SUNSET AREA COMMUNITY PLANNED ACTION

DRAFT NEPA/SEPA ENVIRONMENTAL IMPACT STATEMENT • DECEMBER 2010

Issued by:

City of Renton

NEPA Responsible Entity and
SEPA Lead Agency

Prepared in partnership with:

Renton Housing Authority

RENTON. AHEAD OF THE CURVE.

City of Renton

Community & Economic Development

Denis Law
Mayor

City of Renton

Department of Community and Economic Development
Alex Pietsch, Administrator

December 17, 2010

Subject: Sunset Area Community Planned Action

Dear EIS Recipient:

The City of Renton (City) in consultation with the Renton Housing Authority (RHA) has prepared the attached Draft Environmental Impact Statement (EIS). The City is acting as the Responsible Entity for compliance with the National Environmental Policy Act (NEPA) in accordance with 24 CFR §§ 58.1 and 58.4, and is the lead agency for compliance with the Washington State Environmental Policy Act (SEPA, RCW 43.21C).

The Draft EIS addresses the Sunset Area Community Planned Action, which includes redevelopment of RHA's Sunset Terrace public housing community and associated neighborhood growth and revitalization (proposal). Sunset Terrace's redevelopment provides the opportunity to evaluate the broader Sunset Area Community neighborhood and determine what future land use redevelopment is desirable and what public service and infrastructure improvements should be made to create a more vibrant and attractive community for residents, businesses, and property owners.

The EIS addresses the following topics: aesthetics; air quality, including greenhouse gas emissions; earth; energy, including natural gas and electricity; environmental health; environmental justice; historic/cultural resources; housing; land use; noise; parks and recreation; plants and animals; public services, including public education, safety, health, and social services; socioeconomics, including demographics, employment, and displacement; transportation; utilities, including wastewater, water supply, telecommunication; and water resources, including groundwater and surface water.

For each element of the environment, the EIS evaluates three alternatives.

Alternative 1 (No Action). RHA would develop affordable housing on two vacant properties, but it would not redevelop the Sunset Terrace public housing property. Very limited public investment would be implemented, resulting in lesser redevelopment across the Planned Action Study Area. A Planned Action would not be designated. The No Action Alternative is required to be studied under NEPA and SEPA.

Alternative 2. This alternative represents a moderate level of growth in the Planned Action Study Area based on investment in mixed-income housing and mixed uses in the Potential Sunset Terrace Redevelopment Subarea, targeted infrastructure and public services throughout the Planned Action Study Area, and adoption of a Planned Action Ordinance.

Alternative 3. This alternative represents the highest level of growth in the Planned Action Study Area, based on investment in the Potential Sunset Terrace Redevelopment Subarea with a greater number dwellings developed in a mixed-income, mixed-use style, major public investment in study area infrastructure and services, and adoption of a Planned Action Ordinance.

The affected environment and potential beneficial and adverse impacts of each alternative are identified as well as mitigation measures.

Some of the key environmental issues and options facing decision-makers include:

- **land use**—the appropriate mix of land use and housing in the Potential Sunset Terrace Redevelopment Subarea in the near term and the amount of growth in the Planned Action Study Area over 20 years;
- **transportation**—the type of multimodal and urban design improvements appropriate for NE Sunset Boulevard (SR 900);
- **stormwater drainage**—the type and location of natural stormwater infrastructure integrated in design of streets, parks, and new development;
- **other improvements**—the coordination of parks and schools facilities, the development of enhanced educational, recreational, and social services, and the improvement of utility systems; and
- **planned action**—the application of a planned action ordinance that would exempt future projects from SEPA threshold determinations or EISs when they are consistent with the Sunset Area Community EIS assumptions and mitigation measures.

Agencies, affected tribes, and members of the public are invited to comment on the Draft EIS. A 45-day comment period is established for the Draft EIS concluding **5:00 p.m., January 31, 2011**. Written comments should be directed to the contact person below.

Erika Conkling, AICP
Senior Planner
City of Renton Department of Community and Economic Development
1055 S Grady Way
Renton, WA 98057

(425)430-6578 voice (425)430-7300 fax
econkling@rentonwa.gov

A public hearing will be held for the public to provide verbal or written comment on the Draft EIS as well as on the proposed planned action ordinance. The public hearing will be held on **January 5, 2011, at 6:00 p.m.** before the Renton Planning Commission. The meeting will be held at the Council Chambers, 1055 S Grady Way, Renton, WA 98057.

Thank you for your interest in the Sunset Area Community.

Sincerely,

City of Renton Environmental Review Committee

Signature: Gregg Zimmerman
Gregg Zimmerman, Public Works Administrator

Signature:
Mark Peterson, Fire and Emergency Services Administrator

Signature:
Terry Higashiyama, Community Services Administrator

Signature:
Alex Pietsch, Community and Economic Development Administrator

City of Renton

DRAFT

SUNSET AREA COMMUNITY PLANNED ACTION NEPA/SEPA ENVIRONMENTAL IMPACT STATEMENT

PREPARED FOR:

City of Renton
NEPA Responsible Entity and SEPA Lead Agency
Department of Community and Economic Development
1055 S. Grady Way
Renton, WA 98057

In partnership with

Renton Housing Authority
2900 Northeast 10th Street
Renton, Washington 98056

PRINCIPAL AUTHORS:

CH2MHill Project Manager
ICF International EIS Lead

December 2010

CH2MHill and ICF International. 2010. Sunset Area Community Planned Action NEPA/SEPA Environmental Impact Statement. Draft. December. (ICF 00593.10.) Bellevue and Seattle, WA. Prepared for City of Renton and the Renton Housing Authority, Renton, WA.

Fact Sheet

Project Title

Sunset Area Community Planned Action

Proposal and Alternatives

This Draft Environmental Impact Statement (EIS) addresses the Sunset Area Community Planned Action, which includes redevelopment of the Sunset Terrace public housing community and associated neighborhood growth and revitalization (proposal). Sunset Terrace's redevelopment provides the opportunity to evaluate the broader Sunset Area Community neighborhood and determine what future land use redevelopment is desirable and what public service and infrastructure improvements should be made to create a more vibrant and attractive community for residents, businesses, and property owners.

The objective of the proposal is to promote the redevelopment of public housing, implement infrastructure improvements throughout the Planned Action Study Area, and facilitate planning and environmental review for the Planned Action Study Area. The proposal is reviewed in terms of three alternatives.

- **Alternative 1, No Action.** The No Action Alternative represents conditions where Sunset Terrace public housing redevelopment would not occur, and very limited public investment would be implemented in the neighborhood (e.g., some community services but no NE Sunset Boulevard or master drainage plan improvements), resulting in lesser redevelopment across the Planned Action Study Area. A Planned Action would not be designated. The No Action Alternative is required to be studied under the National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA).
- **Alternative 2.** This alternative represents a moderate level of growth in the Planned Action Study Area based on investment in mixed-income housing and mixed uses in the Potential Sunset Terrace Redevelopment Subarea, targeted infrastructure and public services throughout the Planned Action Study Area, and adoption of a Planned Action Ordinance.
- **Alternative 3.** This alternative represents the highest level of growth in the Planned Action Study Area, based on investment in the Potential Sunset Terrace Redevelopment Subarea with a greater number dwellings developed in a mixed-income, mixed-use style, major public investment in study area infrastructure and services, and adoption of a Planned Action Ordinance.

Location

The Sunset Terrace public housing community is generally bounded by Sunset Lane NE and Glenwood Avenue NE on the north, NE 10th Street on the east, NE Sunset Boulevard (State Route [SR] 900) on the south, and Edmonds Avenue NE on the west.

The Sunset Terrace public housing community is part of the Sunset Area Community neighborhood. This broader neighborhood is the Planned Action Study Area considered in this EIS; it is generally bounded by NE 21st Street on the north, Monroe Avenue NE on the east, NE 7th Street on the south, and Edmonds Avenue NE.

Proponent

The Renton Housing Authority (RHA) is the proponent of the proposal's primary development action, the redevelopment of the existing Sunset Terrace public housing community. In accordance with specific statutory authority and the U.S. Department of Housing and Urban Development's (HUD's) regulations at 24 CFR part 58, the City of Renton (City) is authorized to assume responsibility for environmental review, decision-making, and action that would otherwise apply to HUD under NEPA, which includes NEPA lead agency responsibility.

As the entity responsible for public service and infrastructure improvements for Sunset Terrace and the broader Sunset Area Community neighborhood and for regulating private neighborhood redevelopment, the City is the proponent of the broader Planned Action that would streamline local permitting and environmental review under SEPA (RCW 43.21C). The City implements SEPA and NEPA, and is performing joint NEPA/SEPA environmental review in this EIS.

The City, in partnership with RHA and other agencies, intends to use federal funds from several HUD programs to help finance proposed project activities.

Lead agency for NEPA and SEPA Compliance

City of Renton

Responsible Official

City of Renton Environmental Review Committee

Contact Person

Erika Conkling, AICP
Senior Planner
City of Renton Department of Community and Economic Development
1055 S. Grady Way
Renton, WA 98057
(425)430-6578 voice (425)430-7300 fax
econkling@rentonwa.gov

Required Approvals

The following permits and/or approvals could be required for the proposals. Additional permits/approvals may be identified during the review process associated with future implementing development projects.

Planned Action Study Area

To implement the proposals, the following must be approved by the City:

- adoption of Comprehensive Plan Amendments regarding capital facility and transportation improvements required in association with projected growth,
- adoption of NE Sunset Boulevard Conceptual Plan,
- adoption of a drainage master plan, and

- adoption of a Planned Action Ordinance.

Prior to City action, the State of Washington Department of Commerce would coordinate state agency review of any Comprehensive Plan Amendments or development regulations. After the City action, the likely permits to be acquired by individual development proposals in the Planned Action Study Area include but are not limited to, land use permits, construction permits, building permits, and street use permits.

Potential Sunset Terrace Redevelopment Subarea

Federal Agencies

Department of Housing and Urban Development

- Record of Decision
- Approval of Request for Release of Funds
- Demolition/Disposition Application
- Approval of Sunset Terrace project-related certifications

National Marine Fisheries Service

- Endangered Species Act Consultation

State and Regional Agencies

Department of Ecology

- NPDES/Stormwater General Permit

Department of Archaeology and Historic Preservation

- Historic and cultural resources consultation

Puget Sound Regional Council

- Asbestos surveys
- Demolition permits

City of Renton

- Site plan approval
- Building, fire, electrical permits

EIS Authors and Principal Contributors

This document has been prepared under the direction of the City Department of Community and Economic Development with consultation of RHA. Key authors and topics are listed below.

CH2MHill

1100 112th Ave NE # 400
Bellevue, WA 98004-4511
(425) 453-5000

(Project management, earth, water resources, environmental health, socioeconomics, environmental justice, parks and recreation, transportation, and utilities)

ICF International

710 Second Avenue, Suite 550
Seattle, WA 98104
(206) 801-2800

(EIS lead, air quality, plants and animals, energy, noise, land use, housing, aesthetics, historic/cultural, public services)

Mithun

1201 Alaskan Way, Suite 200
Seattle, WA 98101

(Sunset Terrace Alternative 2)

Weinman Consulting LLC

9350 S.E. 68th Street
Mercer Island, WA 98040
(206) 295-0783
(NEPA compliance, Planned Action Ordinance)

Date of Draft EIS Issuance

December 17, 2010

Date Comments Due

January 31, 2011

Public Comment

The City will accept written comments from issuance of this Draft EIS on December 17, 2010, until 5:00 p.m., January 31, 2011. Written comments can be mailed to the City of Renton Environmental Review Committee care of the contact person below:

Erika Conkling, AICP
Senior Planner
City of Renton Department of Community and Economic Development
1055 S. Grady Way
Renton, WA 98057
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A public hearing will be held for the public to provide verbal or written comment on the Draft EIS as well as on the proposed planned action ordinance. The public hearing will be held on January 5, 2011, at 6:00 p.m. before the Renton Planning Commission. The meeting will be held at the Council Chambers, 1055 S Grady Way, Renton, WA 98057.

Date of Implementation

Approval of City actions is anticipated by May 2011.

Previous Environmental Documents

Prior environmental review was conducted for the Comprehensive Plan and subsequent amendments, including the following documents:

- Mitigated Determination of Non-Significance, Harrington Square, September 2, 2003; and
- Determination of Non-Significance, Comprehensive Plan and Zoning Amendments for Highlands Area, November 6, 2006.

When appropriate, prior environmental documents were considered in the preparation of this Draft EIS.

Location of Background Information

See Contact Person above.

Purchase of the Draft EIS

The document is posted on the City's website at http://rentonwa.gov/business/default.aspx?id=2060. Reference copies and copies for purchase (for the cost of production) are also available at Renton City Hall, Department of Community and Economic Development, 1055 S. Grady Way, Renton, WA, 98057.

The document is also available as a reference at:

- Renton Housing Authority offices, 2900 Northeast 10th Street, Renton, WA 98056
- Highlands Brach Library, 2902 NE 12th Street, Renton, WA 98056
- Renton Library, 100 Mill Avenue South, Renton, WA 98057

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Chapter 1
Summary

1.1 Introduction

This Draft Environmental Impact Statement (EIS) addresses the Sunset Area Community Planned Action, which includes redevelopment of the Sunset Terrace public housing community and associated neighborhood growth and revitalization (proposal). Sunset Terrace's redevelopment provides the opportunity to evaluate the broader Sunset Area Community neighborhood and determine what future land use redevelopment is desirable and what public service and infrastructure improvements should be made to create a more vibrant and attractive community for residents, businesses, and property owners.

This chapter provides a summary of the Draft EIS for the Sunset Area Community Planned Action. It briefly describes the proposal and alternatives and contains an overview of significant environmental impacts identified for the alternatives. Please see Chapter 2 for a more detailed description of the proposal and alternatives and Chapter 4 for a detailed presentation of impacts of the proposal and alternatives as well as mitigation measures and significant unavoidable adverse impacts remaining after mitigation.

1.2 Proponent

The Renton Housing Authority (RHA) is the proponent of the proposal's primary development action, the redevelopment of the existing Sunset Terrace public housing community.

As the entity responsible for public service and infrastructure improvements for Sunset Terrace and the broader Sunset Area Community neighborhood and for regulating private neighborhood redevelopment, the City of Renton (City) is the proponent of the broader Planned Action that would streamline local permitting and environmental review under Washington State Environmental Policy Act (SEPA; Revised Code of Washington [RCW] 43.21C). The City implements SEPA and the National Environmental Policy Act (NEPA), and is performing joint NEPA/SEPA environmental review in this EIS.

1.2.1 Project Location

The Sunset Terrace public housing community is generally bounded by Sunset Lane NE and Glenwood Avenue NE on the north, NE 10th Street on the east, NE Sunset Boulevard (State Route 900) on the south, and Edmonds Avenue NE on the west.

The Sunset Terrace public housing community is part of the Sunset Area Community neighborhood. This broader neighborhood is the Planned Action Study Area considered in this EIS; it is generally bounded by NE 21st Street on the north, Monroe Avenue NE on the east, NE 7th Street on the south, and Edmonds Avenue NE to the west. The Sunset Area Community neighborhood is part of northeast Renton and is also known as or referred to as the Highlands area.

The Planned Action Study Area has been broken down into subareas to allow the EIS discussion to distinguish the site-specific redevelopment of the Sunset Terrace property from the broader programmatic actions occurring throughout the Planned Action Study Area. The five subareas are shown in Chapter 2 on Figure 2-1 and described below.

- **Potential Sunset Terrace Redevelopment Subarea** includes the Sunset Terrace public housing site and adjacent vacant or non-RHA owned properties being considered for redevelopment into a mixed-use, mixed-income community. This subarea is being analyzed at a site-specific level, and is the primary action under review in this EIS for NEPA purposes.
- **Sunset Mixed Use Subarea** encompasses larger parcels with a mix of uses that are centered on NE Sunset Boulevard (State Route 900).
- **Central Subarea** is a multifamily area containing the current Highlands Library. This subarea is adjacent to the Potential Sunset Terrace Redevelopment and Sunset Mixed Use subareas.
- **North Subarea** is made up of lower-density residential north of the Central and Sunset Mixed Use subareas, but also includes park and educational facilities.
- **South Subarea** is a mostly lower-density residential district located south of NE Sunset Boulevard that includes park and educational facilities.

1.3 Proposal Overview

The proposal is to redevelop the Sunset Terrace public housing community as part of a Planned Action. Redevelopment of the public housing community and adoption of a Planned Action Ordinance would encourage redevelopment in the Planned Action Study Area through land use transformation and growth, public service and infrastructure improvements, and a streamlined environmental review process. The components of the proposal are described below.

1.3.1 Sunset Terrace Redevelopment

The proposal includes redevelopment of RHA's Sunset Terrace public housing community, a 7.3-acre property with 100 existing units contained in 27, 50-year-old, two-story buildings, located at the intersection of NE Sunset Boulevard and Harrington Avenue NE. RHA also owns additional vacant and residential land (approximately 3 acres with two dwelling units) along Edmonds Avenue NE, Glenwood Avenue NE, and Sunset Lane NE, and proposes to purchase additional property adjacent to Sunset Terrace, along Harrington Avenue NE (which contains about 8 dwellings)[1]; RHA plans to incorporate these additional properties into the Sunset Terrace redevelopment for housing and associated services.

Conceptual plans currently propose redevelopment of Sunset Terrace and adjacent properties with mixed-income, mixed-use residential and commercial space and public amenities. The redevelopment would include a 1-to-1 unit replacement for all 100 existing public housing units, some of which would occur on site and some of which would occur elsewhere in the Planned Action Study Area. It is expected that, with the Sunset Terrace property and associated properties owned or purchased by RHA, up to 479 additional new units could be constructed with a portion of the units being public, affordable, and market-rate. Public amenities would be integrated with the residential

[1] Only proposed under Alternative 3, described in Section 1.4.

development and could include the following: a community gathering space or "third place;" civic facilities such as a community center, senior center, and/or public library space; a new park/open space; retail shopping and commercial space; and green infrastructure.

1.3.2 Other Components of the Planned Action

As a result of the Sunset Terrace redevelopment, it is expected that private redevelopment in the 269-acre Planned Action Study Area would be catalyzed over a 20-year period. Public service and infrastructure investments that would support both Sunset Terrace redevelopment and redevelopment elsewhere in the Planned Action Study Area include: planned or anticipated upgrades to NE Sunset Boulevard and other local streets; stormwater drainage systems; neighborhood parks and recreation facilities; and neighborhood community facilities that may offer education, library, or social services. While some improvements have been anticipated in City plans, some have not (e.g., drainage master plan). To recognize proposed capital improvements, the City will make associated Comprehensive Plan amendments such as to the Capital Facilities and Transportation elements as part of the Planned Action process.

1.3.3 Planned Action Ordinance

The City is also proposing to adopt a Planned Action Ordinance pursuant to SEPA. A Planned Action Ordinance, if adopted, would exempt future projects from SEPA threshold determinations or EISs, if they are determined to be consistent with the Sunset Area Community Planned Action EIS assumptions and mitigation measures. By streamlining the redevelopment permit process, the Planned Action Ordinance would increase the likelihood that planned public agency investments would lead to a transformation of the community.

1.4 Proposal Alternatives

This section describes the Draft EIS alternatives and identifies the key land use and infrastructure elements of each.

The proposal is to promote the redevelopment of public housing, implement infrastructure improvements throughout the Planned Action Study Area, and facilitate planning and environmental review for the Planned Action Study Area. The proposal is reviewed in terms of three alternatives.

- **Alternative 1, No Action.** The No Action Alternative represents conditions where Sunset Terrace public housing redevelopment would not occur, and very limited public investment would be implemented in the neighborhood (e.g., some community services but no NE Sunset Boulevard or master drainage plan improvements), resulting in lesser redevelopment across the Planned Action Study Area. A Planned Action would not be designated. The No Action Alternative is required to be studied under NEPA and SEPA.
- **Alternative 2.** This alternative represents a moderate level of growth in the Planned Action Study Area based on investment in mixed-income housing and mixed uses in the Potential Sunset Terrace Redevelopment Subarea, targeted infrastructure and public services throughout the Planned Action Study Area, and adoption of a Planned Action Ordinance.
- **Alternative 3.** This alternative represents the highest level of growth in the Planned Action Study Area, based on investment in the Potential Sunset Terrace Redevelopment Subarea with a

greater number dwellings developed in a mixed-income, mixed-use style, major public investment in study area infrastructure and services, and adoption of a Planned Action Ordinance.

Each alternative is described in more detail below.

1.4.1 Alternative 1: No Action

Alternative 1 would continue the current City Comprehensive Plan land use designations and zoning classifications for the Planned Action Study Area, with limited public investment in redevelopment of the Sunset Terrace public housing and in civic and infrastructure improvements in the Planned Action Study Area. With a low level of public investment, private investment in businesses and housing would be limited and would occur incrementally at scattered locations in the Planned Action Study Area. Land use form would largely continue to consist of single-use residential and single-use commercial developments with an occasional mix of uses. The development pattern would begin to transition incrementally from its current suburban pattern to a village center, but this transition would occur slowly over time due to the relatively low level of investment in public housing redevelopment and Planned Action Study Area improvements. A Planned Action would not be designated and each proposed development would be subject to individual environmental review. Some pedestrian- and transit-oriented development would occur, but it would be the exception rather than the rule, because new development would represent a small portion of the overall Planned Action Study Area. More piecemeal development could preclude opportunities for leveraging and combining strategies among individual projects.

In the Potential Sunset Terrace Redevelopment Subarea, RHA would develop affordable housing and senior housing with supporting health services on two vacant properties, but it would not redevelop the Sunset Terrace public housing property. The City would not make major infrastructure improvements. NE Sunset Boulevard would continue to emphasize vehicular mobility with less attention on pedestrian and transit facilities and limited aesthetic appeal (e.g., sparse landscaping). Drainage systems would continue as presently configured; any improvements would be localized, incremental, and in compliance with the City's existing stormwater regulations.

The current Highlands Library would be relocated from the Central Subarea to another location in the Planned Action Study Area; since a new site has not been selected, the Draft EIS assumes a new community services building in the study area of sufficient size to house a library or other social service. Parks and recreation services would largely continue as they exist today.

1.4.2 Alternative 2

Alternative 2 provides for a moderate level of mixed-income housing and mixed uses in the Planned Action Study Area, while continuing the current City Comprehensive Plan land use designations and zoning classifications for the Planned Action Study Area. Infrastructure and public services would be improved in a targeted manner in the Planned Action Study Area. Stand-alone residential uses and local-serving commercial development would continue but would be interspersed with mixed-use development at identified nodes throughout the Planned Action Study Area such as the Potential Sunset Terrace Redevelopment Subarea and portions of NE Sunset Boulevard. Densities of new development would occur at moderate urban levels that are pedestrian- and transit-oriented. The environmental review process for development would be streamlined under a Planned Action Ordinance.

RHA would redevelop the Sunset Terrace public housing community according to a master plan on properties it currently owns; the redevelopment would allow for new public, affordable and market-rate housing accommodating a mixed-income community. All 100 existing public housing units would be replaced at a 1-to-1 ratio; some would occur on the current Sunset Terrace public housing property and some elsewhere in the Planned Action Study Area; a duplex would be replaced with affordable townhouse units. An estimated 310 new dwellings would be developed in the Potential Sunset Terrace Redevelopment Subarea, with more moderate-density flats and townhomes at a combined density of approximately 40 units per acre. New public amenities would include civic and community facilities, which may include a single-use library building with a plaza and/or a community services center/office building, as well as ground-floor retail, as required by zoning, and a proposed 0.89-acre park. Senior housing on RHA's Piha site (See Chapter 2, Section 2.7.2.2) would include supportive health services.

NE Sunset Boulevard would be improved to meet the intent of the City Complete Streets standards (Renton Municipal Code [RMC] 4-6-060). Improvements would largely occur within the current right-of-way and would allow for signal improvements, expanded sidewalks, greater landscaping, new transit shelters and street furniture, pedestrian- and street-level lighting, a bike lane/multi-purpose trail in one direction, consolidated driveways, and a center median with left-turn vehicle storage. No on-street business parking would be available (consistent with current conditions).

Natural stormwater infrastructure would be integrated in design of streets, parks, and new development. Options for green infrastructure are addressed in Chapter 2, Section 2.7.2.4.

Active and passive recreation opportunities would be retained and enhanced through coordination between the Renton School District and the City such as through a joint-use agreement. Possible locations for enhancement include a reconfigured Hillcrest Early Childhood Center and North Highlands Park and repurposed public properties or acquired private properties in areas where demand for recreation is anticipated to be higher.

