsibility further rests with the applicant to demonstrate that there will be a minimal adverse effect on aquatic life and/or on recreational areas.
- iv. Timing: The timing of any dredging operation shall be planned so that it has minimal impact or interference with fish migration.
- v. Abutting Bank Protection: When dredging bottom material of a body of water, the banks shall not be disturbed unless absolutely necessary. The responsibility rests with the applicant to propose and carry out practices to protect the banks. If it is absolutely necessary to disturb the abutting banks for access to the dredging area, the responsibility rests with the applicant to propose and carry out a method of restoration of the disturbed area to a condition minimizing erosion and siltation.
- vi. Minimize Impacts: The responsibility rests with the applicant to demonstrate a method of eliminating or preventing conditions that may:
 - (a) Create a nuisance to the public or nearby activity.
 - (b) Damage property in or near the area.
 - (c) Cause substantial adverse effect to plant, animal, aquatic or human life in or near the area.
 - (d) Endanger public safety in or near the area.
- vii. Contamination: The applicant shall demonstrate a method to control contamination and pollution to water, air, and ground.
- viii. Disposal of dredged material: The applicant shall demonstrate a method of disposing of all dredged material. Dredged material shall not be deposited in a lake or stream except if the material is approved as part of a contamination remediation project approved by appropriate state and/or federal agencies. In no instance shall dredged material be stockpiled in a shoreland area. If the dredged material is contaminant or pollutant in nature, the applicant shall propose and carry out a method of disposal that does not contaminate or pollute water, air, or ground.

8. Landfills:

- a. When Permitted: Landfills shall be permitted in the following cases:
 - i. For detached single family residential uses, when the property is located between two (2) existing bulkheads, the property may be filled to the line of conformity provided the fill does not exceed one hundred twenty five feet (125') in length along the OHWM and

thirty five feet (35') into the water, and provided the provisions of RMC 4-9-197I4b(i) through 4-9-197I4b(vi) are satisfactorily met; or

ii. When a bulkhead is built to protect the existing perimeter land, a landfill shall be approved to bring the contour up to the desired grade; or

iii. When in a public use area, landfill would be advantageous to the general public; or

iv. When repairs or modifications are required for existing bulkheads and fills; or

v. When landfill is required for flood control purposes; or

vi. When a landfill is part of a remedial action plan approved by the Department of Ecology pursuant to the Model Toxics Control Act, or otherwise authorized by the Department of Ecology, U.S. Army Corps of Engineers, or other agency with jurisdiction.

vii. Justification for landfill for any other purpose than those listed in Subsections K.8.a.i through vi of this Section will be allowed only with prior approval of the Land Use Hearing Examiner.

15. Roads and Railroads:

a. Scenic Boulevards: Shoreline roadways should be scenic boulevards where possible.

b. Sensitive Design: Roadways and Railroads located in shoreland areas shall be limited and allowed only if the following conditions are met:

i. The proposed route is determined to have the least impact on the environment, while meeting City Comprehensive Plan Transportation Element requirements and standards in RMC 4-6-060; and

ii. The facility is designed and maintained to prevent soil erosion and to permit natural movement of groundwater.

iii. The crossing minimizes interruption of downstream movement of wood and gravel; and

iv. Roads and railroads in buffer areas shall not run parallel to the water body; and

v. Crossings occur as near to perpendicular with the water body as possible; and

vi. Crossings are designed according to the Washington Department of Fish and Wildlife Fish Passage Design at Road Culverts, 1999, and the National Marine Fisheries Service Guidelines for Salmonid Passage at Stream Crossings, 2000, as may be updated, or equivalent manuals as determined by the Responsible Official; and

vii. Seasonal work windows are determined and made a condition of approval; and

viii. Mitigation for impacts is provided pursuant to an approved mitigation plan per Subsection J.2.

c. Debris Disposal: All debris and other waste materials from construction are to be disposed of in such a way as to prevent their entry by erosion into any water body.

18. Utilities:

a. Native Vegetation: The native vegetation shall be maintained whenever possible. When utility projects are completed in the water or shoreland, the disturbed area shall be restored and landscaped as nearly as possible to the original condition, unless new landscaping is determined to be more desirable.

b. Landscaping: All vegetation and screening shall be hardy enough to withstand the travel of service trucks and similar traffic in areas where such activity occurs.

c. Screening of Public Utilities: When a public utility building, telephone exchange, sewage pumping operation or a public utility is built in the shoreline area, the requirements of this Master Program shall be met and the following screening requirements shall be met. If the requirements of Subsection K.18.a of this Section, Native Vegetation, and the requirements of this Subsection are in disagreement, the requirements of this Subsection shall take precedence.

i. If the installation is housed in a building, the building shall conform architecturally with the surrounding buildings and area, or with the type of building that will develop due to the zoning district.

ii. An unhoused installation on the ground or a housed installation that does not conform with Subsection K.18.c.i of this Section shall be sight screened with evergreen trees, shrubs, and landscaping planted in sufficient depth to form an effective and actual sight barrier within five (5) years.

iii. An unhoused installation of a dangerous nature, such as an electrical distribution substation, shall be enclosed with an eight foot (8') high open wire fence. Such installations shall be sight screened with evergreen trees, shrubs, and landscaping planted in sufficient depth to form an effective and actual sight barrier except at entrance gate(s), within five (5) years.

d. Special Considerations for Pipelines: Installation and operation of pipelines shall protect the natural conditions of abutting watercourses and shorelines.

i. Water quality is not to be degraded to the detriment of marine life nor shall water quality standards be violated.