1.4.3 Alternative 3

Alternative 3 provides for a high level of growth in the Planned Action Study Area while maintaining the current City Comprehensive Plan land use designations and zoning classifications for the Planned Action Study Area. RHA would redevelop the Sunset Terrace public housing community as part of redevelopment of the entire Potential Sunset Terrace Redevelopment Subarea into a mixed-income, mixed-use development according to a master plan. This alternative also includes major public investment in Planned Action Study Area transportation, drainage, sewer, water, cultural, educational, and parks and recreation facilities. This public investment in Sunset Terrace and neighborhood infrastructure and services would catalyze private property reinvestment at a greater scale and realize the existing permitted zoning uses and density, which would create greater opportunities for market-rate and affordable homeownership and rental housing opportunities, and for local and regional shopping opportunities. Land use patterns would be of an urban intensity focused along the NE Sunset Boulevard corridor and allow for vertical and horizontal mixed uses. Similar to Alternative 2, environmental review of development would be streamlined with a Planned Action Ordinance.

It is expected that, with the Sunset Terrace property and associated properties owned or purchased by RHA, up to 479 additional new units could be created, some of which would be public, affordable, and/or market-rate, resulting in a density of approximately 52 units per acre. The existing 100

public housing units would be replaced at a 1-to-1 ratio. Replacement of the public housing units would occur on the current public housing site and elsewhere in the Planned Action Study Area; the other duplex units located adjacent to Sunset Terrace would be replaced with townhouse units, some affordable and some market-rate. Public amenities would be integrated with the residential development and could include the following: a community gathering space in a vacated Harrington Avenue NE (at Sunset Lane NE), a new recreation/community center and senior center, a new public library in a mixed-use building, a new park and open space, retail shopping and commercial space, and/or green infrastructure. The civic and recreation spaces could act as a "third place."

A "family village" in the North Subarea would provide an opportunity for integrated reinvestment in housing, education, recreation, and supportive services designed to promote a healthy, walkable, and neighborhood-friendly community.

NE Sunset Boulevard would be transformed to improve all forms of mobility and to create an inviting corridor through urban design amenities. A wider right-of-way would allow for intersection improvements, bike lanes in both directions, and sidewalks. Improvements to traffic operations at intersections would prioritize transit vehicles; there would also be a planted median with left-turn storage, and u-turns. Improved sidewalks and crosswalks together with streetscape elements such as street trees, transit shelters, street furniture, public art, and lighting would promote walkability. Added bike lanes would promote nonmotorized transportation.

Natural stormwater infrastructure would be integrated in design of streets, parks, and new development. Options for green infrastructure are addressed in Section 2.7.2.4.

Active and passive recreation opportunities would be retained and enhanced. For example, the family village concept would allow for blending of education services outside the conventional K–12 spectrum such as early childhood education, the North Highlands Park, and RHA senior housing. Joint-use agreements could be forged between the City and the Renton School District to allow for public use of school grounds for parks and recreation purposes during non-school hours. When public properties are no longer needed for present uses, they could be repurposed for parks and recreation.

1.5 Summary of Impacts

Table1-1 highlights the impacts that would potentially result from the alternatives analyzed in this Draft EIS. The summary table is not intended to be a substitute for the complete discussion of each element that is contained in Chapter 4.

Table 1-1. Impacts of Alternatives

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.1 Earth						
Construction	Erosion could increase as a result of soil disturbance; however, much of the existing soils are glacial outwash materials with low erosion potential. Codified best management practices minimize the potential for both erosion and erosion transport to waterways.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
	Construction could require import and export of earth materials; however, with minimal planning and protection, the outwash soils in most of the study area could be reused as backfill, minimizing import and export.	Similar to Planned Action Study Area. The underlying glacial outwash soils have the highest potential for reuse within the Planned Action Study Area.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
	There is an increased risk of landsliding due to soil disturbance, changing drainage, or temporarily oversteepening slopes. However, a relatively small proportion of the study area is considered either steep slope or erosion hazard. Both the glacial outwash and till soils are generally strong and of low concern regarding slope instability.	There are no mapped geologic hazards, and thus a low potential for impacts.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Operations	Active seismicity in the Planned Action Study Area would require that inhabited structures, including buildings, bridges, and water tanks, be designed to withstand seismic loading.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Indirect	The major steep slope, erosion, and landslide hazard areas within the Planned Action Study Area extend beyond the study area boundaries. Development on the slope above (inside) the study area boundary could increase the risk of erosion and landsliding downslope (outside) of the study area.	There are no mapped geologic hazards, and thus a low potential for impacts.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Cumulative	Same as indirect impacts above, intensive development around this hazard area outside of the Planned Action Study Area by other projects is not currently anticipated, but could increase the risk of erosion and landsliding.	There are no mapped geologic hazards, and thus a low potential for impacts.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
4.2 Air Quality						
Construction	Dust from excavation and grading could cause temporary, localized increases in the ambient concentrations of fugitive dust and suspended particulate matter.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but the higher level of development would result in a greater increase in localized air pollutant emissions.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but with the highest level of development of the studied alternatives, increases in localized air pollutant emissions from construction would also be highest.	Same as Planned Action Study Area
	Construction activities would likely require the use of diesel-powered, heavy trucks and smaller equipment such as generators and compressors. These engines would emit air pollutants that could slightly degrade local air quality in the immediate vicinity of the activity.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but the higher level of development would result in a greater increase in localized air pollutant emissions.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but with the highest level of development of the studied alternatives, increases in localized air pollutant emissions from construction would also be highest.	Same as Planned Action Study Area
	Some construction activities could cause odors detectible to some people in the vicinity of the activity, especially during paving operations using tar and asphalt. Such odors would be short-term and localized.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but the higher level of development would result in a greater increase in localized air pollutant emissions.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but with the highest level of development of the studied alternatives, increases in localized air pollutant emissions from construction would also be highest.	Same as Planned Action Study Area
	Construction equipment and material hauling could temporarily increase traffic flow on city streets adjacent to a construction area. If construction delays traffic enough to significantly reduce travel speeds in the area, general traffic-related emissions would increase.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but the higher level of development would result in a greater increase in localized air pollutant emissions.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 1, but with the highest level of development of the studied alternatives, increases in localized air pollutant emissions from construction would also be highest.	Same as Planned Action Study Area

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Operations						
Emissions from Commercial Operations	Stationary equipment, mechanical equipment, and trucks at loading docks at office and retail buildings could cause air pollution issues at adjacent residential property. However, new commercial facilities would be required to register their pollutant-emitting equipment and to use best available control technology to minimize emissions.	Same as Planned Action Study Area	Operation impacts would be similar to Alternative 1, but the higher level of development result in a greater increase in localized air pollutant emissions from commercial activities.	Same as Planned Action Study Area	Operation impacts would be similar to Alternative 1, but the highest level of development of the studied alternatives increases in localized air pollutant emissions from commercial activities would also be highest.	Same as Planned Action Study Area
Emissions From Vehicle Travel	Tailpipe emissions from vehicles would be the major source of air pollutant emissions associated with growth. Alternative 1 would produce 146,949 vehicle miles travelled (VMT), less than 1% of the Puget Sound regional 2030 VMT forecast. This would not alter Puget Sound Regional Council's conclusion that future regional emissions will be less than the allowable emissions budgets of air quality maintenance plans.	The forecasted VMT from the subarea is only a small fraction of the Puget Sound regional totals. Future emissions from increased population and motor vehicles in the subarea would not cause significant regional air quality impacts.	The forecasted population and VMT for Alternative 2 are slightly higher than the forecasted values for Alternative 1. The net increases in VMT forecast as a result of this alternative are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog.	Same as Planned Action Study Area	The forecasted population and VMT for Alternative 3 are the highest of the studied alternatives. However, the net increases in VMT forecast as a result of Alternative 3 are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog.	Same as Planned Action Study Area
Air Quality Attainment Status	Land use density and population would increase in the Planned Action Study Area; however, these increases represent only a small fraction of the Puget Sound regional totals. Furthermore, this alternative would not result in land use changes that include unusual industrial developments. Therefore, development in the Planned Action Study Area would not cause a substantial increase in air quality concentrations that would result in a change in air quality attainment status.	Same as Planned Action Study Area.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Greenhouse Gas Emissions: Study Area and Subarea	Alternative 1 is estimated to result in 20,512 metric tons/year of greenhouse gas (GHG) emissions for the Planned Action Study Area.	Alternative 1 is estimated to produce 2,412 metric tons/year of GHG emissions for the subarea.	Greater growth under this alternative would result in estimated 29,227 metric tons/year of GHG emissions.	Greater growth under this alternative would result in an estimated 4,439 metric tons/year of GHG emissions.	With the highest level of growth of the studied alternatives, this alternative would result in an estimated to 45,166 metric tons/year of GHG emissions.	With the highest level of growth of the studied alternatives, Alternative 3 would result in an estimated 6,612 metric tons/year of GHG emissions.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Outdoor Air Toxics	The Planned Action Study Area is in a mixed-use residential and commercial zone that does not include unusual sources of toxic air pollutants. The major arterial street through the Planned Action Study Area (NE Sunset Boulevard) does not carry an unusually high percentage of heavy-duty truck traffic. Thus, Alternative 1 would not expose existing or future residents to disproportionately high concentrations of toxic air pollutants generated by local emission sources.	Impacts on outdoor air toxics would be similar to those described for the Planned Action Study Area.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Indoor Air Toxics	See Potential Sunset Terrace Redevelopment Subarea	RHA development of affordable housing on two vacant properties in the subarea would be constructed according to local building codes that require adequate insulation and ventilation. Regardless, studies have shown that residents at lower-income developments often suffer higher rates of respiratory ailments than the general public. Therefore, the City and RHA will explore measures to improve indoor air quality beyond what is normally achieved by simply complying with building codes.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Indirect and Cumulative						
Greenhouse Gas Emissions: Subarea, Study Area, and Region[2]	For this analysis, Alternative 1 represents the future no-action scenario that is used as the basis of comparison to evaluate future GHG emissions from the action alternatives.	Same as Planned Action Study Area	More transit-oriented development in the study area under this alternative would reduce regional GHG emissions compared to Alternative 1, a net reduction of 1,724 metric tons/year.	More transit-oriented development in the subarea under this alternative would reduce regional GHG emissions compared to Alternative 1, a net reduction of 225 metric tons/year.	With the highest level of transit-oriented development in the study area of the studied alternatives, this alternative would provide the greatest regional GHG emission reductions, a net reduction of 4,164 metric tons/year.	With the highest level of transit-oriented development in the subarea of the alternatives studied, this alternative would provide the greatest reduction in regional GHG emissions, a net reduction of 467 metric tons/year.

[2] For purposes of comparing the beneficial reductions in regional GHG emissions, it is important to balance future growth outside the study area as well as within the study area. It was assumed that the lower amount of future developed square footage in the study area under Alternative 1 and Alternative 2 would be balanced by developers constructing equal square footage elsewhere in the Puget Sound region in response to assumed market demand for housing, office, and commercial space. Thus, the total amount of future additional regional square footage was balanced to the same values for all alternatives; however, under Alternatives 2 and 3, more of the development (TOD) would be inside the study area.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.3 Water Resources						
Construction	Construction impacts on water resources would be addressed through compliance with Core Requirement #5 for Erosion and Sediment Control in the Renton Stormwater Manual and compliance with Ecology's NPDES Construction Stormwater General Permit, if the project results in 1 acre or more of land-disturbing activity. Also see 4.1, Earth, above.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Operations						
Water Quality and Land Cover	The resulting net change in pollution-generating impervious area within the Planned Action Study Area (not including the Potential Sunset Terrace Redevelopment Subarea) is estimated to be a reduction of approximately 7.0 acres (7.9%) from existing conditions due to non-roadway-related projects. The net change in effective impervious area would be an increase of approximately 3.75 acres (2.3%) from existing conditions.	There would be no change in the total area of pollution generating surfaces remaining untreated. Presuming that the planned projects that are part of this alternative cannot fully infiltrate or disperse runoff, the estimated change in effective impervious area would result in an increase of approximately 1.5 acres (33%) over existing conditions.	Implementation of the green connections and the NE Sunset Boulevard reconstruction project is estimated to result in a net reduction of approximately 14.7 acres of untreated pollution-generating impervious area and approximately 4.1 acres of effective impervious area. The resulting net change in pollution-generating impervious area within the study area (exclusive of the Sunset Terrace Redevelopment Subarea) is estimated to be a reduction of approximately 40.5 acres (46%) from existing conditions. The net change in effective impervious area would be an increase of approximately 1.0 acre (0.6%) from existing conditions.	All untreated pollution-generating impervious surfaces within the subarea would be eliminated, resulting in a reduction of 1.83 acres of untreated pollution-generating surface from the Johns Creek Basin. The estimated change in effective impervious area would result in an increase of approximately 0.56 acre (12%) over existing conditions.	Implementation of the green connections and the NE Sunset Boulevard reconstruction project is estimated to result in a net reduction of approximately 14.7 acres of untreated pollution-generating impervious area (similar to Alternative 2) and approximately 6.6 acres of effective impervious area. The resulting net change in pollution-generating impervious area within the study area (exclusive of the Sunset Terrace Redevelopment Subarea) is estimated to be a reduction of approximately 40.5 acres (46%) from existing conditions. The net change in effective impervious area would be an increase of approximately 1.3 acres (0.8%) from existing conditions.	Under this alternative all untreated pollution-generating impervious surfaces within the subarea would be eliminated, resulting in a reduction of 1.83 acres of untreated pollution-generating surface from the Johns Creek Basin. The estimated change in effective impervious area would result in a decrease of approximately 0.51 acre (11%) compared to existing conditions.
Indirect and Cumulative	The operations analysis above presents cumulative impacts in terms of total impervious surfaces and potential water quantity and quality impacts, as well as indirect impacts on receiving water bodies outside of the study area. Alternative 1 assumes application of the City stormwater code to reduce the potential impacts of increased impervious area within the study area.	Same as Planned Action Study Area	Same as Alternative 1, except that Alternative 2 would implement a drainage master plan that provides mitigation in advance of development through public infrastructure investments in the green connections.	Same as Alternative 1	Same as Alternative 1, except that Alternative 3 would implement a drainage master plan, and mitigation would be provided in advance through the self-mitigating public stormwater infrastructure features including a combination of green connections, regional stormwater flow control, and possible public-private partnership opportunities for retrofits.	Same as Alternative 1

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.4 Plants and Animals						
Construction	Individual redevelopment projects would result in short-term loss of vegetation cover, along with noise and activity levels that would result in little or no use of the construction areas by wildlife during the period of construction. Redevelopment actions would be required to comply, during construction, with City regulations requiring temporary erosion and sedimentation controls to prevent water quality impacts from work site stormwater runoff.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Operations	Redevelopment activities that would be expected to occur under Alternative 1 would have a small effect on plant or wildlife habitat in the area given the already developed character and little vegetation. The expected small reduction in habitat combined with a small improvement in habitat quality due to stormwater codes and urban forestry plans is likely to result in no measurable change in the variety or population sizes of wildlife species occurring in the study area.	Same as Planned Action Study Area	Redevelopment activities that would be facilitated under the planned action ordinance would have a limited effect on plant or wildlife habitat in the Planned Action Study Area. New development being designed as Low Impact Development (LID) is likely to result in a measurable decline in total vegetated area, accompanied by a measurable improvement in plant diversity and quality of the remaining habitat. There would also be some restructuring of wildlife habitat continuity compared to Alternative 1.	Same as Planned Action Study Area	Impacts on plants, wildlife, and fish would be very similar to those described under Alternative 2, but would be substantially greater due to the greater projected density increase. Green connections and urban forestry plans offset to some degree by greater redevelopment, the net result is likely to be a reduction in habitat connectivity and a decline in total vegetated area, albeit with some improvement in plant diversity and quality of the remaining habitat. Largely due to the absence of impacts on special-status species, effects on wildlife would be less than significant.	Same as Planned Action Study Area
Indirect	The increased residential density within the area can be expected to result in effects such as increased wildlife mortality due to predation by pets, and reduced wildlife diversity due to increases in opportunistic species such as starlings, crows, and rats. These indirect impacts can be expected to result in reduced numbers, vigor, and diversity of plant and wildlife species. Compliance with stormwater codes	Same as Planned Action Study Area	Alternative 2 would result in an indirect impact on plants and wildlife by contributing to a substantial increase in the human population within the area. This can be expected to result in effects such as increased wildlife mortality due to road kill and predation by pets, and reduced wildlife diversity due to increases in opportunistic species such as starlings, crows, and rats. These indirect impacts can be expected to result in reduced numbers, vigor, and diversity of	Same as Planned Action Study Area	Indirect impacts on plants and wildlife would also be similar to those described under Alternative 2, but the adverse impacts would be greater in proportion to the greater density proposed under this alternative. Stormwater commitments proposed under Alternative 3, coupled with existing regulations, would be sufficient to avoid substantial impacts on aquatic habitats and fish.	Same as Planned Action Study Area

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	is expected to avoid indirect impacts on aquatic habitats and fish.		plant and wildlife species. The stormwater commitments incorporated in Alternative 2 would be sufficient to avoid indirect impacts on aquatic habitats and fish.			
Cumulative	No impact	No impact	No impact	No impact	No impact	No impact
4.5 Energy						
Construction	During construction, energy would be consumed by demolition and reconstruction activities. These activities would include the manufacture of construction materials, transport of construction materials to and from the construction site, and operation of machinery during demolition and construction.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Operations						
Energy Usage: Study Area and Subarea	The annual energy usage for the study area under Alternative 1 is estimated at 101,663 million British thermal units (Btu).	Total annual energy usage for the subarea is forecast at 11,034 million Btu.	Total annual energy usage for the study area is estimated at 156,063 million Btu, higher than Alternative 1 due to a higher level of growth.	Total annual energy usage for subarea is estimated at 26,457 million Btu, higher than Alternative 1 due to a higher level of growth.	With the highest level of the growth of the studied alternatives, this alternative would result in the highest estimate of total annual energy usage for the study area: 275,529 million Btu.	With the highest level of the growth of the studied alternatives, this alternative would result in the highest estimate of total annual energy usage for the subarea: 43,654 million Btu.
Indirect and Cumulative						
Energy Usage: Subarea, Study Area, and Region[3]	Alternative 1 represents the future no-action scenario that is used as the basis of comparison to evaluate the future energy usage from the action alternatives. The total annual energy usage increase for the study area plus regional growth equals 304,722 million Btu.	Total annual energy usage increase for the subarea plus regional growth is estimated at equal to 47,278 million Btu.	With more transit-oriented and high-density development than Alternative 1, this alternative is estimated to result in a reduction of regional energy usage for the study area compared to Alternative 1 by of 11,853 million Btu.	With more transit-oriented and high-density development, Alternative 2 is estimated to result in a net reduction in regional annual energy usage for the subarea compared to Alternative 1 of 1,714 million Btu.	With the highest level of transit-oriented and high-density development of the studied alternatives, Alternative 3 would provide the greatest estimated regional energy usage reduction for the study area compared to Alternative 1: 29,194 million Btu.	With the highest level of transit-oriented and high-density development of the studied alternatives, Alternative 3 would provide the greatest net reduction in regional annual energy usage for the subarea compared to Alternative 1: 3,624 million Btu.

[3] For purposes of comparing the beneficial reductions in regional energy usage, it is important to balance future growth outside the study area as well as within the study area. It was assumed that the lower amount of future developed square footage in the study area under Alternative 1 and Alternative 2 would be balanced by developers constructing equal square footage elsewhere in the Puget Sound region in response to assumed market demand for housing, office, and commercial space. Thus, the total amount of future additional regional square footage was balanced to the same values for all alternatives; however, under Alternatives 2 and 3, more of the TOD development would be inside the study area.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.6 Noise						
Construction	Development in the study area would require demolition and construction activity, which would temporarily increase noise levels at residences close to the development site. This type of activity could cause annoyance and speech interference at outdoor locations adjacent to the construction sites, and could cause discernible noise.	Same as Planned Action Study Area	Development in the study area would result in noise impacts from construction activities similar to those described for Alternative 1; however, the impacts would be greater due to the higher level of development..	Same as Planned Action Study Area	Development in the study area would result in noise impacts similar to those described for Alternative 1; however the impacts would be greater than under the other two alternatives due to the greater amount of development.	Same as Planned Action Study Area
Operations						
Noise from New Commercial Operations	Unless properly controlled, mechanical equipment (e.g., rooftop air conditioning units) and trucks at loading docks of office and retail buildings in the study area could cause ambient noise levels at nearby residential housing units to exceed the City noise ordinance limits.	Same as Planned Action Study Area	Noise impacts in the study area would be similar to those described under Alternative 1, but would be greater due to the greater amount of development.	Same as Planned Action Study Area	Impacts in the study area would be similar to those described under Alternative 1; however, the impacts would be greatest under this alternative due to the higher level of development.	Same as Planned Action Study Area
Indirect and Cumulative						
Noise from Increased Traffic: Proposal with Future Traffic Levels	For most residents adjacent to roadways in the study area, increased traffic would result in the greatest increase in ambient noise levels, caused by moving traffic and vehicles idling at intersections.	The estimated day-night noise levels from NE Sunset Boulevard at the adjacent buildings indicates they would be exposed to "normally unacceptable" noise levels exceeding U.S. Department of Housing and Urban Development's (HUD's) outdoor day-night noise criterion of 65 dBA. The noise levels at these first row residential dwellings currently exceed the HUD noise criterion and would continue to exceed the criterion under this alternative.	Impacts would be similar to those described under Alternative 1, but would be greater due to the greater amount of development and related traffic.	Same as Planned Action Study Area	Development under this alternative would result in the greatest noise increase from vehicles traveling on NE Sunset Boulevard and local streets. Regardless, noise impacts resulting from Alternative 3 would be similar to those described under Alternative 1.	Same as Planned Action Study Area

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.7 Environmental Health						
Construction	Potential construction impacts include releasing existing contaminants to the environment by ground-disturbing or dewatering activities, encountering underground storage tanks (USTs) or leaking USTs, generating hazardous building materials that require special disposal, and accidentally releasing hazardous substances.	Existing subsurface contaminations have not been identified on the redevelopable properties and, therefore, are not expected to be encountered during construction. Hazardous building materials such as lead-based paint and asbestos-containing materials (ACMs) would not be generated from demolition of the existing Sunset Terrace buildings, because it would not be redeveloped. If there are lead-based paints or ACMs at the duplex, appropriate permits and precautions would be required. Accidental release of hazardous substances during construction could still occur as in all construction projects.	The primary potential construction impact under Alternative 2 is encountering or releasing hazardous substances into the environment during construction, as described for Alternative 1.	None of the sites with identified use or documented releases of hazardous substances are present within this subarea. Therefore, the potential to encounter uncontrolled releases of hazardous substances in the environment during construction is relatively low. Accidental release during construction would be the same as for Alternative 1.	The construction impacts described under Alternatives 1 and 2 are also applicable to Alternative 3; however, the potential for these impacts to occur would be higher because of the higher level of development proposed.	Same as Alternative 2
Operations	If development occurs on contaminated sites, where appropriate clean-up measures were not completed or residual contaminations were present, then there is a potential risk to public health for people using the site.	No impact	Potential impacts would be the same as described under Alternative 1. The potential for hazardous material releases could increase relative to Alternative 1 because of the increased level of commercial development and roadway/transit improvements. In addition, hazardous substances, such as oil and other lubricants, are used or transported during routine operation and maintenance of transit facilities or roadways.	No impact	The operation impacts described under Alternatives 1 and 2 are also applicable to Alternative 3; however, the potential for these impacts to occur would be higher because of the higher level of development proposed.	No impact
Indirect	No impact	No impact	The removal of contaminated groundwater, hazardous building materials, or USTs would result in an overall cleaner environment and reduced risk to human health and the environment.	The removal of hazardous building materials or USTs would result in an overall cleaner environment and reduced risk to human health and the environment.	Same as Alternative 2	Same as Alternative 2
Cumulative	No impact	No impact	As development occurs in the study area and the surrounding region, the population and activity level will rise and the number of people exposed to hazards related to the transport of hazardous materials will increase.	The hazardous materials impact of the potential development in the subarea is so small it would make only a negligible contribution to the cumulative impact within the region.	Same as Alternative 2	Same as Alternative 2

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.8 Land Use						
Construction	The incremental development occurring under this alternative would minimize the number of nearby residents exposed to temporary construction impacts including dust emissions, noise, construction traffic, and sporadic interference with access to adjacent residences and businesses.	Same as Planned Action Study Area	Construction impacts would be similar to those described under Alternative 1, but the greater amount of development would affect more residents and land uses.	Same as Planned Action Study Area	Construction impacts would be similar to Alternative 2, but to a greater extent because of the greater amount of development.	Similar to Alternative 2, but greater due to more development.
Operations						
Land Use Patterns	Development would implement the City's Comprehensive Plan designations in a more incremental and piecemeal manner than under the other alternatives. Development would more than double the number of residential units within the study area, as property owners redeveloped their properties using zoning designations allowing taller buildings and more intense mixed-use development.	Development would result in less vacant land and more developed properties. This represents an intensification of land uses as approximately 175 new housing units are built. However, with the exception of one duplex associated with the Edmonds-Glenwood site, existing buildings in the subarea would remain.	Alternative 2 would add 1,660 dwellings and 790,000 square feet of commercial space above existing conditions. More development would occur as intense mixed-use development in buildings up to 60 feet in height and more development would be influenced by targeted public investments. Alternative 2 would provide a larger increase in employees than residents. The majority of new commercial development would be in the form of service uses (62%), including office development and civic/community space, financial institutions and similar types of uses; the remainder (38%) would be retail.	Alternative 2 would triple the amount of housing provided in the subarea, with more than 300 dwellings and 38,000 square feet of retail and service uses beyond that provided under Alternative 1.	Alternative 3 would provide more than 2,500 dwelling units and 1.3 million square feet of commercial space compared to existing conditions. Redevelopment would provide more commercial development than residential development. Alternative 3 provides more commercial growth, of which about 62% would be service (e.g., office and financial institution uses) and 38% retail. This alternative would also provide more than two times as many residential dwellings as currently exist in the study area.	Alternative 3 would provide about 479 more dwelling units than existing conditions in a mixed-use development that integrates commercial and civic spaces. This alternative would provide roughly between 170 and 300 more dwelling units and roughly between 7,000 and 39,000 square feet more commercial space than Alternatives 2 and 1, respectively.
Plans and Policies	Generally, Alternative 1 implements the City's land use and zoning designations within the study area, according to the development types envisioned in policies. It also provides the least consistency with the 2006–2031 growth targets ratified through a regional process in May 2010, which call for 14,835 dwelling units and 29,000 jobs to be accommodated over that 25-year planning period. The City has 3 years from ratification of new growth targets in which to amend its Comprehensive Plan for consistency with the revised targets.	Alternative 1 provides infill of new residential development in areas with the Center Village (CV) designation consistent with land use and housing policies. However, the alternative does not disperse low-income housing as called for in Policy H-29, nor does it discourage the creation of socioeconomic enclaves as called for in Policy LU-149.	Alternative 2 provides a greater degree of consistency with the City Land Use Element goals and policies than Alternative 1, because it goes further in implementing the development types envisioned in the City's land use and zoning designations within the study area. Growth anticipated in the study area under this alternative would help the City in meeting its 2031 housing and employment targets. Public investments anticipated under this alternative would need to be accounted for in amendments to	Alternative 2 provides a greater degree of consistency with the City's Land Use Element goals and policies than Alternative 1 by promoting redevelopment of the Sunset Terrace public housing complex with a mixed-income development. Alternative 2 also does more to develop the Center Village as envisioned in land use policies.	Alternative 3 provides the greatest degree of consistency among the alternatives with the City Comprehensive Plan goals, objectives, and policies. Alternative 3 goes the furthest in implementing the development types envisioned in the City's land use and zoning designations within the study area. Anticipated growth does the most to help the City in meeting its 2031 housing and employment targets. Similar to Alternative 2, public investments would need to be accounted for in amendments to the	Alternative 3 provides the greatest degree of consistency with the City's land use element goals and policies of all alternatives by promoting the redevelopment of the Sunset Terrace public housing community. It also does more than other alternatives to develop the Center Village. Development in the subarea under this alternative has a similar consistency as the study area for other City goals and policies, providing a greater degree of consistency with those goals and policies than other alternatives.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
			the City's Transportation and Capital Facilities elements, consistent with Goal 8 of the Transportation Element and Policy CFP-3 of the Capital Facilities Element.		City's Transportation and Capital Facilities elements.	
Indirect and Cumulative	No indirect or cumulative land use impacts are anticipated outside the study area. The City applies its policies and development regulations to create a planned land use pattern. Density is most intense at the center of the study area and least along its boundaries with single-family residential land use patterns; it is unlikely to alter patterns or plans along the edges of the study area. The City will, as part of its regular comprehensive plan review and amendment updates, control the monitoring, evaluation, and amendment process.	The limited new development would not provide as much of an incentive for other redevelopment opportunities near the subarea as under the action alternatives.	Same as Alternative 1	Redevelopment of the subarea under this alternative would serve as an incentive for other redevelopment opportunities near the study area.	Same as Alternative 1	Same as Alternative 2
4.9 Socioeconomics						
Construction	Construction activities could temporarily increase congestion and reduce parking, local access for businesses and residents, and access near the construction activities, which could negatively affect businesses; however, businesses located close to construction activities could experience an increase in revenue from spending by construction workers. Construction would result in beneficial impacts related to the creation of jobs and increased spending; however, with limited civic investment redevelopment would likely occur at a slower rate than the under other alternatives, limiting the benefits associated with new employment and income.	Impacts would be similar to those in the Planned Action Study Area. Tenants of one duplex would need to relocate. Some short-term economic benefits would result from the construction of new affordable housing and a senior health facility on the vacant land adjacent to the Sunset Terrace complex.	Construction impacts would be similar to those described under Alternative 1, but the intensity would be greater due to the greater amount of development.	The demolition of the Sunset Terrace complex to allow for the subarea redevelopment would require the relocation of the tenants. Moreover, the relocation of the tenants could affect some local businesses during construction, if the tenants are relocated outside of the immediate area; however, since the total number of relocations represents a small portion of the overall population any impact would likely be small in scale.	Same as Alternative 2 though increased due to greater levels of growth under Alternative 3.	Same as Alternative 2

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Operations	The study area would likely continue to develop and grow; however, with the lower level of development compared to Alternatives 2 or 3, change would occur more slowly, and population characteristics would likely remain similar to existing conditions. It is anticipated that the library would be relocated to a more prominent and larger site with adequate access consistent with King County Library System plans. Another beneficial change in community services would be the addition of elder day-health services in the Potential Sunset Terrace Redevelopment Subarea.	Development would occur on the largely vacant RHA-owned sites and one duplex would be redeveloped. Housing conditions would not change for the tenants within the existing Sunset Terrace complex. A greater number of senior citizens would reside in the subarea with the construction of the senior housing; daytime use for non-resident seniors would also increase with the addition of the day-health program. The elder day-health proposal would provide a beneficial service beyond the subarea to the Planned Action Study Area and the broader Renton community.	Future dwelling estimates for Alternative 2 are about 11% greater than Alternative 1 (only 3% higher without the Potential Sunset Terrace Redevelopment Subarea), and there is a greater emphasis on jobs at a 137% increase over Alternative 1. Median household income would likely increase with the greater number of affordable and market-rate units attracting residents of all ages and incomes. Improvements in the streetscape along NE Sunset Boulevard and the other infrastructure improvements would make the study area more desirable to investment, which could lead to additional opportunities for employment as more businesses are attracted to the study area. Impacts on community institutions related to the library relocation and senior health services would be similar to those described for Alternative 1.	It is anticipated that an additional 310 dwelling units, beyond the 102 replacement dwelling units, and 164 new jobs would be created in the subarea. The new community facilities would improve cohesion for the residents, as tenants may feel more a part of the redeveloped community, and provide new locations for residents to gather and interact. Similar to Alternative 1, another beneficial service would be the addition of elder day-health services.	The higher number of dwelling units and jobs under Alternative 3 would result in greater intensities in development and economic benefits. There would be a 68% dwelling unit increase and 264% job increase relative to Alternative 1. In addition to the facilities that would be added under Alternative 2, Alternative 3 includes a family village and a wider reconstruction of NE Sunset Boulevard. The family village would include housing, education, recreation, and supportive services that would be designed to promote a healthy and walkable neighborhood.	Alternative 3 would provide the greatest number of dwelling units and jobs. Under Alternative 3, about 479 net dwelling units would be constructed, housing a population increase of 1,106. There would be an additional 18 jobs compared to Alternative 2. Impacts would be similar to those described for the subarea under Alternative 2 with the addition of civic facilities.
Indirect	Construction spending would result in positive indirect effects on the economic elements of employment and income in the study area and the regional economy as businesses that support the construction effort would likely see increased spending. The benefits associated with new retail and commercial space as well as a mixture of affordable and market-rate dwelling units would be realized to a lesser extent than the other alternatives.	Construction in the subarea would be largely on vacant sites and would provide some short-term economic benefits. Residents would not receive any benefits associated with the new community facilities or the improvements along NE Sunset Boulevard that would be incorporated under Alternatives 2 and 3.	Indirect construction impacts would be the same as those described under Alternative 1, but with the additional public and private investment the economic benefits would be greater due to the increased spending.	Increased spending is anticipated with the mixture of affordable and market-rate units, which would result in positive impacts on the businesses in the area as well as local tax revenues.	Similar to Alternative 2 but higher due to greater amount of development.	Similar to Alternative 2 but higher due to greater amount of development.
Cumulative	The existing socioeconomic conditions would be maintained for a longer period of time, as new development occurs more slowly due to limited public investment.	Same as Planned Action Study Area	Cumulative effects would be positive with the addition of new development that would continue to enhance the area and continue to improve the neighborhood vitality.	As the area changes and new housing is provided, no existing public units would be lost and improvements in the neighborhood would likely continue as new developments are constructed.	Similar to Alternative 2 but higher due to the greater amount of development.	Similar to Alternative 2 but higher due to the greater amount of development.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.10 Housing						
Construction	Construction of commercial, residential, and civic uses in the study area would create temporary noise, dust, and construction traffic, which would affect current residents.	Construction of residential and civic uses would create temporary noise, dust, and construction traffic, which would affect adjacent residents to the north, east, and south of the subject properties.	Impacts would be the same as for Alternative 1, except that there would be a greater amount of construction and a greater potential for impacts on surrounding land owners.	Construction of residential, commercial, and civic uses would create temporary noise, dust, and construction traffic, which would affect current residents, particularly those residents that remain during the construction of the first phase of the project.	Impacts would be the same as for Alternative 1, but with the greatest amount of development, Alternative 3 would have the greatest potential for impacts on surrounding land owners.	Same as Alternative 2
Operations	It is estimated that about 16% of the parcels could redevelop over the next 20 years and about 54 dwellings could be replaced with other development, principally new dwellings, though a few could be converted to commercial uses along NE Sunset Boulevard. Alternative 1 would add up to approximately 1,489 new dwellings, which would more than double present dwellings. As with existing conditions, most new units would be multifamily. Most properties in the study area are relatively more low-cost than in other parts of Renton, and new dwellings could be built at market rates, though some are planned to be affordable (see Potential Sunset Terrace Redevelopment Subarea).	As the proposed dwellings in the subarea would largely occur on vacant sites, minimal displacement would result. One duplex would be redeveloped. Under Alternative 1, 175 dwellings would be added. All dwellings added would be affordable, either to families (Edmonds-Glenwood site) or to seniors (Piha site).	Alternative 2 assumes that about 32% of the study area acreage would infill or redevelop, and this would lead to replacement of about 231 dwellings. Alternative 2 would add up to approximately 1,658 new dwellings, about 11% more than Alternative 1 and 129% more than current dwellings. Most new units would be multifamily. The potential for additional market-rate dwellings is similar but slightly greater than Alternative 1. More dwellings have the potential to be affordable in the Potential Sunset Terrace Redevelopment Subarea than for Alternative 1.	The number of units eliminated would include 102 public housing and duplex dwellings. However, all public housing units would be replaced, with about 88 redeveloped in the subarea and 12 developed in the study area. The number of units added would be 310 above existing dwellings, for a total of 420 units. Of these about 75% would be public or affordable, and 24% would be market-rate.	Alternative 3 assumes 40% of the study area acreage would infill or redevelop. This would result in the greatest number of dwellings replaced at 299. Alternative 3 would add up to approximately 2,507 new dwellings, about 194% more than current dwellings, 68% more than Alternative 1, and 51% more than Alternative 2. Most new units would be multifamily. The potential for additional market-rate dwellings is similar but greater than Alternatives 1 and 2. More dwellings have the potential to be affordable in the Potential Sunset Terrace Redevelopment Area than for Alternatives 1 and 2.	In this subarea, 110 public housing and duplex dwellings would be eliminated. There would be a 1:1 replacement of public housing units on site and in the Planned Action Study Area. The number of units added would be 479 above existing dwellings, for a total of 589 units. Of these, approximately 74% would be either affordable or public and 26% would be market-rate dwelling units.
Indirect	Increased housing could increase local resident spending at businesses in the study area, and could also create an increased demand for parks and recreation, public services, and utilities.	The potential for residents to help support local businesses as well as to create a demand for services is similar to the Planned Action Study Area.	The potential for residents to help support local businesses as well as to create a demand for services is similar to but greater than under Alternative 1, due to the increased number of dwellings under Alternative 2.	The potential for residents to help support local businesses as well as to create a demand for services is similar to the Planned Action Study Area.	The potential for residents to help support local businesses as well as to create a demand for services is similar to but greater than Alternative 1 and Alternative 2, due to the increased number of dwellings in Alternative 3.	The potential for residents to help support local businesses as well as to create a demand for services is similar to the Planned Action Study Area.
Cumulative	Growth in the study area would be consistent with the City's Comprehensive Plan and its growth targets for the year 2022. It would contribute to meeting growth targets for the City's next Comprehensive Plan Update for the year 2031.	The support of the new dwellings to assist the City in meeting growth targets is similar to the Planned Action Study Area.	Growth in the study area would be slightly greater than previously planned under Alternative 1, but this slight increase of 11% would contribute to meeting the City's higher growth targets for the year 2031.	The support of the new dwellings to assist the City in meeting growth targets is similar to the Planned Action Study Area.	Growth in the study area would be greater than previously planned in Alternative 1, but this increase of 68% would contribute to meeting the City's higher growth targets for the year 2031.	The support of the new dwellings to assist the City in meeting growth targets is similar to the Planned Action Study Area.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.11 Environmental Justice						
Construction	Residents near construction activities would likely be affected by temporary noise, dust, and visual impacts due to construction; these impacts would be short-term in nature. The population of the study area is predominately non-minority and non-low-income and any negative impacts would likely occur on these populations to a greater degree than the minority and low-income populations.	Because the existing Sunset Terrace complex would not be redeveloped, relocation of existing Sunset Terrace public housing tenants would not occur. However, the RHA-owned duplex at the Edmonds-Glenwood site would be redeveloped, and relocation services for tenants of the two units would be provided.	Residents in close proximity to construction on NE Sunset Boulevard would also be affected by dust, noise, visual, and traffic impacts. Because the study area population is predominately non-minority and non-low-income, these impacts would not be considered disproportionately high and adverse on minority or low-income populations.	The demolition of the Sunset Terrace complex and construction of the proposed Alternative 2 conceptual plans would require the relocation of the tenants of the Sunset Terrace complex likely through Section 8 vouchers. Because the tenants are low-income and predominately minority, this would constitute a greater impact on these populations than other populations.	Under Alternative 3, a higher level of growth and major public investment in infrastructure and public services throughout the study area would result in construction impacts similar to but more widespread than the other alternatives.	Construction impacts could occur for a longer duration due to the additional amount of development associated with Alternative 3, but it is not anticipated that any relocations of the tenants would be for a longer duration and impacts associated with relocation would be the same as those identified under Alternative 2.
Operations	Without the pedestrian- and transit-oriented improvements to NE Sunset Boulevard under this alternative, the benefits to low-income populations, who may rely on these forms of travel, would not occur. Residents would not realize the improved community cohesion and aesthetics from the park proposed under the action alternatives in the Potential Sunset Terrace Redevelopment Subarea or potential health benefits from increases in physical activity from any new parks or from the added bike lanes along NE Sunset Boulevard.	Development of additional affordable housing on vacant properties in this subarea would be beneficial to lower-income populations; however, under Alternative 1, redevelopment of public housing, which would be beneficial for the lower-income populations, would not occur. The existing tenants of the Sunset Terrace complex would not benefit from the new housing directly; they would remain living in the current housing complex that is antiquated and dilapidated.	Residential, commercial, and recreational development and civic and infrastructure improvements under Alternative 2 would improve the overall neighborhood, making it a more cohesive and desirable place to live. This would benefit all populations within the study area, including minority and lower-income populations.	Alternative 2 would have a number of beneficial effects minority and low-income populations in the subarea, including the redevelopment of the existing dwelling units, construction of additional units, transportation improvements, and the addition of other community facilities (i.e., senior center, parks). These changes would result in improvements to public health and to the aesthetics of the area. These would all improve community cohesion for subarea residents.	Residential, commercial, and recreational development and civic and infrastructure improvements under Alternative 3 would improve the overall neighborhood, making it a more cohesive and desirable place to live for all populations in the , including minority and low-income populations.	Same as Alternative 2
Indirect	With limited investment in the study area, any indirect benefits of redevelopment and associated growth would be low. The introduction of new retail and commercial space within the study area would increase employment opportunities. These opportunities would benefit all study area populations, but could benefit minority and low-income populations to a greater degree.	New retail and commercial space would be outside of the subarea, but the new employment opportunities could be seen as more beneficial to subarea residents who may be unemployed or not have a their own vehicle and would, therefore, benefiting more from the proximity.	Although additional development would occur in the study area, the indirect impacts would be the same as those identified under Alternative 1.	Although additional development would occur in the subarea, the indirect impacts would be the same as those identified under Alternative 1. Increasing the variety of residential unit types and affordability levels would reduce the concentration of low-income households in the subarea, and thereby reduce or eliminate some of the social consequences of such concentrations.	Although additional development would occur in the study area beyond what is planned for in Alternative 2, the indirect impacts would be similar to those identified under Alternative 1.	Although additional development would occur in the subarea beyond what is planned for in Alternative 2, the indirect impacts would be similar to those identified under Alternative 1. Also, similar to Alternative 2, increasing the variety of residential unit types and affordability levels would reduce the concentration of low-income households in the subarea, and thereby reduce or eliminate some of the social consequences of such concentrations.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Cumulative	Cumulative impacts would depend on the type of development planned in the area. There would be beneficial effects on all populations with the addition of new housing and jobs.	New housing would consist of affordable family and senior housing. This could benefit environmental justice populations.	Cumulative impacts would primarily be beneficial. As the area continues to redevelop with new investments, public and private, it would become more desirable for the residents and would continue to create new jobs. The new development and addition of more market-rate units could cause the study area to become less affordable to lower-income populations, which could result in these populations needing to relocate outside of the study area.	Adverse impacts are not anticipated. New dwelling units would be affordable, public, and market-rate units. The beneficial cumulative impacts identified under the Planned Action Study Area would be similar.	As the study area continues to redevelop with new investments, public and private, it would become more desirable for the residents and would continue to create new jobs. Also, similar to Alternative 2, but with a greater potential due to greater growth, the new development and addition of more market-rate units could cause the study area to become less affordable to lower-income populations, which could result in these populations needing to relocate outside of the study area.	Similar to Alternative 2
4.12 Aesthetics						
Construction	The demolition of existing structures and construction of new buildings would expose nearby residents to visual impacts, including dust, the presence of construction equipment, stockpiles of construction materials, localized increases in vehicular traffic, and on-site construction activities. For each alternative, these activities would occur sporadically at various locations throughout the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, would be localized to the construction site, and would be temporary in nature.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Operations						
Visual Character	Because public investment in the Planned Action Study Area would be lower under Alternative 1, private redevelopment would be limited, and occasional changes would occur to the visual character of the area compared to Alternatives 2 and 3. While some residential and mixed-use, pedestrian-oriented development may occur as infill or redevelopment on 16% of the parcel acreage, most of the existing older housing stock would not be replaced by new construction.	Overall, the visual character of the subarea from NE Sunset Boulevard would remain very similar to existing conditions, but there would be some change along interior streets such as Sunset Lane NE where largely vacant properties would develop.	Under Alternative 2, visual character in the Planned Action Study Area would undergo some changes. Overall, about 32% of the Planned Action Study Area acreage would infill or redevelop, which would lead to a greater change in character to a mixed-use, pedestrian-oriented community. Redevelopment in the Planned Action Study Area would also replace aging housing stock with newer, higher-quality construction.	Under Alternative 2, the visual character of the Potential Sunset Terrace Redevelopment Subarea would change from its current state to a pedestrian-oriented community with a mix of residential, ground-floor commercial, and community uses surrounding an approximately 0.89 acre park.	The extensive public investment under Alternative 3 would result in widespread changes to the visual character of the Planned Action Study Area affecting about 40% of parcel acres. Private development would take full advantage of the current development regulations, resulting in a transition to a mixed-use, pedestrian-oriented neighborhood.	Under Alternative 3, the visual character of the Potential Sunset Terrace Redevelopment Subarea would change from its current state to a pedestrian-oriented community with a mix of residential, ground-floor commercial, and community uses linked by public spaces and landscaped pedestrian pathways.
Height and Bulk	Private redevelopment would occur more sporadically, and building heights would change at fewer locations in the Planned Action Study Area, with more change anticipated in the Sunset Mixed Use Subarea. In areas where redevelopment does occur, building heights would remain limited to 50 feet for residential-only development and 60 feet for buildings with ground-floor retail. Differences in height, particularly in the Center Village (CV) zone, could require the application of design standards, such as increased setbacks adjacent to residential zoning.	Under the No Action Alternative, heights in the subarea would remain similar to current conditions along NE Sunset Boulevard, with some changes along interior streets up to four stories on two vacant parcels to the northwest and one vacant parcel to the northeast.	Height and bulk in the Planned Action Study Area would moderately increase under Alternative 2. Private redevelopment would be concentrated near areas of public reinvestment, such as the Potential Sunset Terrace Redevelopment Subarea and along NE Sunset Boulevard. The height of new development would be limited by current zoning at 50 feet, or 60 feet for mixed-use buildings with ground-floor retail, which is taller than the one to two stories typically seen throughout much of the Planned Action Study Area.	Under Alternative 2, this subarea would experience moderate increases in height and bulk over existing conditions. Heights would range from two to four stories. As a result, visual bulk in the subarea would change moderately from the present two-story scale.	Alternative 3 would result in redevelopment of the Planned Action Study Area to take greater advantage of currently allowed uses and heights. In most areas zoned CV, this would result in building heights of four to five stories, which is a moderate increase over current conditions, which range from 1 to 3 stories.	Under Alternative 3, the subarea would experience moderate increases in height and bulk over existing conditions. Heights would range from two to four stories, and buildings would generally be located closer to the street than under current conditions.
Shade and Shadow	Because large increases in building height would not occur in the Planned Action Study Area under the No Action Alternative, shading impacts are not anticipated to be significant. Isolated shading impacts could occur where new development is located adjacent to older buildings of lower height.	Under the No Action Alternative, height increases in the subarea would be limited to the new RHA housing facilities, which would have the potential to increase shading of adjacent properties to the north, though the effect would be minor due to similarity in height.	As described above under "Height and Bulk," Alternative 2 has the potential to result in localized height increases. Also, shading impacts could occur where new development is adjacent to existing structures of two stories or lower, such as along Glenwood Avenue NE.	Under Alternative 2, increases in building heights in the subarea would be likely to affect shading conditions. Taller buildings along NE Sunset Boulevard would cast longer shadows on the interior of the subarea to the north, potentially shading sidewalks along Sunset Lane NE at various times of the day.	Because heights in the Planned Action Study Area would generally increase under Alternative 3, shading effects would also become more pronounced, though only to a moderate degree. Increased building heights within the Planned Action Study Area could result in increased shading of pedestrian areas and public spaces, particularly along NE Sunset Boulevard, which is likely to see some of the most intense commercial and mixed-use development.	Due to the anticipated increases in building height and lot coverage in the subarea, shading conditions are also likely to change. Taller buildings along NE Sunset Boulevard would cast longer shadows on the interior of the subarea to the north, potentially shading sidewalks along Sunset Lane NE and Glenwood Avenue NE at various times of the day.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Indirect/ Cumulative	While redevelopment of the public facilities discussed under the various alternatives would be a coherent effort, private development throughout the study area would occur piecemeal. Individual private developments are likely to be of higher density, greater height, and a different architectural style than existing development, and have the potential to create temporary aesthetic conflicts where they are located adjacent to older structures. Over time, as more properties redevelop, the temporary conflicts would be less frequent and less noticeable. This effect would be least pronounced under the No Action Alternative.	Redevelopment would occur on largely vacant properties but is not anticipated to change Sunset Terrace and would be less of a catalyst for change in the broader Planned Action Study Area.	Similar to Alternative 1 but more pronounced temporary aesthetic conflicts given more locations anticipated for redevelopment.	Redevelopment of the Sunset Terrace housing facility would be a localized action, but additional private development is anticipated to occur in response to this public investment, and each private development project would contribute to the overall transformation of the area's aesthetic character.	Similar to Alternatives 1 and 2 but greater temporary aesthetic conflicts are anticipated given more locations anticipated for redevelopment.	Same as Alternative 2
4.13 Historic and Cultural Resources						
Construction	Typical project impacts that could disrupt or adversely affect cultural resources in the Planned Action Study Area include demolition, removal, or substantial alteration without consideration of historic and archaeological sites and/or features.	No significant cultural resources are known to exist in the Potential Sunset Terrace Redevelopment Subarea.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Operations, Indirect, and Cumulative Impacts	Development could occur on or near parcels in the Planned Action Study Area that contain previously identified or unknown cultural resources. This development would likely involve ground disturbance and modifications to buildings and structures, which could result in a potentially significant impact on cultural resources. Under Alternative 1, the study area would experience less growth and related development than under Alternatives 2 or 3, and impacts on cultural resources are likely to occur with less frequency. Because of the potential to impact unknown cultural resources, a detailed review of potential impacts on cultural	No significant cultural resources are known to exist in the Potential Sunset Terrace Redevelopment Subarea.	Alternative 2 supports a higher level of growth in the study area than the No Action Alternative, necessitating a corresponding higher level of development. Therefore, Alternative 2 is more likely to have impacts on cultural resources. Because of the potential to impact unknown cultural resources, detailed review of potential impacts on cultural resources would be required on a project-specific basis.	Same as Alternative 1	Alternative 3 supports the highest level of study area growth of the studied alternatives. Therefore, Alternative 3 would provide the highest frequency of opportunities to encounter cultural resources over time. Because of the potential to impact unknown cultural resources, detailed review of potential impacts on cultural resources would be required on a project-specific basis.	Same as Alternative 1