ii. Native soils shall be protected from erosion and natural conditions restored. Watercourse banks and bottoms shall be protected, where necessary, with suitable surface treatment.

iii. Petro-chemical or toxic material pipelines shall have automatically controlled shutoff valves at each side of the water crossing.

iv. All petro-chemical or toxic material pipelines shall be constructed in accordance with the regulations of the Washington State Transportation Commission and subject to review by the City Public Works Department.

e. Major Utilities – Specifications:

i. Overhead High Voltage Power Lines: Structure of overhead power lines should be single-pole type or other aesthetically compatible design. Joint use docks and piers may extend to eighty feet (80) beyond the OHWM or to a depth of twelve feet (12), whichever is reached first.

ii. Electrical Distribution Substations: Electrical distribution substations shall be at a shoreland location only when the applicant proves there exists no other site out of the shoreland area and when the screening requirements of Subsection K.18.c of this Section are met.

iii. Communications: This Section applies to telephone exchanges including radar transmission installations, receiving antennas for cable television and/or radio, and any other facility for the transmission of communication systems. Communications installations may be permitted in the shoreline area only when there exists no feasible site out of the shoreline and water area and when the screening requirements of Subsection K.18.c of this Section are met. In an aesthetic interest, such installations shall be located as far as possible from residential, recreational, and commercial activities.

iv. Pipeline Utilities: All pipeline utilities shall be underground. When underground projects are completed on the bank of a water body or in the shoreland or a shoreline, the disturbed area shall be restored to the original configuration. Underground utility installations shall be permitted only when the finished installation shall not impair the appearance of such areas.

v. Public Access: All utility companies shall be asked to provide pedestrian public access to utility owned shorelines when such areas are not potentially hazardous to the public. Where utility rights-of-way are located near recreational or public use areas, utility companies shall be encouraged to provide said rights-of-way as parking or other public use areas for the abutting public use area.

f. Local Service Utilities, Specifications:

i. Waterlines: Sizes and specifications shall be determined by the Public Works Department in accordance with City standards.

ii. Sanitary Sewer: The existence or use of outhouses or privies is prohibited. All uses shall hook to the municipal sewer system. There shall be no septic tanks or other on-site sewage disposal systems. Storm drainage and pollutant drainage shall not enter the sanitary sewer system. During construction phases, commercial sanitary chemical toilets may be allowed only until proper plumbing facilities are completed. All sanitary sewer pipe sizes and materials shall be approved by the Renton Planning/Building/Public Works Department and METRO.

iii. Storm Sewers: A storm sewer drainage system shall be required. Pretreatment of storm runoff or diversion to sanitary sewers may be required to keep deleterious substances out of neighboring watercourses. Storm sewer sizes and specifications shall be determined by the Public Works Department in accordance with City standards.

iv. Discharges of Pollutants and Petroleum Products:

(a) Agency Review: Discharges of pollutants into watercourses and groundwater shall be subject to Ecology, Corps of Engineers, and the Environmental Protection Agency for review of permits for discharge.

(b) Oil Separations: These units shall be required at sites that have oil waste disposal into sanitary or storm sewer. These units shall be built to Municipality of Metropolitan Seattle (METRO) or State of Washington Department of Public Health specifications.

(c) Petroleum Bulk Storage and Distribution: Petroleum facilities shall hereafter not be allowed.

g. Local and Major Utilities – Location and Crossings: Local and Major Utilities shall be designed and developed according to the following criteria and meeting mitigation criteria of J.2:

i. Fish and wildlife habitat areas shall be avoided to the maximum extent possible; and

ii. The Utility is designed consistent with one or more of the following methods:

(a) Installation shall be accomplished by boring beneath the scour depth and hyporheic zone of the water body and channel migration zone; or

(b) The utilities shall cross at an angle greater than sixty (60) degrees to the centerline of the channel in streams or perpendicular to the channel centerline; or

(c) Crossings shall be contained within the footprint of an existing road or utility crossing ; and

iii. New utility routes shall avoid paralleling the stream or following a down-valley course near the channel; and

iv. The utility installation shall not increase or decrease the natural rate of shore migration or channel migration; and

v. Seasonal work windows are determined and made a condition of approval; and

vi. Mitigation for impacts is provided pursuant to an approved mitigation plan per Subsection J.2.

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APPENDIX E STATE LEVEL OF SERVICE

The State Environmental Policy Act (SEPA) requires local jurisdictions to assess and mitigate the impacts of new development projects, including impacts to traffic. Together, local jurisdictions and Washington State Department of Transportation (WSDOT) agree on an acceptable level of service (LOS). For highways of statewide significance (HSS), the LOS is set by law. A particular development could cause impacts to traffic on a highway segment or an intersection to fall below the LOS thresholds following:

- For HSS:
 - Urban Areas: LOS “D”;
 - Rural Areas: LOS “C”; or
- For Regionally Significant State Highways (non-HSS), the LOS thresholds adopted by the local Metropolitan Planning Organization/ Regional Transportation Planning Organization (MPO/RTPO) shall apply. In the absence of an adopted LOS threshold, the LOS for HSS shall apply. Where there is a specific inter-local agreement with WSDOT, the applicable LOS threshold levels are established by the agreement; and
- When a development affects a segment or intersection where the LOS is already below the applicable threshold, the predevelopment LOS will be used instead of the otherwise applicable deficiency level.

When a development will degrade the facility’s LOS below the applicable threshold, the facility will be considered deficient to support the development, and WSDOT and its partners will seek mitigation of traffic impacts. Mitigation can take the form of development constraints (for example, the appropriate financial contribution to transportation improvements constructed by others. Details on these and other mitigation strategies are contained in the WSDOT Design Manual.

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