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	resources would be required on a project-specific basis.					
4.14 Transportation						
Construction	Alternative 1 is not expected to result in construction impacts, because no roadway construction is proposed.	Same as Planned Action Study Area	Potential impacts that could result from Alternative 2 construction activities include increased traffic volumes, increased delays, detour routes, and road closures. Lane closures in both directions of NE Sunset Boulevard could be required during construction of Alternative 2. This reduction in capacity would likely increase travel times, and may force reroutes through local streets.	Same as Planned Action Study Area	Same as Alternative 2	Same as Planned Action Study Area
Operations						
Traffic Operations	In 2015, the all-way-stop-controlled intersection at Edmonds Avenue NE and NE 12th Street could operate at level of service (LOS) E due to increases in background traffic growth on the southbound approach. The Harrington Avenue NE and NE 12th Street intersection operates at LOS D, and although the LOS standard is met, the results indicate it is nearing capacity. In 2030, this intersection could be expected to worsen to LOS E, while the adjacent intersection on Edmonds Avenue NE at NE 12th Street could operate at LOS F due to increases in southbound delay.	Studied intersections are expected to operate at LOS D or better. Increases in residential volumes and future delays are not expected to adversely impact traffic within the subarea because of the lower volumes and ample capacity.	Alternative 2 is expected to have higher average vehicle delay times compared to Alternative 1. Although vehicle delay would increase, the LOS between Alternative 1 and Alternative 2 would remain similar in the Years 2015 and 2030 at Edmonds Avenue NE and NE 12th Street and at Harrington Avenue NE and NE 12th Street intersections.	Similar to Alternative 1	Alternative 3 is expected to have the highest average vehicle delay times of the studied alternatives. At Edmonds Avenue NE and NE 12th Street LOS F conditions are predicted in both 2015 and 2030. At Harrington Avenue NE and NE 12th Street LOS F conditions are expected in 2030.	Delay times in the subarea could worsen slightly due to the increase in trips generated, but intersections would likely operate better than the LOS D threshold. On the southern border of the subarea, the intersections on NE Sunset Boulevard at Harrington Avenue NE and at NE 10th Street are expected to operate better than LOS B in 2015, and better than LOS C in 2030.
Transit	No changes are expected.	Same as Planned Action Study Area	Alternative 2 includes improved transit amenities along NE Sunset Boulevard. At NE 10th Street and at Edmonds Avenue NE, expanded bus zones are proposed on both sides of the road. These bus zones would provide a safe, well-lit waiting area for transit users, and are conveniently located near proposed retail or residential land uses.	Same as Planned Action Study Area	Similar to Alternative 2, at both Edmonds Avenue NE and at NE 10th Street, expanded bus zones in both directions of travel would provide larger waiting areas for transit users and would be conveniently located near residential or retail land uses. Bus zones and existing bus stops could include shelters with adequate lighting and street furniture.	Same as Planned Action Study Area

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Nonmotorized	No changes in nonmotorized facilities or transit are expected except for those nonmotorized improvements identified in the *Renton Trails and Bicycle Master Plan* adopted in May 2009 (City of Renton 2009a).	Same as Planned Action Study Area	Nonmotorized facilities under Alternative 2 would be improved compared to existing conditions. A new 5-foot-wide designated bicycle lane would be included in the eastbound direction of NE Sunset Boulevard from NE Park Drive to NE 10th Street. East of NE 10th Street, the bicycle lane transitions to a paved, multi-use shared bicycle and pedestrian pathway. This pathway is buffered from vehicular traffic by landscaping and a planter strip. Other pedestrian-level design amenities such as benches, trash receptacles, wayfinding signs, and art would be incorporated to encourage pedestrian activity in the study area.	Same as Planned Action Study Area	Alternative 3 includes improved nonmotorized facilities such as bicycle lanes, sidewalks, and marked crosswalks. A 5-foot-wide designated bicycle lane is provided in both directions of NE Sunset Boulevard within the traffic study area. Design elements such as bike route signage, bike storage lockers, and bicycle detection at signalized intersections are included in Alternative 3 to promote bike ridership and safety.	Same as Planned Action Study Area
Sustainability	Alternative 1 is not measured in terms of sustainability principles, because no improvements are proposed.	Same as Planned Action Study Area	In the Greenroads evaluation, Alternative 2 scores most strongly in the "Access and Equity" section, based on its improvements to access for pedestrians, bicyclists, and transit users. Alternative 2 is likely to contribute to lower consumption of energy by encouraging more pedestrian activity and less vehicle travel.	Same as Planned Action Study Area	Alternative 3 scored equally to Alternative 2 on the Greenroads evaluation due to the project elements common to both alternatives. As with Alternative, 2, Alternative 3 scores strongest in the "Access and Equity" section of the Greenroads evaluation similar to the reasons described for Alternative 2. While Alternative 3 typically includes higher levels of improvements or higher quality of improvements over Alternative 2, such as wider sidewalks, wider planting areas, and special paving, the Greenroads evaluation does not take into account the quality of elements, only whether best practices are included in the project.	Same as Planned Action Study Area
Indirect and Cumulative	Growth would be consistent with adopted Comprehensive Plan land use estimates and the operational analysis addresses cumulative traffic conditions considering planned growth.	Same as Planned Action Study Area	Growth would increase in comparison to Comprehensive Plan land use estimates; however, the Alternative 2 operational analysis is based on a model that addresses growth cumulatively on the City's current and planned roadway system. Results are similar to Alternative 1.	Same as Planned Action Study Area	Growth would increase in comparison to Comprehensive Plan land use estimates; however, the Alternative3 operational analysis is based on a model that addresses growth cumulatively on the City's current and planned roadway system. Potential cumulative impacts are greater than Alternatives 1 and 2.	Same as Planned Action Study Area

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.15 Parks and Recreation						
Construction	Construction could temporarily disrupt pedestrian access to existing park properties. Active construction sites also represent opportunities for creative play and attractive adventure for young people in the community.	No parks and recreation facilities exist in this subarea and no construction impacts are anticipated.	Construction impacts would be as described for Alternative 1; however there would be a greater potential with the construction of street and drainage improvements to temporarily disrupt access to existing parks from nonmotorized routes.	Same as Alternative 1	Construction impacts would be similar to those described for Alternative 2; however Alternative 3 would have the greatest potential of the studied alternatives to result in growth and construction that could temporarily disrupt access to existing parks from nonmotorized routes.	Same as Alternative 1
Operations	Under the No Action Alternative, no changes are planned to the parks and recreation facilities within the Planned Action Study Area; the park system would remain as it exists today. By 2030, there would be a deficiency in both neighborhood park and community park acreage and in fields, courts and trails (depending on whether school facilities are counted); accordingly the future forecasted population in both the study area and parks service areas would be underserved based on current City level of service (LOS) standards.	No parks and recreation facilities exist in this subarea and no parks would be added under this alternative. The subarea would be underserved according to the City's parks and recreation LOS standards.	With the future increase in population for Alternative 2, an increase in demand for park and recreation facilities is anticipated. Although parks and community center space are added (via the Potential Sunset Terrace Redevelopment Subarea) and a pocket park system is contemplated, a net deficiency could remain in both neighborhood and community park land and in fields, courts, and trails (depending on whether school facilities are counted)under future conditions; as a result the population would continue to be underserved.	Parks and recreation facilities are proposed including a 0.89-acre park and 38,500 square feet of community service space. However, as part of the overall Planned Action Study Area, the subarea would be underserved when applying the City's parks and recreation LOS standards. The Complete Streets improvements to NE Sunset Boulevard would improve pedestrian connections between the subarea and park and recreation facilities.	Under Alternative 3, population in the Planned Action Study Area increases the most of studied alternatives. With this increase, the demand for parks and recreation facilities would increase more than under Alternative 2. The addition of passive parks and pocket parks throughout the study area would also add open space acreage to the study area. Nevertheless, a deficiency in neighborhood and community park acreage could remain as well as a deficiency in fields, courts, and trails.	With Alternative 3, portions of Harrington Avenue NE right-of-way within the subarea would be converted to 0.25 acres of passive open space. A multi-generational center, and, potentially, a library would be constructed in the subarea southeast of the Harrington Avenue NE/Glenwood Avenue NE intersection and adjacent to the new passive open space along Harrington As part of the overall Planned Action Study Area, the subarea would be underserved according to results when applying the City's parks and recreation LOS standards.. Under Alternative 3, NE Sunset Boulevard would be improved to include bike lanes, intersection improvements, and sidewalks, providing a more walkable corridor and more direct access between residential areas and park land.
Indirect	Indirect impacts are expected to mostly fall on the City's regional and communitywide parks and recreation facilities. For example, as the population increases in the Planned Action Study Area, there will be a growing deficiency of Neighborhood and Community Parks. Due to proximity, those demands would likely be displaced to nearby regional facilities such as Gene Coulon Park as well as in surrounding communities.	Facility deficiencies in this subarea would also likely lead to spillover demand for active playfields for team sports in other parts of Renton as well as in surrounding communities.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Cumulative	Increased demands for park and recreation facilities and services generated by the forecast population growth under each of the alternatives would add to those created by general population growth throughout the Renton community.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
4.16 Public Services						
Construction						
Police	The Renton Police Department could experience an increase in calls for service related to construction site theft, vandalism, or trespassing relating to construction.	Same as Planned Action Study Area	Impacts would be similar to Alternative 1, but would be more likely to occur with the greater amount of construction.	Same as Planned Action Study Area	Impacts would be similar to Alternative 1, but the potential for impacts would be highest, because this alternative has the greatest amount of construction.	Same as Planned Action Study Area
Fire and Emergency Medical Services	Construction impacts on fire protection and emergency medical services could include increased calls for service related to inspection of construction sites and potential construction-related injuries.	Same as Planned Action Study Area	Impacts on response time under would be the same as Alternative 1, except that the larger increase in population and construction would mean higher response times.	Same as Planned Action Study Area	Impacts on response time would be the same as Alternative 1, but higher than the other alternatives.	Same as Planned Action Study Area
Education	McKnight Middle School would be improved to add 10 classrooms, which would translate to capacity for approximately 290 more middle school students. The expansion of McKnight Middle School is not expected to disrupt student attendance at the campus.	No impact	Under Alternative 2, the McKnight Middle School expansion and reconfiguration and expansion of the Hillcrest Early Childhood Center would occur. Similar to Alternative 1, the expansion of McKnight Middle School is not expected to disrupt student attendance at the campus. The Early Education program at the Hillcrest Early Childhood Center would likely be moved, at least temporarily, as part of the reconfiguration of that facility.	No impact	Under the Alternative 3, the McKnight Middle School expansion would occur similar to other alternatives. In addition, changes would occur at the Hillcrest Early Childhood Center, similar to Alternative 2, only the reconfigured Hillcrest Early Childhood Center would be part of a family village concept that would include recreation and housing. Similar to other alternatives, the expansion of McKnight Middle School is not expected to disrupt student attendance at the campus.	No impact
Health Care	No changes expected.	No changes expected.	There may be temporary changes to nonmotorized and motorized access to health care services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established.	Same as Planned Action Study Area	Same as Alternative 2	Same as Alternative 2

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Social Services	No changes expected.	No changes expected.	There may be temporary changes to nonmotorized and motorized access to social services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established. Construction at the Hillcrest Early Childhood Center as the center is expanded may require relocation of the Friendly Kitchen weekly meal program that meets at that site.	Redevelopment of the Sunset Terrace housing development would displace the existing on-site community meeting space that is currently used for on-site social service programs. However, the space would be replaced with a larger and more modern facility, and with appropriate phasing of development, disruption to on-site social service programs can be minimized or avoided.	Construction at the Hillcrest Early Childhood Center as part of the family village redevelopment, would require relocation of the Friendly Kitchen weekly meal program that meets at that site. The Friendly Kitchen program would either be relocated permanently as a part of the redevelopment or may be accommodated as part of the range of social services provided at the family village.	Similar to Alternative 2, redevelopment of this subarea would displace the existing on-site community meeting space that is currently used for on-site social service programs. However, the space would be replaced with a larger and more modern facility, and with appropriate phasing of development, disruption to on-site social service programs can be minimized or avoided.
Solid Waste	Alternative 1 provides the lowest level of development activity and the lowest level of construction-related waste generation of all alternatives being considered.	Same as Planned Action Study Area	Alternative 2 provides for a higher level of redevelopment and civic investment than Alternative 1, but less than Alternative 3, resulting in construction-related waste generation within the range of alternatives being considered.	Alternative 2 provides for redevelopment of the subarea, generating more construction-related waste than Alternative 1, and a similar level of construction-related waste as Alternative 3.	Alternative 3 provides for a highest level of redevelopment and civic investment of all alternatives considered, resulting in higher levels of construction-related waste generation.	The redevelopment of the subarea anticipated under Alternative 3 would generate more construction-related waste than the No Action Alternative, and a similar level of construction-related waste as Alternative 2.
Library	When the library is relocated, library services may be temporarily unavailable in the study area, but services would be available at other branches.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Operations						
Police	Applying the Renton Police Department staffing per population standard to the anticipated population increase would result in a need for an estimated 5.5 additional police officers to address increase in service calls related to growth.	Applying the Renton Police Department standard to the anticipated population increase (approximately 404) would account for 0.6 of the approximately 5.5 additional police officers to address population growth study area.	Applying the Renton Police Department standard to the anticipated population increase would result in a need for approximately 6.1 additional police officers.	Applying the Renton Police Department standard to the anticipated population increase (approximately 716) would account for 1.1 of the approximately 6.1 additional police officers estimated to address population growth in the study area.	Applying the Renton Police Department standard to the anticipated population increase (approximately 5,789) would result in a need for approximately 9.3 additional police officers, between 3.1 and 3.8 officers more than estimated for the other alternatives considered.	Applying the Renton Police Department standard to the anticipated population increase (approximately 1,106) would account for 1.8 of the approximately 9.3 additional police officers estimated to address population growth in the study area.
Fire and Emergency Medical Services	Applying the fire service's staffing ratio to growth in the study area would result in the need for an additional 0.8 firefighter full-time equivalents (FTEs) compared to existing conditions to maintain the City's existing staffing ratio.	Applying the fire service's staffing ratio to growth in the study area to the population growth of 404 people in this subarea would result in the need for less than 0.1 of the 0.8 firefighter FTE needed in the overall Planned Action Study Area to maintain the City's existing staffing ratio.	Applying the fire service's staffing ratio to growth under Alternative 2 would result in the need for an additional 0.9 of a firefighter FTEs compared to existing conditions, only 0.1 FTE more than Alternative 1.	Applying the fire service's staffing ratio to growth of 716 people in the subarea would account for less than 0.2 of the 0.9 firefighter FTE needed in the overall study area to maintain the City's existing staffing ratio.	Applying the fire service's staffing ratio to growth under Alternative 3 would result in the need for an additional 1.3 firefighter FTEs compared to existing conditions, approximately 0.5 FTE more than Alternative 1.	Applying the fire service's staffing ratio to population growth of 1,047 people in the subarea would account for slightly more than 0.2 of the 1.3 firefighter FTEs needed in the overall study area to maintain the City's existing staffing ratio.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Education	Population growth would result in an increase in approximately 339 students in the Renton School District compared to existing conditions. The district's planned opening of Honey Dew Elementary, as well as construction of additions to McKnight Middle School and Hazen High School, would accommodate this increase in student population. Based on demographic trends described in Section 3.9, new students within the study area would include a higher than average number of students speaking English as a second language, increasing demands on the district's English Language Learners Program.	It is possible that reconfiguration of elementary school boundaries resulting from opening Honey Dew Elementary would alter where students in the subarea attend elementary school. However, opening Honey Dew Elementary would also alleviate short-term overcrowding in area elementary schools.	Population growth would result in an increase of approximately 377 students attending area Renton School District schools compared to existing conditions. This increase would be accommodated by the district's planned capital improvements at the elementary, middle, and high school levels. The demand for additional English Language Learner Program space would fall within the range of the two other alternatives being considered.	Population growth would result in an increase of approximately 69 subarea students attending area Renton School District schools compared to existing conditions. This increase falls within the range of other alternatives considered. It is anticipated that this increase in student population would be accommodated by the district's planned capital improvements at the elementary, middle, and high school levels.	Population growth would result in an increase of approximately 567 students attending area Renton School District schools compared to existing conditions. This is the largest increase of all the alternatives considered. Approximately half of the new students would be elementary age students. Alternative 3 would also include the largest demand on additional English Language Learner Program space of the three alternatives considered.	Population growth would result in the largest anticipated increase in student population in the subarea of all alternatives, approximately 107 additional students compared to existing conditions. It is anticipated that this additional increment of students would be accommodated by the district's planned capital improvements, including opening Honey Dew Elementary, expansion of McKnight Middle School, and redeveloping the Hillcrest Early Childhood Center which would provide additional student capacity in addition to early education programs that currently exist on the site.
Health Care	Increase in study area population would increase the need for hospital beds in the Valley Medical Center (VMC) service area by approximately 2.6 beds, based on the current ratio of hospital beds to district service area population. Additional population growth may also result in increased demand at VMC's nearby primary care and urgent care clinics.	Based VMC's existing ratio of hospital beds to district population, the anticipated population increase would result in a small increase of approximately 0.3 hospital bed in this subarea of the 2.6 beds anticipated in the study area. This smaller increase would result in the smallest demand for additional service at VMC's nearby primary care and urgent care clinics.	Alternative 2 population increases within the study area would result in the need for approximately 2.9 hospital beds, only a fraction more than under Alternative 1. Additional population growth would also result in slightly increased demand at VMC's nearby primary care and urgent care clinics compared to Alternative 1, and less demand than under Alternative 3.	The increase in population would result in a minor increase in hospital bed demand and demand for service at nearby VMC primary care and urgent care clinics compared to Alternative 1. Demand for hospital beds increases by 0.5 bed over existing conditions.	Population growth is greatest under the Alternative 3, resulting in the need for an estimated 4.4 additional hospital beds based on the existing number of hospital beds per district population. Although this represents the greatest increase of all the alternatives, this increase in hospital beds is minimal and not expected to result in impacts on VMC.	The increase in population would result in a small increase in hospital bed demand and demand for service at nearby VMC primary care and urgent care clinics compared to other alternatives. Demand for hospital beds increases by 0.8 bed over existing conditions, a less than significant impact on provision of health care.
Social Services	Population increases within the study area are anticipated to result in higher demand for social services provided within the study area, as well as those provided in the larger community.	The subarea's new affordable housing development for seniors would include enriched senior services on site, including elder day-health for off-site patients in a 12,500-square-foot space on the northeastern vacant RHA parcel. The increased population of affordable housing and, in particular, affordable senior housing would increase the demand for social services, including senior services accessible to the subarea.	There are anticipated to be no changes to existing social service programs or facilities within the study area outside of the Potential Sunset Terrace Redevelopment Subarea. Population increases in the study area are anticipated to result in demand for social services falling within the range of other alternatives considered.	Approximately 26,000 square feet of space in the central part of the subarea could be used for a variety of community services, including social services and community meeting spaces. Elder day-health services would be similar to Alternative 1.	Alternative 3 includes major public investments that include redevelopment opportunities, which could expand upon or enhance social services in the study area. Among the key components of Alternative 3 outside of Potential Sunset Terrace Redevelopment Subarea is development of a family village in the North Subarea.	Redevelopment plans for the subarea, under Alternative 3, include the largest amount of space that could be devoted to community or social services. The approximately 42,500 square feet of space devoted to these uses is slightly larger than the combined social service/community space and enriched senior services described in Alternative 2.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Solid Waste	Solid waste generation is expected to increase by around 82,500 pounds per week compared to existing conditions. A portion of this waste stream would be diverted to recyclables as planned under the *Draft 2009 Comprehensive Solid Waste Management Plan* (King County 2009).	Solid waste generation from the subarea would increase by about 9,700 pounds per week compared to existing conditions.	Solid waste generation would increase by around 92,000 pounds per week compared to existing conditions, approximately 9,500 pounds per week more than Alternative 1 and around 47,000 fewer pounds per week less than Alternative 3. As with other alternatives, a percentage of waste generated would be diverted to recycling.	Solid waste generation would increase by around 17,200 pounds per week compared to existing conditions, an amount that falls within the range of waste generation estimates for other alternatives considered. Similar to other alternatives, a portion of the increase in waste stream would be diverted to recyclables.	Solid waste generation would increase by around 139,000 pounds per week compared to existing conditions, between 47,000 more pounds per week than Alternative and 56,500 more than Alternative 1. As with other alternatives, a percentage of the waste would be diverted to recycling.	Solid waste generation would increase by around 26,500 pounds per week compared to existing conditions, 9,400 pounds per week more than Alternative 2 and 16,800 more than Alternative 1. As with other alternatives, a percentage of this waste would be diverted to recycling.
Library Services	Anticipated growth would create a demand for an additional 1,235 square feet of library space compared to existing conditions.	Anticipated growth in the subarea would account for approximately 145 square feet of library facilities to meet the growth in demand.	Anticipated growth would create a demand for an additional 1,375 square feet of library space compared to existing conditions.	Space for library or other community services is available in the proposed Alternative 2 conceptual plan (See Chapter 2, Figure 2-9). Growth in the subarea would account for approximately257 square feet of additional library facility space compared to existing conditions, falling within the range of other alternatives considered.	Anticipated growth would create a demand for an additional 2,079 square feet of library space compared to existing conditions.	Space for library or other community services is available in the proposed Alternative 3 conceptual plan (See Chapter 2, Figure 2-10). Growth in population in the subarea would account for approximately 397 square feet of additional library facility space compared to existing conditions.
Indirect and Cumulative	All alternatives increase growth above existing conditions and would add to a citywide increase in demand for public services; however, the alternatives are accommodating an increment of growth already anticipated in the Comprehensive Plan at a citywide level. Alternative 1 is most consistent with the current Comprehensive Plan growth levels to the year 2022.	Same as Planned Action Study Area	Same as Alternative 1, except that Alternative 2 represents an increase in planned growth more similar to the year 2031 growth allocations that the City will address in its 2014 Comprehensive Plan update.	Same as Planned Action Study Area	Same as Alternative 2 though at a greater growth level	Same as Alternative 2 though at a greater growth level
4.17 Utilities						
Construction	Where new construction occurs, it is anticipated that existing telecommunication lines would be removed, replaced, or abandoned in place. Redevelopment would require coordination with service providers regarding the location of proposed structures, utilities, and site grading. To accommodate the required demand and capacity for water and sewer services for new development	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	and redevelopment in the study area, existing water and sanitary sewer lines would be abandoned in place or removed and replaced with new and larger lines. New and larger water and sewer mains would be installed in existing and/or future dedicated public rights-of-way or within dedicated utility easements to the City, and would connect with the existing distribution network. Existing utility lines would continue to service the site during construction, or temporary bypass service would be implemented until the distribution or collection system is complete and operational.					
Operations						
Telecommunications	Increased capacity requirements with increased levels of population and commercial activity in each of the alternatives could require new fiber within the Planned Action Study Area and coordination with telecommunication providers as development occurs should be performed so that appropriate facilities can be planned.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
Water	The increase in the average daily demand (ADD) is projected to be 0.29 million gallons per day, or 138% of the existing water demand of 0.21 million gallons per day within the Planned Action Study Area. The growth projected for Alternative 1 would increase the storage requirements for the Highlands 435 and the Highlands 565 pressure zones and further increase the existing storage deficit in the Highlands 435 pressure zone. In addition, the development that is projected for the Planned Action Study Area would increase the fire-flow requirements with more multifamily development and commercial development. The capacity of the existing water	The increase in ADD for this subarea is 0.03 million gallons per day (176% of the existing ADD of 0.02 million gallons per day). The increase in the peak daily demand (PDD) for this subarea is 0.06 million gallons per day (176% of existing PDD). The primary impact of subarea development on the water distribution system would be increased fire-flow requirements. Water system pressure in some areas within the Planned Action Study Area may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure Highlands 565 pressure	The increase in ADD for Alternative 2 was calculated to be 0.39 million gallons per day, or 184% of the existing water demand of 0.21 million gallons per day within the Planned Action Study Area. Impacts regarding storage and fire flow would be similar to but greater than Alternative 1.	The increase in ADD for this subarea is 0.06 million gallons per day (339%). The increase in the PDD for the subarea is 0.11 million gallons per day (339% of existing load). The primary impact of subarea development on the water distribution system would be increased fire-flow requirements. Impacts regarding storage and fire flow would be similar to but greater than Alternative 1.	With the growth projected for Alternative 3, the increase in the ADD is projected to be 0.59 million gallons per day, or 282% of existing water demand, and the PDD is projected to increase by 1.13 million gallons per day or 282% over the existing PDD. Impacts regarding storage and fire flow would be similar to but greater than Alternatives 1 and 2.	The increase in ADD for this subarea is 0.09 million gallons per day (499%), and the increase in the PDD for this subarea is 0.16 million gallons per day (499%). The primary impact on the water distribution system that development in this subarea has is increased fire-flow requirements. Impacts regarding storage and fire flow would be similar to but greater than Alternatives 1 and 2.

Table 1-1. Continued

	Alternative 1 (No Action)		Alternative 2		Alternative 3	
Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	distribution system to meet these higher fire flows is inadequate if system improvements are not constructed.	zone.				
Wastewater	The increase in wastewater load for the Planned Action Study Area is 0.31 million gallons per day or an increase of 90%. The increased wastewater load with the growth planned under Alternative 1 could increase current surcharging of the local sewers within the Planned Action Study Area.	The increase in wastewater flow in this subarea is 0.04 million gallons per day (170% of existing load). Similar to the Planned Action Study Area, no impacts on the interceptors that provide conveyance from the subarea are expected, but the increased sewer load could impact local sewers within the subarea. The increased wastewater load under Alternative 1 could increase current surcharging of the local sewers within the subarea.	The increase in wastewater load for the Planned Action Study Area is 0.70 million gallons per day or 115% of existing load. Impacts regarding wastewater facilities would be similar to but greater than Alternative 1; the increased wastewater load with the growth planned under Alternative 2 could increase current surcharging of the local sewers within the study area.	The increase in wastewater load in this subarea is 0.40 million gallons per day (311% of existing load). Similar to the Planned Action Study Area evaluation of wastewater conveyance capacity, no impacts on the interceptors that provide conveyance from the subarea are expected, but the increased wastewater load could impact local sewers within the subarea and increase current surcharging of the local sewers within the subarea. Impacts regarding wastewater facilities would be similar to but greater than Alternative 1.	The increase in wastewater load for the Planned Action Study Area is 0.57 million gallons per day or 193% of existing load. This increase in wastewater flow is not expected to affect the wastewater interceptors that provide conveyance of wastewater from the Planned Action Study Area; the increased wastewater load with the growth planned under Alternative 3 could increase current surcharging of the local sewers within the study area. Impacts regarding wastewater facilities would be similar to but greater than Alternatives 1 and 2.	The increase in wastewater flow in this subarea is 0.10 million gallons per day (469%). Similar to the Planned Action Study Area, no impacts on the interceptors that provide conveyance from this subarea are expected, but the increased sewer load could impact local sewers within this subarea and increase current surcharging of the local sewers within the subarea. Impacts regarding wastewater facilities would be similar to but greater than Alternatives 1 and 2.
Indirect and Cumulative	Demands on utilities would increase as a result of cumulative development. No significant cumulative impacts are anticipated as long as the replacement of water and sewer infrastructure is properly planned, designed, and constructed, and funding strategies are identified and approved by City Council.	Same as Planned Action Study Area	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1

1.6 Summary of Mitigation Measures

Table 1-2 provides a summary of mitigation measures proposed in Chapter 4 to reduce identified impacts. These measures are in addition to applicable federal, state, and local regulations and commitments that are described in Chapter 3. Unless otherwise stated, the mitigation measures apply to all studied alternatives.

Table 1-2. Mitigation Measures

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.1 Earth		
	The following mitigation measures would apply to development throughout the Planned Action Study Area. • Apply erosion-control best management practices (BMPs), as described in Appendix D of the *City of Renton Amendments to the King County Surface Water Design Manual* (City of Renton 2010a). • Limit development in geologic hazard areas and their buffers, or require rigorous engineered design to reduce the hazard, as currently codified. Also, the City could promote earth material reuse by establishing websites or other community information exchanges to track material needs and surpluses. Vacant City-owned property could be designated as temporary stockpile sites for quality structural fill.	Mitigating measures for the Sunset Terrace Redevelopment Subarea would be similar to those for the Planned Action Study Area, except that there are no geologic hazard areas to avoid. Material reuse between construction zones within the subarea would be easier and more economical to control than in the larger, privately owned study area.
4.2 Air Quality		
	Construction Emission Control The City should require all construction contractors to implement air quality control plans for construction activities in the study area. The air quality control plans should include BMPs to control fugitive dust and odors emitted by diesel construction equipment. The following BMPs will be used to control fugitive dust. • Use water sprays or other non-toxic dust control methods on unpaved roadways. • Minimize vehicle speed while traveling on unpaved surfaces. • Prevent trackout of mud onto public streets. • Cover soil piles when practical. • Minimize work during periods of high winds when practical. The following mitigation measures will be used to minimize air quality and odor issues caused by tailpipe emissions. • Maintain the engines of construction equipment according to manufacturers' specifications. • Minimize idling of equipment while the equipment is not in use. If there is heavy traffic during some periods of the day, scheduling haul traffic during off-peak times (e.g., between 9:00 a.m. and 4:00 p.m.) would have the least effect on traffic and would minimize indirect increases in traffic related emissions. Burning of slash or demolition debris will not be permitted without express approval from Puget Sound Clean Air Agency (PSCAA). No slash burning is anticipated for any construction projects in the Planned Action Study Area. *Greenhouse Gas Reduction Measures* Neither the Washington State Department of Ecology (Ecology) nor the U.S. Environmental Protection Agency (EPA) is likely to adopt numerical greenhouse gas (GHG) emissions standards, GHG reduction requirements, or numerical GHG significance thresholds in the near future. It is the City's responsibility to implement its GHG reduction requirements for new developments. To ensure transit-oriented development measures are incorporated into new development and to offer single-purpose uses opportunities to reduce emissions, the City could require or encourage future developers to implement additional trip reduction measures and energy conservation measures that could provide even better GHG reduction. GHG emissions reductions could be provided by using prudent building design and construction methods to use recycled construction materials, reduce space heating and electricity usage, and reduce water consumption and waste generation. Table 4.2-8 lists a variety of mitigation measures that could reduce GHG emissions caused by transportation facilities, building construction, space heating, and electricity usage (Washington State Department of Ecology 2008). The table lists potential GHG reduction measures and indicates where the emission reductions might occur.	Mitigation measures for air quality applied to the subarea are the same as described under the Planned Action Study Area. In addition, the City and RHA could explore measures to improve indoor air quality beyond what is normally achieved by simply complying with building codes. For example, grant programs such as the Breath Easy Homes program could provide funding to foster construction methods that reduce dust, mold, and air toxics concentrations in the homes, such as the following: • use of low-VOC [volatile organic compounds] building materials and coatings, • enhanced building ventilation and room air filtration, and • installation of dust-free floor materials and low-pile carpeting to reduce dust buildup.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	The City could require development applicants to consider the reduction measures shown in Table 4.2-8 for their projects, and explain why other measures found in the table are not included or are not applicable. The City can incorporate potential GHG reduction measures through its goals, policies, or regulations, including the proposed Planned Action Ordinance.	
4.3 Water Resources		
	All of the alternatives would involve redevelopment and reduction of existing pollution-generating impervious surfaces in the Planned Action Study Area. In addition, per the requirements of the stormwater code, the redeveloped properties would be required to provide water quality treatment for all remaining pollution-generating impervious surfaces. The net reduction in untreated pollution-generating impervious surfaces throughout the study area is, therefore, considered to result in a net benefit to surface water quality. Therefore, no additional mitigation measures are proposed. Each of the alternatives would result in a slight increase in the effective impervious area of the Planned Action Study Area. Under the No Action Alternative, mitigation for increased impervious area would be provided through implementation of on-site flow control incrementally with the new and redevelopment projects. Under Alternative 2, mitigation would be provided in advance of development through public infrastructure investments in the green connections or would be provided incrementally through the new developments and redevelopment projects. Conceptual design and planning of the green connections would be developed under a drainage master plan for the study area and could be developed in advance of (likely through grants or city funds) or incrementally as development occurs depending on opportunity costs of constructing the green connections in conjunction with additional improvements (e.g., frontage improvements associated with redevelopment, roadway or pedestrian improvements, utility infrastructure improvements). The extent and form of the green connections would be refined through the drainage master plan development and further design. At such a time as the green connections and other associated decreases in effective impervious area due to redevelopment of highly impervious parcels occur, mitigation responsibility would shift back to individual projects to provide on-site flow control, or additional public investment could be directed to restoring the mitigation. The total amount of impervious surface mitigated would increase as redevelopment occurs in the Planned Action Study Area. Under Alternative 3, mitigation would be provided in advance or incrementally through the self-mitigating public stormwater infrastructure features including a combination of green connections, regional stormwater flow control, and possible public-private partnership opportunities for retrofits. Similar to Alternative 2, conceptual design and planning of the public stormwater infrastructure would be developed under a drainage master plan for the Study Area. It could be developed in advance of (likely through grants or city funds) or incrementally as development occurs depending on opportunity costs of constructing the improvements. The extent and form of the public infrastructure projects would be refined through the drainage master plan development and further design. However, as opposed to Alternative 2, the goal under Alternative 3 would be to provide sufficient advance public infrastructure improvements to balance the anticipated increase in effective impervious area. This strategy would only require that future developments implement flow-control BMPs, but could eliminate on-site flow control through a development fee or similar funding structure to compensate for the off-site mitigation provided by the public infrastructure investment. Similar to Alternative 2, the total mitigated impervious surface mitigated would increase as redevelopment occurs in the study area. Since more redevelopment is expected under this alternative, more impervious surface will be mitigated compared to Alternative 2. If grant funding or City funding is not obtained to implement the green connections or regional stormwater flow control facilities needed to provide required mitigation for stormwater quantity and quality impacts associated with the land use changes that would occur under Alternatives 2 and 3, then the stormwater mitigation will be implemented incrementally with the new and redevelopment projects.	No additional mitigation measures are proposed for the Potential Sunset Terrace Redevelopment Subarea. The improvements under the action alternatives are anticipated to improve the quality of runoff and recharge water. Although Alternative 2 would result in a slight increase in net effective impervious area, the increase in effective impervious area would be mitigated by the additional public stormwater infrastructure improvements (i.e., green connections and NE Sunset Boulevard improvements) provided elsewhere in the Planned Action Study Area. The City may require cost-reimbursement from RHA to provide the off-site mitigation or, as a catalyst for economic development, the Sunset Terrace redevelopment may be considered to be exempt from reimbursement. Alternative 3 would result in a reduction in the net effective impervious area through the incorporation of flow-control BMPs such as permeable pavements, rain gardens, and cisterns.
4.4 Plants and Animals		
	With implementation of proposed stormwater features or standards, no mitigation is required.	With implementation of proposed stormwater features or standards, no mitigation is required.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.5 Energy		
	Although the growth and development would result in increased energy demand in the Planned Action Study Area under all of the alternatives, expanding the beneficial transit-oriented development and high-density housing development within the study area would reduce regional energy usage. Therefore, all alternatives would provide a net benefit rather than adverse impact with regards to energy usage. However, to further reduce energy consumption, the City could require or encourage future developers to implement additional trip-reduction measures and energy conservation measures. Energy and GHG reductions can be achieved through implementation of the following energy conservation techniques or equivalent approaches. • An energy reduction of 12% can be achieved by implementing sufficient strategies established by the Northwest Energy Star Homes program for multifamily residential buildings. The Northwest ENERGY STAR Homes program (U.S. Environmental Protection Agency 2010) is designed to help builders construct energy-efficient homes in Washington, Oregon, Idaho, and Montana to meet energy-efficiency guidelines set forth by the EPA. • An energy reduction of 10% would comply with Seattle Energy Code for non-residential buildings. See also Section 4.2.	In addition to the mitigation measures described for the Planned Action Study Area, according to the King County proposed GHG reduction regulation, energy reductions can be provided with the implementation of the following basic requirements of the *American Society of Heating, Refrigerating and Air-Conditioning Engineers Advanced Buildings Core Performance Guide* for residential and non-residential building in the subarea: • 30% energy reduction for residential dwelling that are 50% of average size; and 15% energy reduction for residential dwelling that are 75% of average size; and • 12% energy reduction for office, school, retail, and public assembly buildings that are smaller than 100,000 square feet in floor area.
4.6 Noise		
	Construction Noise To reduce construction noise at nearby receivers, the following mitigation measures will be incorporated into construction plans and contractor specifications. • Locate stationary equipment away from receiving properties. • Erect portable noise barriers around loud stationary equipment located near sensitive receivers. • Limit construction activities to between 7:00 a.m. and 10:00 p.m. to avoid sensitive nighttime hours. • Turn off idling construction equipment. • Require contractors to rigorously maintain all equipment. • Train construction crews to avoid unnecessarily loud actions (e.g., dropping bundles of rebar onto the ground or dragging steel plates across pavement) near noise-sensitive areas. *New Commercial Operation Noise* The City may require all prospective future developers to use low-noise mechanical equipment adequate to ensure compliance with the City's daytime and nighttime noise ordinance limits. Depending on the nature of the proposed development, the City may require the developer to conduct a noise impact study to forecast future noise levels and to specify appropriate noise control measures. Compliance with the noise ordinance would ensure this potential impact would not be significant. *Traffic Noise Mitigation* Although traffic noise is exempt from City noise ordinance, based on site-specific considerations, the City may at its discretion require the new development to install double-pane glass windows or other building insulation measures using its authority under the Washington State Energy Code (4-5-040).	Mitigation measures described in the Planned Action Study Area would also apply to this subarea. In addition, outdoor noise levels at the residential dwellings abutting NE Sunset Boulevard are expected to exceed HUD's noise criterion of 65 dBA Ldn under all alternatives. Therefore, mitigation measures determined feasible will be required to reduce traffic noise from NE Sunset Boulevard so that day-night sound levels at outdoor use locations and inside residences in the subarea would be within the levels considered "acceptable" by HUD or would otherwise meet HUD requirements for attenuation. The following options of mitigation measures were considered for the subarea: • Noise barriers could be designed to reduce traffic noise from NE Sunset Boulevard at residences west of Harrington Avenue NE. However, the noise barrier would create conflicts with the project goals and objectives as described in the Chapter 2, with security and maintenance of the site, and with other environmental values (i.e., aesthetics). Because of these numerous conflicts, it is appropriate to consider balancing achievement of the noise criterion with other planning, environmental and social goals, as permitted by HUD's noise rules (24 Code of Federal Regulations [CFR] 51.105). Furthermore, such barriers would not reduce noise levels at the upper level dwellings in these buildings, so traffic noise levels would still exceed the HUD acceptability criterion at these residences. Noise barriers would not be feasible for mixed-use buildings and the community service building planned at the intersection of Harrington Avenue NE and NE Sunset Boulevard and the portion east of Harrington Avenue NE, because the barriers would restrict access to these buildings and conflict the project goals and objectives.. • For the affected upper level residential units and locations where noise barriers are not feasible, acoustical construction techniques and materials should be incorporated into building designs to reduce noise impacts for interior uses. To meet the HUD interior noise criterion of 45 dBA Ldn for residential uses, it will be necessary to provide 23 to 26 dBA of reduction in projected exterior noise levels to achieve 45 dBA Ldn in the interior. Normal construction materials and techniques can provide between about 15 and 25 dBA reductions in exterior to interior sound levels if there are no openings like windows, doors, or ventilation ports on the noise-affected sides of the buildings. Open windows reduce the sound-blocking properties of a wall by at least 50%. Thus, it will be necessary to employ special designs, materials, and construction techniques to insure that interior noise levels in the residences fronting on NE Sunset Boulevard comply with the HUD suitability criterion. Site design approaches that could reduce potential noise impacts include the following. • Park and open space uses are concentrated away from NE Sunset Boulevard. However, a plaza and setback areas remain adjacent to the roadway. Planned uses of the plaza and setbacks should not include activities that require easily understood conversation (e.g., instructional classes), or other uses where quiet conditions are required for the primary function of the activity. • The City and RHA could allow for balconies on exterior facing units only if they do not open to a bedroom.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
		• The City and RHA could reorient publicly funded residential dwellings to locations away from NE Sunset Boulevard. However, care would be needed to ensure that site design measures do not concentrate low-income residents into one area of the site. The City could consider the exception at 24 CFR 51.105 to approve raising the allowable exterior noise threshold from 65dB to 70dB. This is allowed for proposals that meet goals such as providing housing in proximity to employment, public facilities, and transportation and that maintain the character of the neighborhood.
4.7 Environmental Health		
	The following general mitigation measures would minimize or eliminate construction impacts within the Planned Action Study Area. • Since encountering unreported spills or unreported underground fuel tanks is a risk when performing construction, contractors will be required to provide hazardous materials awareness training to all grading and excavation crews on how to identify any suspected contaminated soil or groundwater, and how to alert supervisors in the event of suspected contaminated material. Signs of potential contaminated soil include stained soil, odors, oily sheen, or the presence of debris. • Contractors will be required to implement a contingency plan to identify, segregate, and dispose of hazardous waste in full accordance with the Model Toxics Control Act (MTCA). • Contractors will be required to develop and implement the Stormwater Pollution Prevention Plan, BMPs, and other permit conditions to minimize the potential for a release of hazardous materials to soil, groundwater, or surface water during construction. • Contractors will be required to follow careful construction practices to protect against hazardous materials spills from routine equipment operation during construction; prepare and maintain a current spill prevention, control, and countermeasure plan, and have an individual on site designated as an emergency coordinator; and understand and use proper hazardous materials storage and handling procedures and emergency procedures, including proper spill notification and response requirements. • All asbestos-containing materials (ACM) and lead-based paint will be identified in structures prior to demolition activities in accordance with 24 CFR Part 35. If ACM or lead-based paint is identified, appropriately trained and licensed personnel will contain, remove, and properly dispose of the ACM and/or lead-based paint material according to federal and state regulations prior to demolition of the affected area. • If warranted, contractors will conduct additional studies to locate undocumented underground storage tank (USTs) and fuel lines before construction of specific development projects (areas of concern include current and former commercial and residential structures) and will permanently decommission and properly remove USTs from project sites before commencing general construction activities. The following general mitigation measure would minimize or eliminate operational impacts within the Planned Action Study Area. • Prior to acquisition of known or potentially contaminated property, the City will require appropriate due diligence be performed to identify the presence and extent of soil or groundwater contamination. This can help to prevent or manage liabilities for any long-term clean-up activities that might be ongoing during project operations. If contamination is discovered, the project proponent will comply with all state and federal regulations for contaminated sites.	Similar construction and operation mitigation measures identified for the Planned Action Study Area would be applicable to the subarea.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.8 Land Use		
	Under all alternatives, the City will require developers to implement appropriate construction mitigation measures, including but not limited to dust control and construction traffic management. Under Alternatives 2 and 3, the City will make efforts to minimize property acquisition that affects buildings as part of its refinement of study area streetscape designs while balancing Complete Streets principles. Under Alternatives 2 and 3, the City will need to amend its Comprehensive Plan's Transportation and Capital Facilities elements to ensure that planned public investments and their funding sources are accounted for and programmed. There are no other specific mitigation measures required to address identified land use impacts. All alternatives implement the City's plans and zoning for the study area to varying degrees.	Construction mitigation would be the same as described under the Planned Action Study Area. Under Alternatives 2 and 3, the City and RHA will coordinate on future Sunset Terrace redevelopment and Planned Action Study Area streetscape improvements to ensure that property acquisition that affects buildings is minimized. The following measures are components of RHA's conceptual designs for Alternatives 2 and 3 and address land use issues. • Locate the majority of the most intensive non-residential development along or near NE Sunset Boulevard, where possible. • Implement proposed open space and landscape features to offset the proposed intensification of land uses on the site. • Provide new opportunities for public open space area through the proposed street vacation in Alternative 3. • As part of site design, emphasize transitions in density, with less intense densities where abutting lower-intensity zones.
4.9 Socioeconomics		
	Mitigation measures to minimize dust, noise, aesthetics, and transportation impacts during construction are identified in Sections 4.2, 4.6, 4.12, and 4.14, respectively. These measures would address many of the construction-related impacts that could negatively affect the study area businesses. In addition, with the reconstruction of NE Sunset Boulevard or with any of the new development, if access to businesses is affected, the following measures may be included to minimize the impacts. • Provide detour, open for business, and other signage, as appropriate. • Provide business cleaning services on a case-by-case basis, as needed. • Establish promotions or marketing measures to help affected businesses maintain their customer base during construction. • Maintain access, as much as possible, to each business and, if access needs to be limited, coordinate with the affected businesses. No mitigation measures for operation are identified, because operation would result in beneficial impacts. Mitigation measures to address indirect impacts on housing affordability are addressed in Section 4.10.	Mitigation measures would be the same as described for the Planned Action Study Area. Public housing tenants would be provided relocation assistance under the Uniform Relocation Act. In addition, mitigation measures could be developed to address the demolition of the Sunset Terrace complex including the phased demolition and reconstruction to minimize the need to relocate all the residents at the same time and/or the new affordable housing development could be constructed prior to demolition to provide opportunities to relocate tenants within the subarea. No mitigation measures for operation are identified, because operation would result in beneficial impacts.
4.10 Housing		
	Renton Municipal Code (RMC) 4-4-030(C) identifies construction hours intended to address noise in sensitive time periods. See Section 4. 6, Noise, regarding other noise mitigation measures for construction periods. When federal funds are being used for a proposal, displaced tenants will be offered relocation assistance in compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended. The City and RHA could apply for federal, state, and local funding programs described in Section 3.10, Housing, to promote new housing opportunities for low and very low-income housing. RHA could establish a local preference for rental assistance. For example, RHA could establish a priority list for Section 8 vouchers for displaced low-income tenants in the Planned Action Study Area (in addition to the relocation assistance to be provided by RHA to the Sunset Terrace residents). Under Alternative 3, unit replacement and relocation assistance for the family village would be the same as described for the Potential Sunset Terrace Redevelopment Subarea.	Construction mitigation would be as described for the Planned Action Study Area. For Alternatives 2 and 3, RHA has committed to replacement housing for the Sunset Terrace public housing units at a 1:1 ratio, consistent with the existing proportion of units by number of bedrooms. Such replacement housing could occur on site and/or off site. During the time replacement housing is under construction, Section 8 vouchers would be used to relocate tenants. Relocation assistance would only be needed for two units in association with Alternative 1.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.11 Environmental Justice		
	There are no specific mitigation measures related to environmental justice during construction or operation. During construction, mitigation measures related to noise, dust, traffic congestion, and visual quality would be applicable to all populations. These measures are described in Sections 4.2, 4.6, 4.12, and 4.14, respectively. Since the implementation of a Planned Action, under the action alternatives, is anticipated to result in beneficial effects on all populations, no mitigation measures are required.	Mitigation measures during construction would include the need for replacement housing for the residents of Sunset Terrace. It is likely that the tenants would be relocated under a potential Section 8 voucher strategy during construction. Additional information on the likely sequence of events implemented for the relocation of the Sunset Terrace tenants is provided in Section 4.9, Socioeconomics. Mitigation measures during operation would not be required as the build alternatives would result in positive and beneficial impacts on all populations including minority and low-income populations through improvements in housing, civic amenities, and economic climate.
4.12 Aesthetics		
	In both the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, mitigation measures will be necessary to minimize impacts associated with increased height, bulk, and shading. Future development occurring under any of the alternatives should conform to the Renton Municipal Code design standards (key sections are cited in Section 4.12.2.1). As described in RMC 4-3-100B3, portions of the Planned Action Study Area do not currently lie within an established Urban Design District, most notably those properties north of NE 16th Street and west of Kirkland Avenue NE, where the family village proposed under Alternative 3 would be located. To ensure that future redevelopment exhibits quality urban design, the City should consider either including this area in Design District D or creating a new design district for this purpose.	See Planned Action Study Area.
4.13 Historic and Cultural Resources		
	The following mitigation measures are recommended for all future development projects in the Planned Action Study Area. • In the event that a proposed development site within the study area contains a building at least 50-years of age that is not listed in or determined eligible for listing in the National Register of Historic Places (NRHP) or Washington Heritage Register (WHR), the project would be required to undergo review to determine if the property is considered eligible for listing. • It is recommended that the City adopt a historic preservation ordinance that considers the identification and treatment of historic resources listed in or determined eligible for listing in the NRHP or WHR, or locally designated. Until such time an ordinance is adopted, the City must enter into consultation with DAHP regarding potential impacts on historic resources in the study area that are listed in or determined eligible for listing in the NRHP or WHR. • For future projects that involve significant excavation in the study area the City must enter into consultation with Washington State Department of Archaeology and Historic Preservation (DAHP) to determine the likelihood of and recommendations for addressing potential archaeological resources. It may be necessary to complete archaeological testing prior to significant excavation in the study area, such as digging for footings or utilities. Archaeological project monitoring may be recommended for subsurface excavation and construction in high probability areas. • In the event that a future development project in the study area is proposed on or immediately surrounding a site containing an archaeological resource, the potential impacts on the archaeological resource must be considered and, if needed, a study conducted by a qualified archaeologist to determine whether the project would materially impact the archaeological resource. If the project would disturb an archaeological resource, the City will impose any and all measures to avoid or substantially lessen the impact. If avoidance of the archaeological resource is not possible, an appropriate research design must be developed and implemented with full data recovery of the archaeological resource prior to the development project. The avoidance of archaeological resources through selection of project alternatives and changes in design of project features in the specific area of the affected resource(s) would eliminate the need for measuring or mitigating impacts. Non-site-specific mitigation could include developing an educational program, interpretive displays, and design guidelines that focus on compatible materials, and professional publications.	Since no native "A" horizon was identified at the Edmonds-Glenwood site and throughout the Sunset Terrace public housing complex, no further archaeological investigations are recommended for these areas. Although a buried, native "A" horizon was identified on RHA's Piha site (east of Harrington Avenue NE), the potential for an archaeological discovery is very low. The project should proceed with no further archaeological investigations. If archaeological materials are discovered during ground disturbing excavations, it is recommended that the contractor halts excavations in the vicinity of the find and contact DAHP. For additional information, see Section 4.13. If human skeletal remains are discovered, the King County Sheriff and DAHP should be notified immediately. If during excavation archaeological materials are uncovered, the proponent will immediately stop work and notify the City, DAHP, and affected Indian tribes, as outlined in the Unanticipated Discovery Plan provided in Appendix J. If the project would disturb an archaeological resource, the City will impose any and all measures to avoid or substantially lessen the impact. If avoidance of the archaeological resource is not possible, an appropriate research design must be developed and implemented with full data recovery of the archaeological resource prior to the development project. The avoidance of archaeological resources through selection of project alternatives and changes in design of project features in the specific area of the affected resource(s) would eliminate the need for measuring or mitigating impacts.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.14 Transportation		
	Operational Mitigation In 2030, the intersections on NE 12th Street at Edmonds Avenue NE and at Harrington Avenue NE are expected to operate at level of service (LOS) E or F under Alternative 2 and Alternative 3. This exceeds the LOS D mobility standard during the PM peak hour. As mitigation at Edmonds Avenue NE and NE 12th Street, the single shared turn lane on the southbound approach could be restriped to include a separate left-turn lane and a shared through-right lane. This additional turn capacity would allow through or right-turning vehicles to make their movement without waiting behind southbound left-turning vehicles. Similarly, the single shared turn westbound approach could be striped to include a dedicated right-turn lane and a shared through-left turn lane. The westbound right-turn volume is more than double the through and left-turn volume combined. A separate right-turn lane would add capacity and would alleviate the heaviest movement. Right-turn vehicles would be able to proceed independently of the through or left-turn vehicles. An additional southbound left-turn pocket and westbound right-turn pocket would improve operations to LOS D under Alternative 2 and LOS E under Alternative 3. Under Alternative 3, the added turn-lane capacity improvements would reduce delay at the heaviest movements to within 5 seconds of meeting the LOS D threshold. Instead of additional permanent mitigation, demand management strategies could be used to improve LOS at Edmonds Avenue NE and NE 12th Street. Pedestrian- and bicycle-oriented paths or multi-use trails could be developed between the neighborhoods north of NE 12th Street and the retail or commercial uses along NE Sunset Boulevard. Paths could include outdoor furniture and public art. Destinations could have secure bike storage areas and well-lit public spaces. Improved pedestrian and bicycle connectivity could make using nonmotorized modes into town more attractive and could encourage a shift from driving to walking or biking. This shift could reduce the number of vehicles expected on the southbound left and westbound right movements at Edmonds Avenue NE and NE 12th Street. At the Harrington Avenue NE and NE 12th Street intersection, the eastbound approach could be restriped to have a separate left-turn lane and a shared through-right lane, instead of the single shared turn lane currently in place. The westbound approach could be restriped to include two through lanes (each with a shared turn movement) to increase capacity of the approach. Parking may need to be restricted on the westbound receiving leg during peak periods to accommodate the additional through lane of traffic. With implementation of these suggested mitigation measures, the Harrington Avenue NE and NE 12th Street intersection would operate at LOS D under Alternative 2 in 2030. Alternative 3 would require the eastbound approach to be restriped with two shared turn through lanes to meet the LOS D threshold. Both the eastbound and westbound directions would likely require parking restrictions during the PM peak on the respective receiving legs to accommodate the additional through movement, but no apparent right-of-way take or construction would be necessary. *Construction Mitigation* Temporary mitigation during construction may be necessary to ensure safe travel and manage traffic delays. The following mitigation measures could be implemented prior to or during construction within the Planned Action Study Area. • Prior to construction: o Assess pavement and subsurface condition of roadways being proposed for transport of construction materials and equipment. Ensure pavement can support loads. Adequate pavement quality would likely reduce the occurrence of potholes and would help maintain travel speeds. o Alert landowners and residents of potential construction. Motorists may be able to adjust schedules and routes to avoid construction areas and minimize disruptions. o Develop traffic control plans for all affected roadways. Outline procedures for maintenance of traffic, develop detour plans, and identify potential reroutes. o Place advance warning signage on roadways surrounding construction locations to minimize traffic disturbances.	No permanent mitigation measures are recommended within Potential Sunset Terrace Redevelopment Subarea. The intersection operations under either action alternative are expected to be within the LOS D threshold. During construction, mitigation measures would be similar to those described for the Planned Action Study Area. Flaggers, advance warning signage to alert motorists of detours or closures, and reduced speed zones would likely benefit traffic operations.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	• During construction: o Place advance warning signage on NE Sunset Boulevard and adjacent arterials to warn motorists of potential vehicles entering and exiting the roadway. Signage could include "Equipment on Road," "Truck Access," or "Slow Vehicles Crossing." o Use pilot cars as dictated by the Washington State Department of Transportation (WSDOT). o Encourage carpooling among construction workers to reduce traffic volume to and from the construction site. o Employ flaggers, as necessary, to direct traffic when vehicles or large equipment are entering or exiting the public road system to minimize risk of conflicts between trucks and passenger vehicles. o Maintain at least one travel lane at all times, if possible. Use flaggers to manage alternating directions of traffic. If lane closures must occur, adequate signage for potential detours or possible delays should be posted. o Revisit traffic control plans as construction occurs. Revise traffic control plans to improve mobility or address safety issues if necessary.	
4.15 Parks and Recreation		
	During construction, impacts adjacent to or in parks within the Planned Action Study Area, such as an increase in noise, dust, and access limitations, would be mitigated as per a construction mitigation plan. The following four mitigation measures would help improve the availability or access to parks and recreation facilities in the Planned Action Study Area. • The City is initiating a parks, recreation, open space and natural resources plan for completion in 2011. That plan could identify alternative LOS standards and parks and recreation opportunities inside or outside of the Planned Action Study Area that could serve the local population. • The City is considering amendments to its development codes that would provide for payment of a fee-in-lieu for required common open space. As proposed, the fee-in-lieu option could be executed when development sites are located within 0.25 mile of a public park and when that park can be safely accessed by pedestrians. The City's package of amendments also includes park impact fees. (City of Renton 2010b.) • The City and Renton School District could develop a joint-use agreement for public use of school grounds for parks and recreation purposes during non-school hours. An example of a joint-use agreement is the City of Sammamish and Issaquah School District No. 411's "Interlocal Agreement Regarding the Joint Use, Development, and Maintenance of City and District Properties" (City of Sammamish and Issaquah School District No. 411 2006). These types of agreements define joint-use elements such as activity scheduling, liability, and maintenance. Joint-use agreements between the City and Renton School District could also be used to, at least partially, address the LOS deficiencies in existing recreation facilities. • The City could add parks and recreation facilities such as: o The City could convert current public properties no longer needed for their current uses to parks and recreation uses, such as the Highlands Library that is intending to move and expand off site. Figure 4.15-2 shows properties in public use. o The City could purchase private property for parks and recreation use. An efficient means would be to consider properties in the vicinity of existing parks and recreation facilities or where additional population growth would be greatest. Figure 4.15-2 shows locations where future demand could be greater and where the City could focus acquisition efforts.	With the prevalence of public facilities in the Planned Action Study Area as a whole, and the addition of a multi-generational community center, and potentially a library in the Potential Sunset Terrace Redevelopment Subarea, there is opportunity to manage the current facilities in a manner that maximizes their beneficial parks and recreation uses for future population growth. The mitigation measures proposed for the Planned Action Study Area would help serve the Potential Sunset Terrace Redevelopment Subarea.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
4.16 Public Services		
	Police During construction, security measures will be implemented by developers to reduce potential criminal activity, including on-site security surveillance, lighting, and fencing to prevent public access. The City should design street layouts, open space, and recreation areas to promote visibility for residents and police. Street and sidewalk lighting would discourage theft and vandalism, and enhance security. Revenues from increased retail activity and increased property values could help offset some of the City's additional expenditures for providing additional officers and responses to incidents. *Fire and Emergency Medical Services* Developers will construct all new buildings in compliance with the International Fire Code and Renton Development Regulations (RMC Title 4), including provision of emergency egress routes and installation of fire extinguishing and smoke detection systems. All new buildings will comply with accessibility standard for people with disabilities, per the requirements of the Americans with Disabilities Act. Revenues from increased retail activity and increased property values could help offset some of the City's additional expenditures for providing additional fire and emergency medical service staff to respond to incidents. *Education* During renovation of the Hillcrest Early Childhood Center under Alternatives 2 and 3, the Renton School District should provide temporary transportation or take other equivalent measures to ensure accessibility of the early education program to area children who attend the program. Since the school district typically plans for a shorter-term horizon than the 20 years envisioned for the Planned Action, the district will continue to monitor student generation rates into the future and adjust its facility planning accordingly. The district will continue to implement existing plans to expand permanent student capacity at area schools. In addition, the district may utilize portable classrooms or shift attendance boundaries to address student capacity issues that arise on a shorter term basis. The district will also continue monitoring growth in the number of English Language Learner students in the district, and plan additional capacity in that program to meet growing demands for that service, particularly in schools with high percentages of English Language Learners, such as Highlands Elementary. The school district imposes a school impact fee for new residential construction. This funding source can be used to help provide expanded school facilities needed to serve the growth anticipated under all alternatives (RMC 4-1-160). *Health Care* There are no mitigation measures needed or proposed for health care due to the negligible change in the number of beds. *Social Services* The City's planned improvements to the streetscape and transit facilities that make walking, bicycling, and taking transit more viable modes of transportation would improve accessibility of social services located outside the Planned Action Study Area to area residents. RHA, Renton School District, and the City could work together to relocate the Friendly Kitchen community feeding program under Alternative 3, in which the Hillcrest Early Childhood Center campus, the current site of this program, is redeveloped as part of a family village. Relocation should occur at an accessible location nearby to maintain service to the existing community that relies upon the Friendly Kitchen services. If possible, Renton School District and RHA could incorporate space for the continuation of the Friendly Kitchen Program within the family village. RHA and the City could consider developing a community center facility as part of Sunset Terrace redevelopment or the family village development or at another location in the Planned Action Study Area. The center would provide an accessible on-site space for a comprehensive range of social services for residents in the Planned Action Study Area,	*Police* Mitigation measures described for the Planned Action Study Area would also apply to this Subarea. *Fire and Emergency Medical Services* Mitigation measures described for the Planned Action Study Area would also apply to this Subarea. *Education* No mitigation measures are necessary or proposed. *Health Care* No mitigation measures are necessary or proposed. *Social Services* RHA's provision of community space that could be used for social services or community meeting space for community organizations would serve as mitigation for the proposal under all alternatives. See the discussion under the Planned Action Study Area. RHA should maintain a community meeting space within or near the subarea during construction phase of Sunset Terrace redevelopment in Alternatives 2 and 3 that allows for on-site social service programs to continue to meet within the subarea. *Solid Waste* Mitigation measures described for the Planned Action Study Area would also apply to this Subarea. *Public Library* The King County Library System should continue to monitor growth within its geographic clusters, and adjust plans for facility sizing and spacing according to shifting trends in population growth.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	focused on alleviating poverty, and addressing the needs of some of the more predominant demographic groups found within the Planned Action Study Area—seniors, individuals living with disabilities, those speaking English as a Second Language, and youth. *Solid Waste* The City's Solid Waste Utility should work with the development community to make efforts to recycle or reuse building materials where possible when redeveloping sites, to minimize input to the construction-related waste stream. The City's Solid Waste Utility and private waste haulers should maintain a recycling and waste reduction program consistent with the King County Comprehensive Solid Waste Management Plan to minimize waste production. *Public Library* The King County Library System should continue to monitor growth within its geographic clusters, and adjust plans for facility sizing and spacing according to shifting trends in population growth.	
4.17 Utilities		
	Water To mitigate the current and projected water storage deficit in the pressure zones that serve the study area, the City completed the construction of the 4.2-million-gallon Hazen Reservoir in the Highlands 565 pressure zone in March 2009. The City also completed a water distribution storage feasibility study to develop conceptual options and planning level cost estimates for expanding the storage capacity at two existing City-owned sites: the Highlands Reservoirs site and the Mt. Olivet Tank site (HDR, Inc. 2009). Financial strategies for the planning, design, and construction of the storage-capacity expansion have not been determined at this time. To mitigate the fire-flow requirements for the proposed level of development and redevelopment within the Planned Action Study Area, larger diameter (12-inch) piping is required throughout the Planned Action Study Area to convey the higher fire-flow requirements. The new water mains will be looped for reliability and redundancy of service, as required by City policies and water design standards. The larger mains will be installed within the dedicated right-of-way in a north-to-south and east-to-west grid-style water system. Additional mains within the development sites will also be required to provide water to hydrants and water meters, and should be looped within the development site around buildings. To provide the water pressure requirements for multistory buildings and to support the pressure requirements for fire sprinkler systems, the new water mains will be connected to the higher-pressure Highlands 565 pressure zone. The options to address fire flow within the Planned Action Study Area are further described below. The Highlands 565 pressure zone typically has enough pressure to meet the pressure needs for fire-flow requirements for the proposed development and redevelopment in the Planned Action Study Area, but is limited in providing the fire-flow rate due to the size of the existing water mains that are generally smaller than 12 inches in diameter. The Highlands 435 pressure zone operates at lower pressures and has smaller-diameter pipes in this area of the pressure zone and, therefore, cannot meet both the pressure requirements and the fire-flow capacity (flow) requirements. The options developed to remedy fire-flow and pressure inadequacies are shown in Section 4.17, Figure 4.17-1 and summarized below. A 12-inch-diameter pipeline loop shown in Section 4.17, Figure 4.17-1 was developed to extend the Highlands 565 pressure zone into the existing Highlands 435 pressure zone. This 12-inch-diameter loop was also extended north of NE 12th Street in the existing Highlands 565 pressure zone to improve the conveyance capacity throughout the Planned Action Study Area. This 12-inch-diameter loop improvement builds on the City's recent extension of the Highlands 565 pressure zone into the Highlands 435 pressure zone to support fire-flow requirements for the Harrington Square Development. In addition to the 12-inch-diameter pipe loop shown in Section 4.17, Figure 4.17-1, additional piping improvements for each development served from the 12-inch-diameter loop are expected to be required to provide sufficient fire flow and pressure throughout each development. The sizing and layout of this additional piping will depend on the development layout, but will require that the development piping be looped around buildings and be sufficient in size to maintain the fire-flow requirements of the development.	*Water* The mitigation measures that are required in the Potential Sunset Terrace Redevelopment Subarea are similar to those noted for the Planned Action Study Area. The water storage deficit would be met with an increase in storage at the existing Highlands Reservoirs site, and fire-flow requirements would require the new 12-inch-diameter pipe loop throughout this subarea and realignment of the Highlands 435 and Highlands 565 pressure zones. As noted previously, the City has recently installed a new 12-inch-diameter main for development adjacent to this subarea, and as development occurs in the subarea, the pipe network would need to be extended to serve the development. *Wastewater Collection* The sewers within the Potential Sunset Terrace Redevelopment Subarea are also identified for replacement based on age and condition in the City's Long Range Wastewater Management Plan. Based on the increased wastewater load within the Potential Sunset Terrace Redevelopment Subarea, the local sewers may need to be replaced with upsized pipe to manage the increased wastewater load from the subarea.

Table 1-2. Continued

Resource	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	Wastewater Collection	
	The local wastewater collection system n the Planned Action Study Area is scheduled for replacement based on age and condition as noted in the *City of Renton Long Range Wastewater Management Plan* (City of Renton 2009b). The local sewers have reached the end of their useful life and have been identified as high priority replacements due to leaks and current surcharging. However, the increased wastewater load with the development in the Planned Action Study Area could require that the local sewers be replaced with larger diameter pipe to provide sufficient capacity to the wastewater interceptors that serve the Planned Action Study Area. The locations where lines would be improved are identified in Section 4.17.	

1.7 Significant Unavoidable Adverse Impacts

Table 1-3 describes whether there are any residual impacts after application of mitigation measures, and whether these are significant, unavoidable, and adverse.

Table 1-3. Significant Unavoidable Adverse Impacts

Resource	Impacts
4.1 Earth	There are no significant unavoidable adverse earth impacts.
4.2 Air Quality	No significant unavoidable adverse impacts on regional or local air quality are anticipated. Temporary, localized dust and odor impacts could occur during the construction activities. The regulations and mitigation measures described above are adequate to mitigate any adverse impacts anticipated to occur as a result of study area growth increases.
4.3 Water Resources	None of the alternatives would have significant unavoidable adverse impacts on water resources, because the redevelopment would likely result in an improvement of runoff and recharge water quality. In addition, the net change in effective impervious area can be adequately mitigated through the self-mitigating features of the action alternatives and through implementation of the stormwater code, as described under Section 4.3.2.
4.4 Plants and Animals	No significant unavoidable adverse impacts would occur for plants and animals under any alternative.
4.5 Energy	Additional energy would be consumed and would contribute to increases in demand associated with the growth and development of the region. As described in the Utilities Element of the City Comprehensive Plan, it is anticipated that existing and planned infrastructure of affected energy utilities could accommodate growth. Energy conservation features would be incorporated into building design as required by the current City building codes. For the Potential Sunset Terrace Redevelopment Subarea, HUD encourages public housing authorities such as RHA to use Energy Star, renewable energy, and green construction practices in public housing. As such, no significant unavoidable adverse impacts on energy use are anticipated.
4.6 Noise	No significant unavoidable adverse construction or operational traffic noise impacts are anticipated in the Planned Action Study Area with the implementation of mitigation measures noted above. No significant unavoidable adverse traffic noise impacts are anticipated at residences along NE Sunset Boulevard in the Planned Action Study Area per WSDOT criteria, because the noise increase caused by NE Sunset Boulevard traffic is less than the WSDOT "substantial increase" impact threshold. Portions of the Potential Sunset Terrace Redevelopment Subarea, even under existing conditions and the No Action Alternative, would be deemed normally unacceptable under the HUD noise criteria without implementation of noise attenuation mitigation, due to traffic noise from the adjacent street (NE Sunset Boulevard). No significant unavoidable adverse noise impacts are anticipated in this subarea, if the noise control measures noted above are implemented to reduce anticipated future traffic noise to levels suitable for residential uses under the HUD criteria.
4.7 Environmental Health	No significant unavoidable adverse impacts are identified at the programmatic level throughout the Planned Study Area or for the Sunset Terrace Redevelopment Subarea for any of the studied alternatives. Contaminated sites would be avoided during project design when possible; implementing the mitigation approaches described above would minimize or eliminate adverse effects on human health and the environment.
4.8 Land Use	Although intensification of land uses in the Planned Action Study Area, including the Potential Sunset Terrace Redevelopment Subarea, would occur and density would increase, this change would be consistent with applicable plans, zoning, and land use character. Plan consistency can be addressed by Comprehensive Plan amendments using the City's legislative process. Therefore, there would be no significant adverse impacts.

Resource	Impacts
4.9 Socioeconomics	No long-term significant unavoidable adverse impacts are anticipated under Alternative 2 and 3. Both of these alternatives would encourage new development in the both the Planned Action Study Area and the Potential Sunset Terrace Redevelopment Subarea that would result in beneficial changes to the socioeconomic conditions. Under Alternative 1, the study area would not benefit from the changes identified for the action alternatives. Instead, the study area would redevelop more slowly and, in turn, economic conditions would improve more slowly. Connectivity would not be improved along NE Sunset Boulevard, and the Sunset Terrace tenants would remain in the existing structures that would continue to degrade. Under Alternatives 2 and 3, relocation of the tenants of the Sunset Terrace complex would result in short-term impacts; however, these impacts would be mitigated. The creation of new jobs and spending in the subarea during construction of new developments would result in short-term benefits.
4.10 Housing	Housing in the Planned Action Study Area would likely redevelop to some degree to take advantage of adopted plans and zoning. However, the alternatives would allow for the construction of new dwelling units to replace those that are eliminated. Lower-cost housing could be replaced with more costly housing. Implementation of City regulatory incentives and use of federal, state, and local housing funds and programs could reduce potential affordability impacts. Through its regular Comprehensive Plan review cycles, the City could monitor housing trends in the neighborhood and adapt measures to promote affordability. During construction and in the short-term, residents would be subject to construction activities and the tenants of the Sunset Terrace complex would be required to relocate during demolition and construction. However, relocation assistance mitigation measures for RHA units would mitigate impacts.
4.11 Environmental Justice	There are no long-term significant unavoidable adverse impacts related to environmental justice. The action alternatives would result in primarily beneficial impacts associated with new dwelling units, new civic facilities and parks, improvements in nonmotorized transportation, and new employment opportunities in the surrounding area. During construction and in the short-term residents would be subject to construction activities and the tenants of the Sunset Terrace complex would be required to relocate during demolition and construction. However, construction mitigation and relocation assistance mitigation measures (for the RHA units) would minimize impacts.
4.12 Aesthetics	With the application of adopted development regulations and recommended mitigation measures, no significant unavoidable adverse aesthetic impacts are anticipated.
4.13 Historic and Cultural Resources	The impacts on cultural resources caused by new development associated with any alterative could be significant and unavoidable, depending on the nature and proximity of the proposed development project. Implementation of mitigation measures set forth in Section 4.13.2 would identify potential impacts on cultural resources, at which point measures to reduce them to less than significant could be taken.
4.14 Transportation	The alternatives are expected to contribute to a cumulative increase in traffic volumes within the study area, which could degrade some roadway operations. The increase in traffic volumes due to activities in the study area is considered unavoidable, but the roadway operation and LOS can be mitigated to meet applicable LOS standards.

Resource	Impacts
4.15 Parks and Recreation	Under studied alternatives for the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, there would be an increased demand for parks and recreation facilities. With the application of mitigation measures, no significant unavoidable impacts are anticipated.
4.16 Public Services	Demand for public services will continue to increase in conjunction with population growth. With advanced planning and implementation of mitigation measures, no significant unavoidable adverse impacts related to police, fire/emergency medical, education, health care, social services, solid waste, or library services are anticipated.
4.17 Utilities	All studied alternatives are anticipated to increase demand for water, wastewater, and telecommunication services. Increased growth in the Planned Action Study Area has the potential to exacerbate existing water and wastewater system deficiencies. However, with application of mitigation measures, no significant unavoidable adverse impacts are anticipated.

Chapter 2
Proposal and Alternatives

2.1 Introduction

This Draft Environmental Impact Statement (EIS) addresses the Sunset Area Community Planned Action, which includes redevelopment of the Sunset Terrace public housing community and associated neighborhood growth and revitalization (proposal). Sunset Terrace's redevelopment provides the opportunity to evaluate the broader Sunset Area Community neighborhood and determine what future land use redevelopment is desirable and what public service and infrastructure improvements should be made to create a more vibrant and attractive community for residents, businesses, and property owners. This chapter describes the proposal and alternatives that are analyzed in this EIS.

2.2 Proponent

The Renton Housing Authority (RHA) is the proponent of the proposal's primary development action, the redevelopment of the existing Sunset Terrace public housing community. In accordance with specific statutory authority and the U.S. Department of Housing and Urban Development's (HUD's) regulations at 24 Code of Federal Regulations (CFR) part 58, the City is authorized to assume responsibility for environmental review, decision-making, and action that would otherwise apply to HUD under the National Environmental Policy Act (NEPA), which includes NEPA lead agency responsibility.

As the entity responsible for public service and infrastructure improvements for Sunset Terrace and the broader Sunset Area Community neighborhood and for regulating private neighborhood redevelopment, the City is the proponent of the broader Planned Action that would streamline local permitting and environmental review under Washington State Environmental Policy Act (SEPA; Revised Code of Washington [RCW] 43.21C). The City implements SEPA and NEPA, and is performing joint NEPA/SEPA environmental review in this EIS.

The City, in partnership with RHA and other agencies, intends to use federal funds from several HUD programs to help finance proposed project activities. Such programs may include Revitalization of Severely Distressed Public Housing (HOPE VI), the Choice Neighborhoods Appropriations programs, or other programs.

2.3 Project Location

The Sunset Terrace public housing community is generally bounded by Sunset Lane NE and Glenwood Avenue NE on the north, NE 10th Street on the east, NE Sunset Boulevard (State Route [SR] 900) on the south, and Edmonds Avenue NE on the west (Figure 2-1).

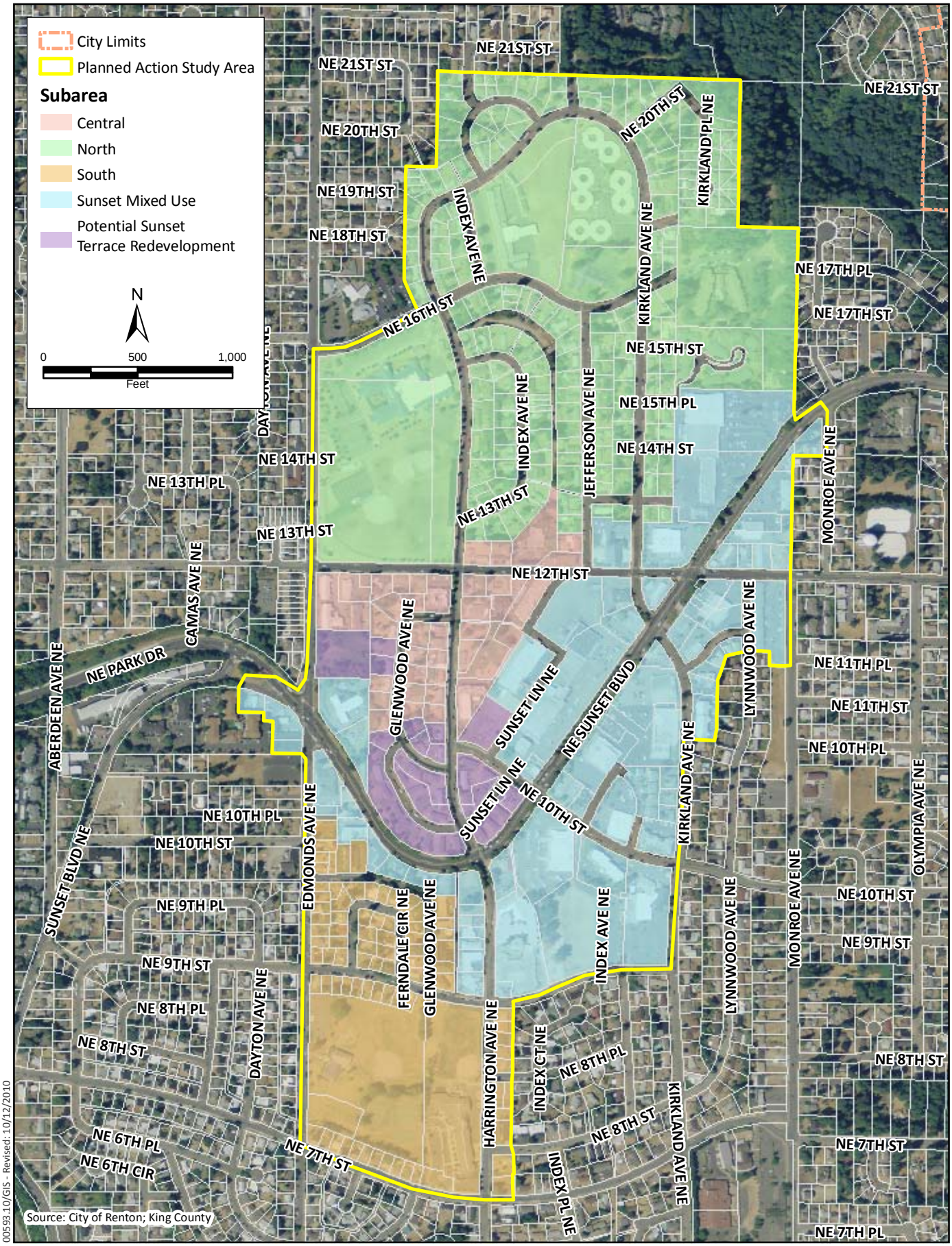

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Figure 2-1
Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

The Sunset Terrace public housing community is part of the Sunset Area Community neighborhood. This broader neighborhood is the Planned Action Study Area considered in this EIS; it is generally bounded by NE 21st Street on the north, Monroe Avenue NE on the east, NE 7th Street on the south, and Edmonds Avenue NE to the west. The Sunset Area Community neighborhood is part of northeast Renton and is also known as or referred to as the Highlands area (Figure 2-1).

The Planned Action Study Area has been broken down into subareas to allow the EIS discussion to distinguish the site-specific redevelopment of the Sunset Terrace property from the broader programmatic actions occurring throughout the Planned Action Study Area. The five subareas are shown on Figure 2-1 and described below.

- **Potential Sunset Terrace Redevelopment Subarea** includes the Sunset Terrace public housing site and adjacent vacant or non-RHA owned properties being considered for redevelopment into a mixed-use, mixed-income community. This subarea is being analyzed at a site-specific level, and is the primary action under review in this EIS for NEPA purposes.
- **Sunset Mixed Use Subarea** encompasses larger parcels with a mix of uses that are centered on NE Sunset Boulevard (SR 900).
- **Central Subarea** is a multifamily area containing the current Highlands Library. This subarea is adjacent to the Potential Sunset Terrace Redevelopment and Sunset Mixed Use subareas.
- **North Subarea** is made up of lower-density residential north of the Central and Sunset Mixed Use subareas, but also includes park and educational facilities.
- **South Subarea** is a mostly lower-density residential district located south of NE Sunset Boulevard that includes park and educational facilities.

2.4 Proposal Overview

The proposal is to redevelop the Sunset Terrace public housing community and to promote associated neighborhood growth and revitalization as part of a Planned Action. Redevelopment of the public housing community and adoption of a Planned Action Ordinance would encourage redevelopment in the Planned Action Study Area through land use transformation and growth, public service and infrastructure improvements, and a streamlined environmental review process. The components of the proposal are described below.

2.4.1 Sunset Terrace Redevelopment

The proposal includes redevelopment of RHA's Sunset Terrace public housing community, a 7.3-acre property with 100 existing units contained in 27 buildings that are 50-year-old, two-story structures, located at the intersection of NE Sunset Boulevard and Harrington Avenue NE. RHA also owns additional vacant and residential land (approximately 3 acres with two dwelling units) along Edmonds Avenue NE, Glenwood Avenue NE, and Sunset Lane NE, and proposes to purchase additional property adjacent to Sunset Terrace, along Harrington Avenue NE (which contains about 8 dwellings)[1]; RHA plans to incorporate these additional properties into the Sunset Terrace redevelopment for housing and associated services.

[1] Only proposed under Alternative 3, described in Section 2.7.

Conceptual plans currently propose redevelopment of Sunset Terrace and adjacent properties with mixed-income, mixed-use residential and commercial space and public amenities. The redevelopment would include a 1-to-1 unit replacement for all 100 existing public housing units, some of which would occur on site and some of which would occur elsewhere in the Planned Action Study Area. It is expected that, with the Sunset Terrace property and associated properties owned or purchased by RHA, up to 479 additional new units could be constructed with a portion of the units being public, affordable, and market rate.[2]Public amenities would be integrated with the residential development and could include the following: a community gathering space or "third place;" civic facilities such as a community center, senior center, and/or public library space; a new park/open space; retail shopping and commercial space; and green infrastructure.

2.4.2 Other Components of the Planned Action

As a result of the planned Sunset Terrace redevelopment, it is expected that private redevelopment in the 269-acre[3] Planned Action Study Area would be catalyzed over a 20-year period. Public service and infrastructure investments that would support both Sunset Terrace redevelopment and redevelopment elsewhere in the Planned Action Study Area include: planned or anticipated upgrades to NE Sunset Boulevard and other local streets; stormwater drainage systems; neighborhood parks and recreation facilities; and neighborhood community facilities that may offer education, library, or social services.

While some improvements have been anticipated in City plans, some improvements have not been incorporated in City plans (e.g., drainage master plan). To recognize proposed capital improvements, the City will make associated Comprehensive Plan amendments such as to the Capital Facilities and Transportation elements as part of the Planned Action process.

2.4.3 Planned Action Ordinance

The City is also proposing to adopt a Planned Action Ordinance pursuant to SEPA. A Planned Action Ordinance, if adopted, would exempt future projects from SEPA threshold determinations or EISs for those projects that are determined to be consistent with the Sunset Area Community EIS assumptions and mitigation measures. By streamlining the redevelopment permit process, the Planned Action Ordinance would increase the likelihood that planned public agency investments would lead to a transformation of the community. The proposed Planned Action boundary is consistent with the Planned Action Study Area boundary shown on Figure 2-1.

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[2] For the purposes of this EIS, these terms are defined as follows:
Public Housing denotes replacement Sunset Terrace public housing units, managed by the RHA and subject to HUD restrictions. Rent is based on household income, and units typically serve 0 to 30% Area Median Income (AMI).
Affordable denotes housing which requires some type of public sector subsidy. Rents are typically set lower than market rate, units typically serve 30% to 60% AMI and eligibility includes income restrictions.
Market denotes housing developed completely with private sector funds, with no restrictions on pricing or income eligibility.

[3] The study area equals approximately 269 gross acres and the net parcel acres equal approximately 213.

2.5 Background Information

This section presents an overview of the regulations and programs that are guiding the Sunset Terrace redevelopment and the Sunset Area Community revitalization, the public process used to develop the proposal alternatives, and the NEPA and SEPA analysis of the proposal alternatives.

2.5.1 Regulatory Overview

The planned Sunset Terrace redevelopment and expected revitalization of the surrounding neighborhood would take place in the context of the City of Renton's land use plans and regulations, and other state and federal requirements. RHA has developed concept plans for Sunset Terrace in recognition of the City's adopted land use plans and regulations, and also in recognition of the purpose and need for the proposal and its ongoing programs. City and RHA planning efforts are described below.

2.5.1.1 Existing Comprehensive Plan and Zoning Designations

The City's adopted Comprehensive Plan and zoning regulations promote a more intense node of mixed-use development in the Planned Action Study Area with transitional areas of multiplexes and townhomes and single-family dwellings moving away from the NE Sunset Boulevard corridor. Building heights could extend to 60 feet along the boulevard and 30 feet in the townhouse and single-family areas to the north and south. New development is also subject to design standards that address building modulation. Figure 2-2 presents existing Comprehensive Plan land use designations, and Figure 2-3 presents existing zoning.

The majority of the Planned Action Study Area, including the Potential Sunset Terrace Redevelopment Subarea, is designated in the City's Comprehensive Plan as Center Village (CV). This designation extends north and south of NE Sunset Boulevard and generally reflects the location of commercial and multifamily uses on larger parcels. Its purpose statement describes the following (City of Renton 2009a):

> Center Village is characterized by areas of the City that provide an opportunity for redevelopment as close-in urban mixed-use residential and commercial areas that are pedestrian-oriented. These areas are anticipated to provide medium to high-density residential development and a wide range of commercial activities serving citywide and sub-regional markets. Center Villages typically are developed within an existing suburban land use pattern where opportunities exist to modify the development pattern to accommodate more growth within the existing urban areas by providing for compact urban development, transit orientation, pedestrian circulation, and a community focal point organized around an urban village concept.

A second designation in the Comprehensive Plan, Residential Single Family (RS) applies to public facilities such as schools and parks and adjacent single-family lots. Its purpose statement describes the following (City of Renton 2009a):

> Land designated Residential Single Family is intended to be used for quality detached residential development organized into neighborhoods at urban densities. It is intended that larger subdivision, infill development, and rehabilitation of existing housing be carefully designed to enhance and improve the quality of single-family living environments."

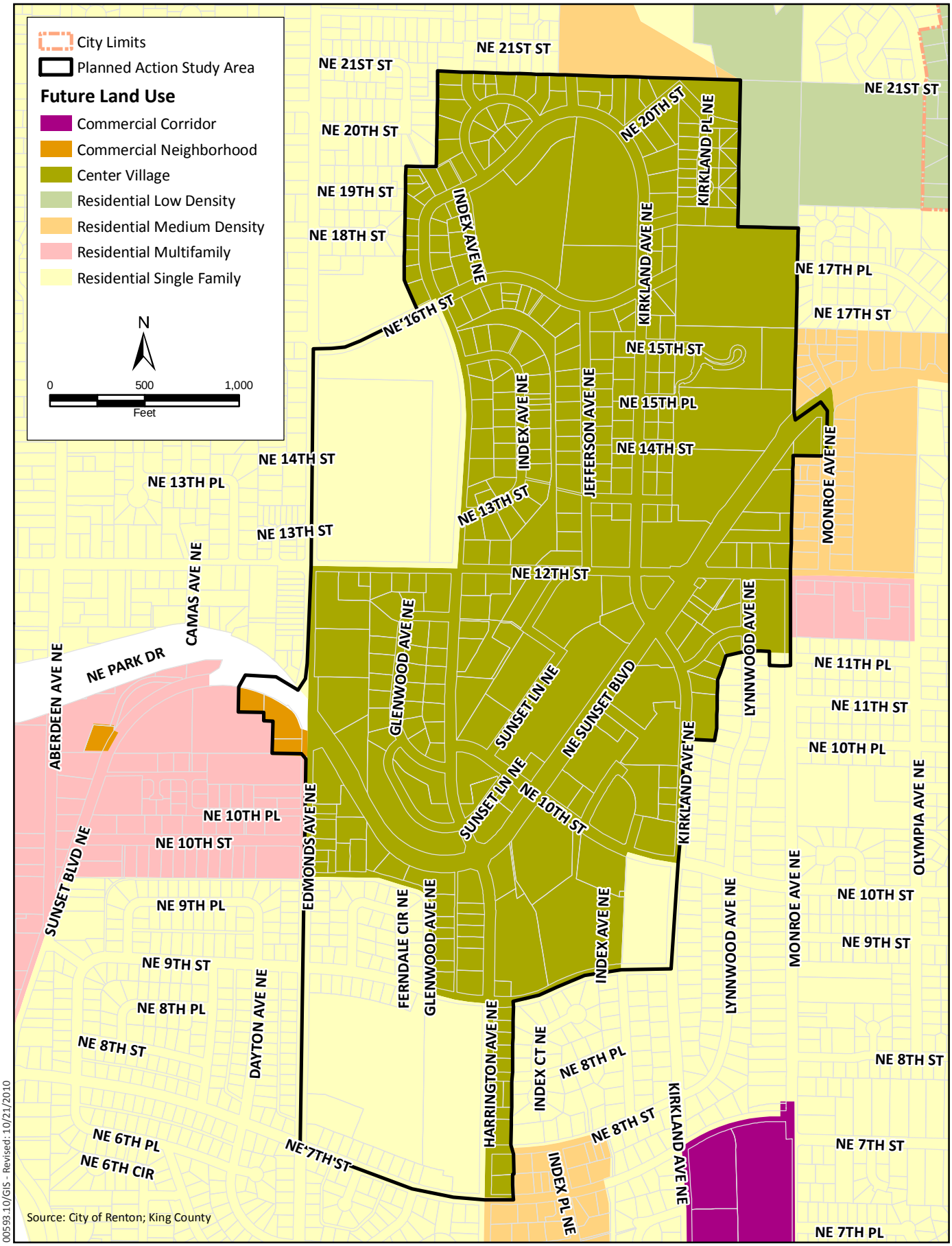

Figure 2-2
Existing Comprehensive Plan Land Use Designations
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

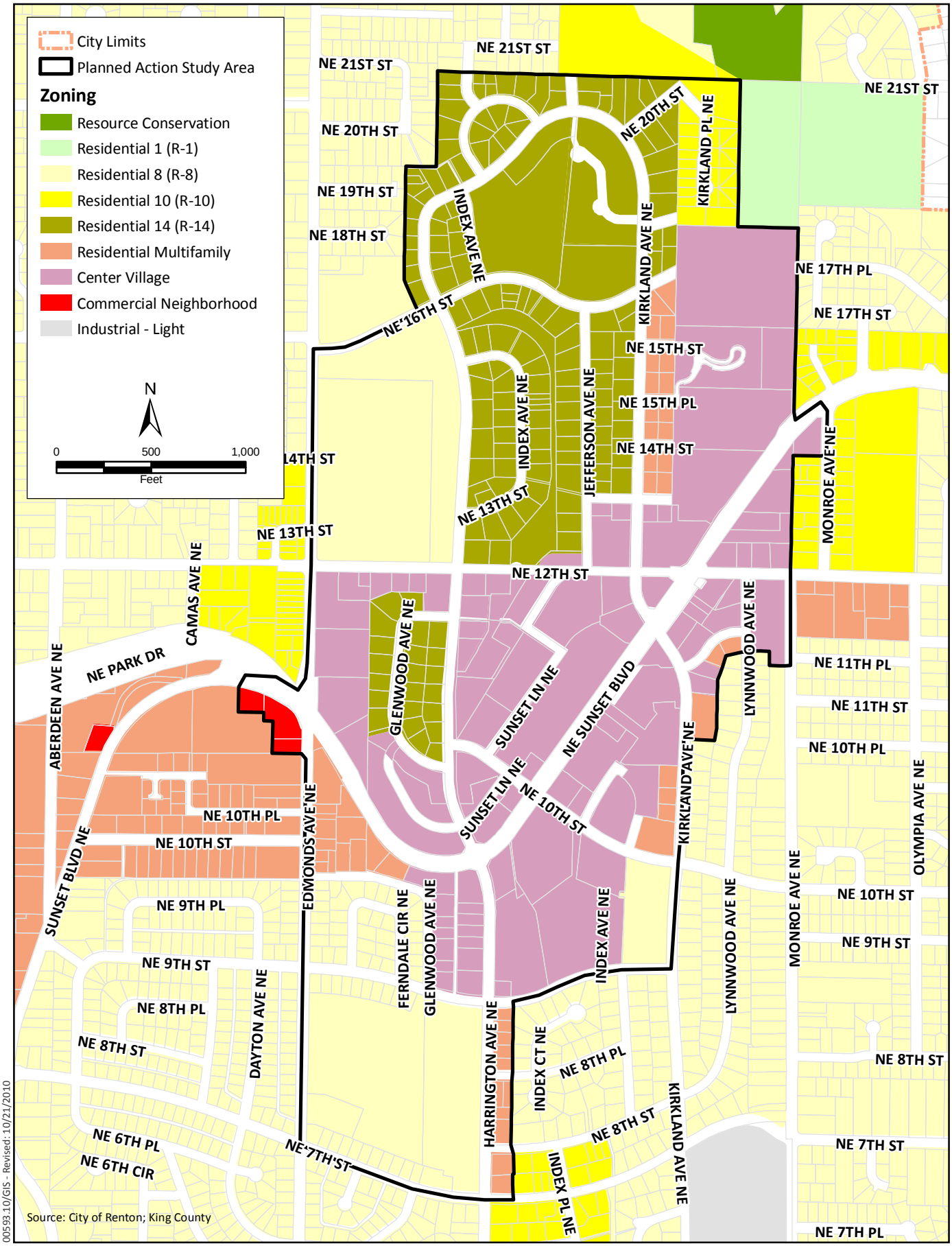

Figure 2-3
Existing Zoning
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

The Commercial Neighborhood (CN) Comprehensive Plan designation applied to the western extent of the study area has the following purpose (City of Renton 2009a):

> The purpose of the Commercial Neighborhood designation is to provide small scale, low-intensity commercial areas located within neighborhoods primarily for the convenience of residents who live nearby. Uses should be those that provide goods and services. In addition, a limited amount of residential opportunities should be provided.

Implementing zoning is varied under the umbrella of the CV land use designation, including CV, Residential Multifamily (RM-F), Residential 14 (R-14) and Residential 10 (R-10) zones. Corresponding to the CN land use designation is the CN Zone, and the RS land use designation is implemented with the Residential 8 (R-8) zone. The extent and purpose of these zoning classifications is identified in Table 2-1.

A majority of the Planned Action Study Area is zoned CV, followed by R-14 and R-8. The Potential Sunset Terrace Redevelopment subarea is designated and zoned primarily as CV with some R-14.

Table 2-1. Zoning Classifications and Extent in the Planned Action Study Area

Zone	Purpose, Density and Height	Extent in Net Acres
Center Village (CV)	The purpose of the CV zone is to provide an opportunity for concentrated mixed-use residential and commercial redevelopment designed to urban rather than suburban development standards that supports transit-oriented development and pedestrian activity. Use allowances promote commercial and retail development opportunities for residents to shop locally. Uses and standards allow complementary, high-density residential development, and discourage garden-style, multifamily development. The CV zone is intended to provide suitable environments for district-scaled retail and commercial development serving more than one neighborhood, but not providing City-wide services. • Minimum density: 20 du/ac. Maximum density: 80 dwelling units per net acre. Assisted living bonus: 1.5 times the maximum density • Maximum Height: 50 ft., except 60 ft. if the ground floor of the building is in commercial use	87.4
Commercial Neighborhood (CN)	The purpose of the CN zone is to provide for small-scale convenience retail/commercial areas offering incidental retail and service needs for the adjacent area. Uses serving a larger area may be appropriate if they also serve the residents of the immediate area and are compatible with the scale and character of the neighborhood. This designation is the smallest and least intensive of the City's commercial zones. • Minimum density: None • Maximum density: 4 du/ac; bonus 1.5 times maximum density for assisted living • Maximum height: 35 feet	1.3

Zone	Purpose, Density and Height	Extent in Net Acres
Residential Multifamily (RM-F)	The RM-F zone provides suitable environments for multifamily dwellings. It is further intended to conditionally allow uses that are compatible with and support a multifamily environment. The RM-F suffix allows for the development of both infill parcels in existing multifamily districts with compatible projects and other multifamily development. • Density range: 10–20 du/acre • Maximum height: 35 feet; provided 45 feet is allowed when certain amenities are provided such as pitched roofs or underground parking	12.1
Residential 8 (R-8)	The R-8 zone is established for single-family residential dwellings, and is intended to implement the Single Family Land Use Comprehensive Plan designation. Development in the R-8 Zone is intended to create opportunities for new single-family residential neighborhoods and to facilitate high-quality infill development that promotes reinvestment in existing single-family neighborhoods. It is intended to accommodate uses that are compatible with and support a high-quality residential environment and add to a sense of community. • Density range: 4–8 du/acre • Maximum height: 30 feet	48.8
Residential 10 (R-10)	The R-10 zone is established for medium-density residential development that will provide a mix of residential styles including small-lot detached dwellings or attached dwellings such as townhouses and small-scale flats. The zone promotes opportunities for detached dwellings, as well as small-scale attached housing choices, and high-quality infill development that increase density while maintaining the single-family character of the existing neighborhood. The zone serves as a transition to higher-density multifamily zones. • Density range: 4–10 du/acre • Maximum height: 30 feet	5.0
Residential 14 (R-14)	The R-14 zone is established to encourage development/redevelopment of residential neighborhoods that provides a mix of detached and attached dwelling structures organized and designed to combine characteristics of both typical single-family and small-scale multifamily developments. Structure size is intended to be limited in terms of bulk and scale so that the various unit types allowed in the zone are compatible with one another and can be integrated together into a quality neighborhood. Project features are encouraged, such as yards for private use, common open spaces, and landscaped areas that enhance a neighborhood and foster a sense of community. Civic and limited commercial uses may be allowed when they support the purpose of the designation. • Density range: 10–14 du/acre (with opportunities for bonuses up to 18 du/acre) and 30 du/acre for public housing • Maximum height: 30 feet	58.0

Source: Summaries of Renton Municipal Code Title IV
du/acre = dwelling units per acre

2.5.2 Planning and Community Involvement

Neighborhood planning in the Sunset Area Community has been extensive and has involved many community members. Recent efforts that contributed to the proposal and alternatives studied in this Draft EIS are described below.

- **Highlands Task Force on Land Use and Zoning.** In 2006, the City convened the Highlands Task Force on Land Use and Zoning to review a proposal to modify land use and zoning regulations to help stimulate redevelopment in the area and promote compact urban development. Proposed changes emphasized a mix of residential and commercial uses, a range of housing types, innovative design, transit orientation, pedestrian scale amenities, and a community focal point. After citizen, environmental, and Renton City Council review processes were completed, the *Report and Recommendation of the Highlands Area Citizen's Zoning Task Force* (City of Renton 2006) was adopted in May 2007. (City of Renton 2010a.)
- **Highlands Phase II Task Force.** The City formed a second Highlands Task Force in late 2007 to help the City identify, prioritize, and make recommendations about implementing the adopted vision for the Center Village in the Highlands area. After over a year of intense study and discussion and a public meeting, the Task Force produced the *Report and Recommendation of the Highlands Phase II Task Force* (City of Renton 2008a), which contained two dozen recommendations for City actions to address new improvements to the Highlands area. In early 2009, the Renton City Council adopted this document by resolution and asked the administration to draw up a work program to begin implementing the Phase II recommendations. (City of Renton 2010a.)
- **Sunset Area Community Investment Strategy (CIS).** Highlands Phase II Task Force recommendations involved creating a "third place" or public gathering space, initiating pedestrian and streetscape improvements, advocating for boulevard improvements for NE Sunset Boulevard, and the development of a subregional stormwater drainage facility. In 2009, the City, RHA, Renton School District, and a team of consultants completed the CIS (City of Renton 2009b). This work elaborated on the "third place" idea of the Highlands Phase II Task Force, further tested the ideas with the community and key stakeholders, and came up with nine implementation strategies. The Renton City Council reviewed the final report and adopted the recommendations for community investment on November 23, 2009. (City of Renton 2010a.)

Figure 2-4 presents the elements of the CIS study that have been incorporated into the alternatives studied in this Draft EIS. The top priority in the CIS was to support redevelopment of Sunset Terrace. To conceptually plan the redevelopment of Sunset Terrace, RHA selected a development consultant, Shelter Resources, Inc. (SRI), in 2007, and SRI retained an architect to help plan the property. Conceptual redevelopment designs were first prepared in December 2007 by Bumgardner Architects, and have been the subject of RHA board meetings, throughout 2008 to the present, and of RHA resident meetings on June 19, 2009, and July 12, 2010.

A public participation plan was developed in August 2010 during initiation of the EIS process, and is intended to guide public outreach efforts for this environmental review process, using proven techniques from past City and RHA outreach efforts.

As part of the EIS process, the proposed Draft EIS alternatives including conceptual plans for Sunset Terrace, NE Sunset Boulevard, and other features were presented to the public at a scoping meeting held on September 1, 2010. This scoping meeting was advertised via distribution of 3,700 postcards, posters, and notices to RHA residents, and publication in the newspaper. Meeting materials were made available in English and Spanish, and Spanish translators were available at the public meeting. Approximately 17 members of the public participated in the scoping meeting. The results of the scoping meeting are included in Appendix A.

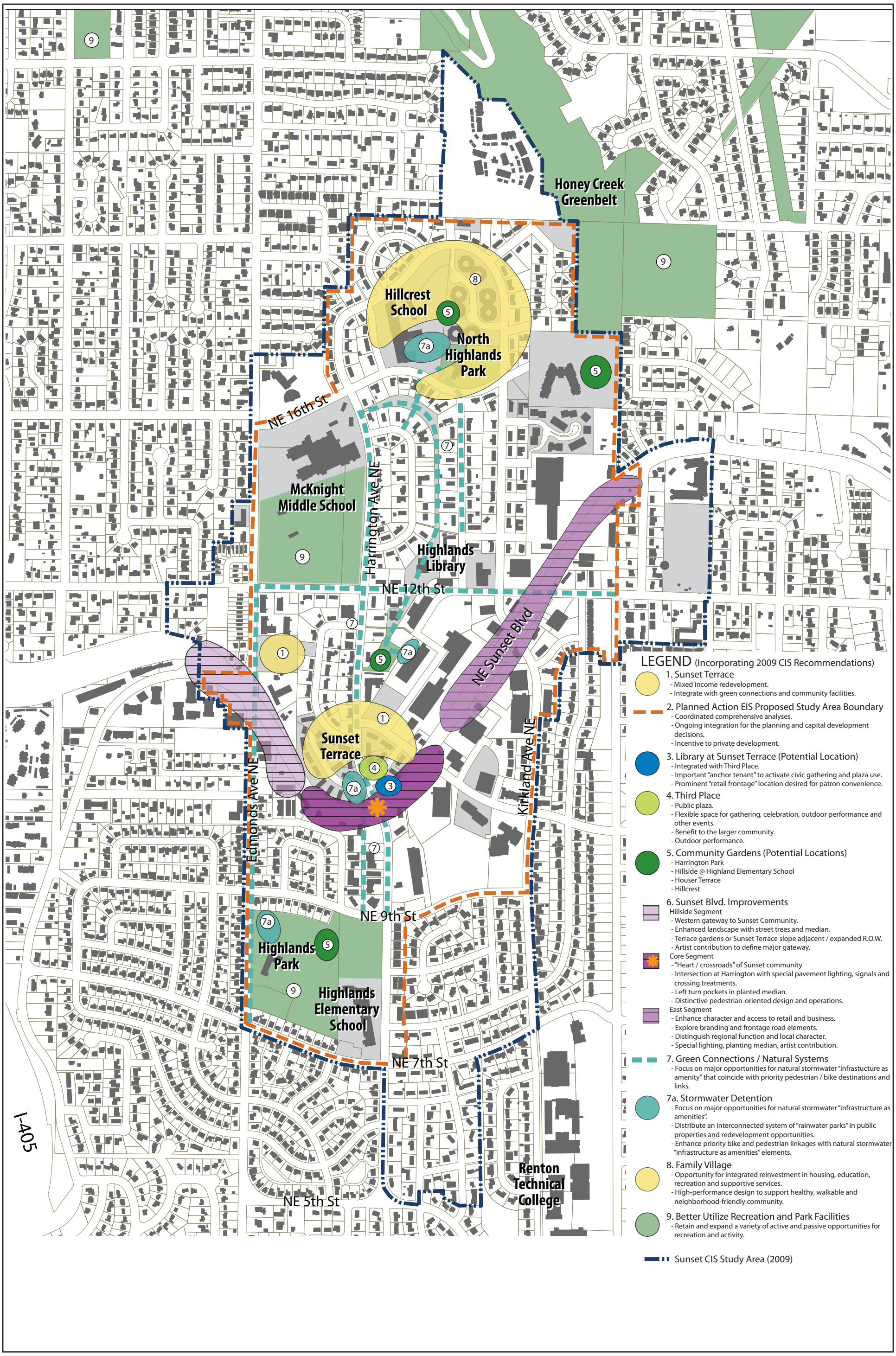

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Figure 2-4
Sunset Area Neighborhood Framework Diagram for Scoping Purposes
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

2.5.3 Renton Housing Authority Functions, Programs, and Project Planning

2.5.3.1 Renton Housing Authority

RHA was established on September 10, 1941, and operates as an independent municipal corporation pursuant to state and federal housing laws. RHA is one of only three public housing authorities in King County, and serves the greater Renton area. Renton is the only city in King County other than Seattle with its own housing authority.

The mission of RHA is as follows (Renton Housing Authority 2010a):

> …to provide decent, quality, affordable housing in a safe environment to people with low incomes who make Renton their home. Through partnerships with our clients, service providers and other groups, we will responsibly increase and enhance our housing programs while providing opportunities for those we serve to become self-sufficient.

RHA directly manages 870 dwellings. Section 8 vouchers allocated to RHA allow the lease of an additional 315 dwellings. Section 8 vouchers in use from other Public Housing Authorities include an additional 477 leased units. RHA's programs receive some of their financial support from HUD. (Renton Housing Authority 2010b.)

2.5.3.2 Sunset Terrace

Constructed in 1959, Sunset Terrace is the oldest multifamily public housing complex directly managed by RHA. It contains 100 dwelling units on approximately 7.30 acres. Occupants live in the housing for an average of 5 years. (Gropper pers. comm.).

The 100 dwellings units range in size as follows:

- 20 one-bedroom units,
- 36 two-bedroom units,
- 36 three-bedroom units, and
- 8 four-bedroom units.

The units, facilities, and infrastructure are antiquated and the project is dilapidated. See Section 2.6.2 for more information.

2.5.4 Environmental Analysis and Review—SEPA and NEPA

2.5.4.1 Joint NEPA/SEPA Process

This Draft EIS is a joint NEPA/SEPA document, intended to satisfy requirements of both federal and state environmental statutes. Pursuant to the authority granted by Section 26 of the U.S. Housing Act of 1937 (42 United States Code [USC] 1437x) in connection with projects assisted under Section 9 of that act (42 USC 1437g), the City is the responsible entity for compliance with NEPA (42 USC 4321) in accordance with 24 CFR 58.1 and 58.4. Compliance with the requirements of the National Historic Preservation Act (Section 106) and the Endangered Species Act (ESA) is being coordinated with

NEPA review. Pursuant to SEPA and implementing rules (RCW 43.21c; Washington Administrative Code [WAC] 197-11), the City is the lead agency for the proposal.

Preparation of this Draft EIS is the responsibility of the City. The City has directed the areas of research and analysis that were undertaken and has determined that this document has been prepared in a responsible manner using appropriate methodologies. In addition, the City has coordinated with RHA on preparation of the Draft EIS.

The environmental elements analyzed in this Draft EIS were determined through a joint NEPA/SEPA scoping process that extended from August 13 to October 18, 2010. A Determination of Significance and Request for Comments on the EIS scope was published on August 13, 2010, notifying the public of the joint NEPA/SEPA EIS. This notice established a written comment period through September 13, 2010. In addition, a public scoping meeting was held at the Highlands Neighborhood Center on September 1, 2010, where oral and written comments were solicited. Consistent with HUD NEPA rules, a Notice of Intent (NOI) to prepare a Draft EIS for the Sunset Area Community was published in the Federal Register on September 17, 2010, establishing a 30-day written comment period regarding the scope and contents of the Draft EIS; this federal comment period closed on October 18, 2010. Appendix A contains a summary of the scoping process.

As a result of the scoping process, three alternatives and the following 17 areas of environmental review are evaluated in this document.

- Aesthetics
- Air Quality
- Earth
- Energy
- Environmental Health
- Environmental Justice
- Historic/Cultural Resources
- Housing
- Land Use
- Noise
- Parks and Recreation
- Plants and Animals
- Public Services
- Socioeconomics
- Transportation
- Utilities
- Water Resources

As noted in the Fact Sheet of this Draft EIS, this document is being circulated to agencies, organizations, and individuals for a 45-day public comment period. A public meeting on the Draft EIS will also be held. At the conclusion of that period, the City will prepare the Final EIS. The Final EIS will incorporate refinements to the proposal that occur after the issuance of the Draft EIS, revisions and clarifications to text contained in the Draft EIS in response to public comments, and responses to written comments and public testimony. The Final EIS will be the environmental document that accompanies Sunset Terrace through the permit processes noted in the Fact Sheet.

2.5.4.2 Previous Environmental Documents and Independent Environmental Review

Prior environmental review was conducted for the Comprehensive Plan and subsequent amendments, including the following documents:

- Mitigated Determination of Non-Significance, Harrington Square, September 2, 2003; and
- Determination of Non-Significance, Comprehensive Plan and Zoning Amendments for Highlands Area, November 6, 2006.

When appropriate, prior environmental documents were considered in the preparation of this Draft EIS.

At the time of this Draft EIS, RHA is considering the addition of a community and laundry building on its Hillcrest Terrace site. As an independent action, it is undergoing its own NEPA environmental review process. Where information is applicable, it is noted in this Draft EIS.

2.6 Purpose and Need for Proposal

This section describes why the proposed land use, housing, and infrastructure changes on the Sunset Terrace redevelopment site and elsewhere in the Planned Action Study Area are being pursued, and the goals and objectives that will assist decision makers and the public in determining a preferred alternative.

The Sunset Area Community developed in earnest in the early 1940s when the U.S. War Department and RHA built worker housing for manufacturing plants to support World War II. Modest "temporary" homes were constructed with land set aside for schools, shopping, and civic buildings. At the end of the war, RHA sold most of the homes and the agency subsequently built other multifamily public housing and affordable housing in the area, including the Sunset Terrace public housing complex.

For several decades, the Sunset Area was a healthy, stable neighborhood. However, times began to change for the Sunset Area as the population and housing aged and young families began to expect larger, newer homes. Homeownership declined, housing maintenance was deferred, social support systems declined, environmental problems increased, and crime escalated.

During its heyday in the 1940s and 1950s, a network of public services and facilities including a fire station, schools community centers, and parks and recreation were implemented to support the growing community and are in various stages of remodeling and repair. The City has begun to identify capital investments to improve infrastructure as well as aesthetic and environmental conditions.

With a changing population, the City, RHA, and others are reassessing the Planned Action Study Area and how it can be adapted to meet changing community needs and market demand. Sunset Terrace redevelopment could be the catalyst to spur new housing development and redevelopment in the Planned Action Study Area. Businesses along NE Sunset Boulevard could also improve and invest more successfully with additional housing growth in the Planned Action Study Area.

2.6.1 Study Area Conditions and Trends

In 1942, during World War II, RHA was provided funds from the U.S. Government to build houses for the defense workers needed at Boeing and PACCAR. In March 1942, money was allocated for 500 permanent and 500 demountable dwellings on 135 acres. Soon after the initial purchase, the land acquisition was expanded to 400 acres, and by the time the war came to a close there were a total of 3,000 family units and 864 dormitory beds. Schools, a fire station, a recreation center, and significant infrastructure improvements were built to support this community. Returning veterans and the families of those who had died in the war were given preferential consideration to buy units. By 1951, about 551 units had been sold, with the rest sold over several years, some for as little as $1,500. Some of the demountable units were purchased and moved elsewhere in Renton and the region. (City of Renton 2008a; Conkling pers. comm.)

With an influx of families in the decades after World War II, Renton Highlands was a thriving community; however, by the late 1990s the neighborhood was struggling with low investment and deferred maintenance in residential areas and business turnover in the commercial areas (City of Renton 2008a). Conditions have continued to change since 1990. The community is becoming more racially and ethnically diverse, has a greater percentage of the population in poverty, and tenure has shifted further towards rentals. For example, between 1990 and 2000 in Census Tract 254, which includes lands south of NE 12th Street to NE 3rd Street:

- the area has become more racially diverse with the percentage of minorities increasing from 14% to 31%,
- poverty has increased from about 10% to 16%, and
- owner-occupied housing has decreased from 42% to 39%.

Currently, this area contains approximately 1,289 dwellings with an estimated population of 2,978 persons.[4] Based on transportation model land use estimates, current jobs are estimated at approximately 1,306. More information about socioeconomic trends is found in Section 3.9 of this Draft EIS.

2.6.1.1 Housing and Employment

Figure 2-5 shows year built information for all residential and business structures in the Planned Action Study Area. As shown on the map, the majority of residential structures in the Planned Action Study Area were built between 1940 and 1970. Some of the commercial properties were built in that same timeframe, although some are newer.

[4] Based on estimates of current dwellings in the Planned Action study area, using King County Assessor Records multiplied by an average household size based on Census Tracts 252 and 254 (2.31). These housing and population estimates exclude Harrington Square. Harrington Square has a total of 217 apartments. The north tower/building with 108 units was completed in 2010 with rentals beginning this summer and the south tower/building with 109 units is scheduled to be completed next year.

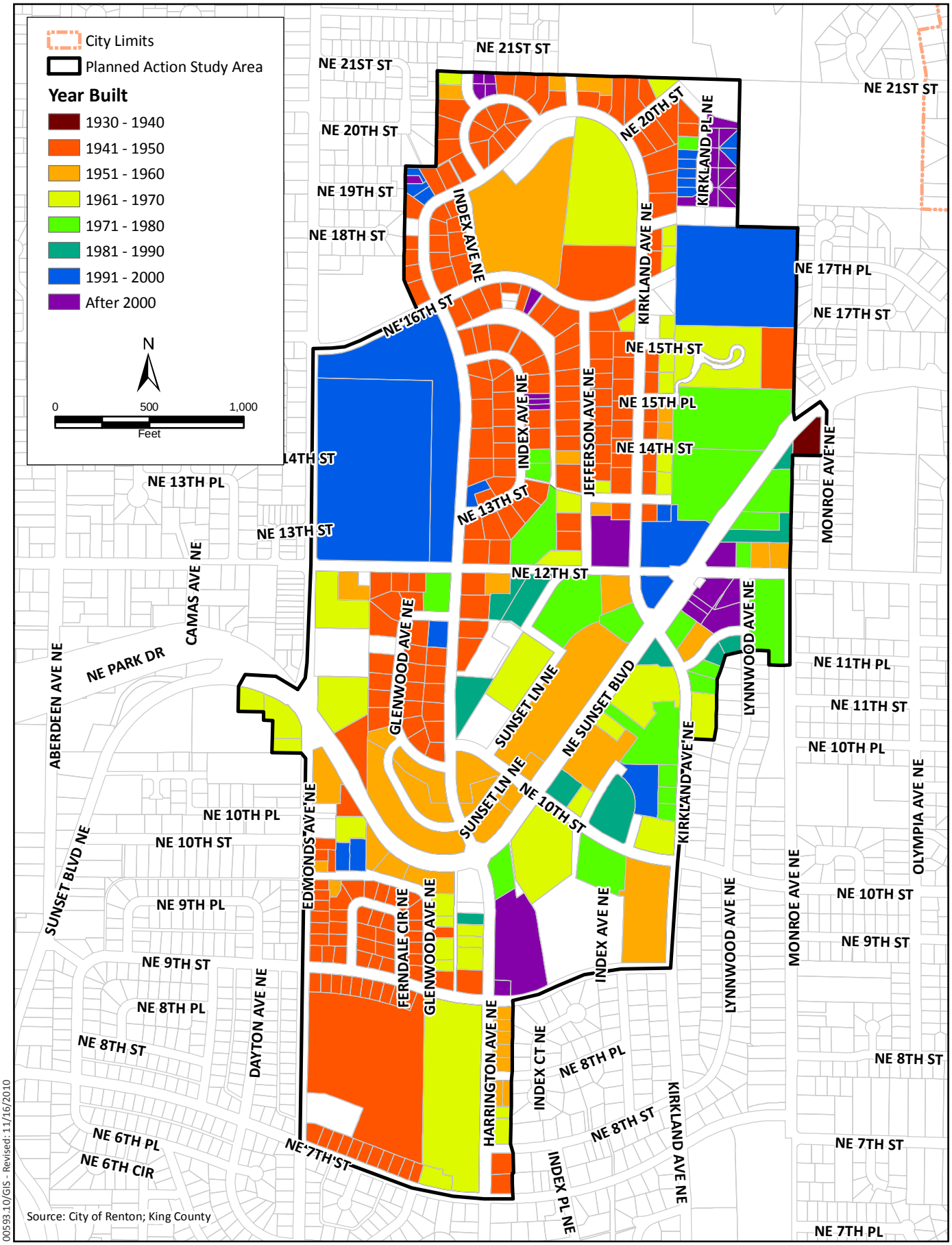

Figure 2-5
Age of Structures
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Housing created during the World War II era was intended to be temporary, and many units are reaching the end of their useful life, especially those that have deferred regular maintenance and upkeep. As a result, although the units may be within the means of many households to own or rent, many are not high quality. (City of Renton 2008b.) The City's land use plans and regulations support opportunities for new and improved housing to revitalize the Planned Action Study Area.

The City has also studied means to improve businesses located in the Planned Action Study Area. Based on a 2005 economic study, businesses could be more viable if there was more housing and population that could increase demand and spending for local goods and services. This information helped spur changes in zoning in 2007 to allow for greater density and housing opportunities. Additionally, the City advertised the Renton Small Business Development Center, which offers free and confidential business assistance and is jointly sponsored by the City, Renton Chamber of Commerce, and Renton Technical College. The police department followed up with businesses that had problems with crime, theft, or undesirable customers. The City Council authorized, and the police instituted, additional patrols in this area to address issues related to crime. This also included educational/prevention programs geared to assist businesses and residences. (City of Renton 2008c; Conkling pers. comm.)

2.6.1.2 Capital Investments

To improve both housing and business conditions, the City has committed to providing infrastructure improvements in the areas of transportation and mobility (e.g., improvements to NE Sunset Boulevard; sidewalk repairs), drainage, water, sewer, and community services such as parks and recreation and a library. These improvements are intended to improve the visual quality (e.g. boulevard improvements) and address the age and capacity of infrastructure. The City's Capital Investments Program for 2010 through 2015 identify the following funds for planning and improvements including, but not limited to, the following:

- NE Sunset Boulevard Corridor Design ($300,000),
- Regional stormwater facility feasibility/preliminary design ($200,000),
- Water main ($100,000),
- Study area sidewalk repairs ($250,000), and
- Capital facility construction ($600,000).

These 2010–2015 plans are a continuation of prior capital improvement programs; for example, in 2009, the City completed 4,000 lineal feet of sidewalk in the Sunset Area Community (City of Renton 2010b). The City also completed construction of a new fire station and emergency operations center in 2004.

2.6.2 Sunset Terrace Public Housing Conditions and Trends

Sunset Terrace, located in 27 two-story buildings at NE Sunset Boulevard and Harrington Avenue NE (Figures 2-1 and 2-4), was constructed in 1959 and requires ever-increasing maintenance. Two major domestic water leaks, estimated to have lost 1 million gallons of drinking water, occurred in 2008 within the antiquated utility infrastructure. Sewer lines regularly clog due to shifted and misaligned piping, tree roots, and lack of capacity flow. Each unit is heated with natural gas, and the street-to-unit lines are old and need replacement. Roof replacements have been deferred and are at

their failing point. Entrance door jams are out of square such that weather stripping is an insufficient sealer. The interior tile floors are of a vintage that typically incorporated asbestos. Walls and ceilings are poorly insulated. Gas-fired furnaces and hot water tanks have reached the end of their useful lifespan. Stairwells do not have enough space for tenants to move in queen-size box springs, and banisters have to be cut and repaired to do so.

In general, infrastructure serving Sunset Terrace public housing, as well as the rest of the Planned Action Study Area, was built in the 1940's (e.g. sewer lines), experience leaks in some cases, and have been identified in City plans as a high priority for replacement.

As of September 2010, Sunset Terrace housed 279 residents. Of these, 41% (114) were children with an average age of 10 years. The average Sunset Terrace family income was $19,516. The ethnicity was divided evenly among White, Black, and Asian. (Renton Housing Authority 2010c; Gropper pers. comm.)

To address the substandard size and quality of the units and to offer more housing choices, RHA intends to create a new mixed-use, mixed-income community, with a 1-to-1 replacement of existing public housing units and additional new affordable and market-rate housing units. Most replacement units would occur in the Potential Sunset Terrace Redevelopment Subarea, and others would occur on other RHA-owned properties in the Planned Action Study Area.

In addition, RHA has purchased property in the vicinity of Sunset Terrace to address affordable family and senior[5] housing with support services. Family housing is expected to accommodate households that require larger units and that benefit from proximity to education and social services. Senior citizens make up about 16% of the Planned Action Study Area population. With the aging of the baby boomer generation, RHA and the City foresee a need for additional senior housing with associated elder health services.

2.6.3 Proposal Goals and Objectives

2.6.3.1 Planned Action Study Area

Transformation of private and public properties in the Planned Action Study Area (see Figures 2-1 and 2-4) is expected to meet the Sunset Area Community vision, as expressed in the Highlands Phase II Task Force Recommendations (City of Renton 2008a) and the CIS (City of Renton 2009b).

- The Highlands is a destination for the rest of the city and beyond.
- The neighbors and businesses here are engaged and involved in the community.
- Neighborhood places are interconnected and walkable.
- The neighborhood feels safe and secure.
- Neighborhood growth and development is managed in a way that preserves quality of life.
- The neighborhood is an attractive place to live and conduct business.
- The neighborhood is affordable to many incomes.

[5] For the purposes of this EIS, senior housing refers to housing that is occupied by persons 62 or older or that houses at least one person 55 or older in at least 80% of the units and adheres to a policy that demonstrates intent to house persons who are 55 or older.

- The neighborhood celebrates cultural and ethnic diversity.

For each of the major components of the proposal, the following specific goals and objectives were developed to be consistent with this vision.

1. Through designation of a Planned Action and infrastructure investments, support and stimulate public and private development.
2. Ensure that redevelopment is planned to conform to the City's Comprehensive Plan.
3. Through the Planned Action and early environmental review, accelerate the transformation of the Potential Sunset Terrace Redevelopment Subarea with mixed-income housing and mixed uses together with places for community gathering. This will also be accomplished in part by using this EIS to achieve a NEPA Record of Decision, which will enable RHA to submit a HUD Demolition and Disposition application in 2011.
4. Ensure that the Planned Action covers environmental review of Sunset Area roadway, drainage, parks and recreation, and other infrastructure improvements, and analyze impacts of anticipated private development in addition to Sunset Terrace.
5. Build on previous City, RHA, and Renton School District efforts and current projects. Leverage relationships and partner with existing community outreach activities and resources. Recognize community desires documented in:
    - *Report and Recommendation of the Highlands Area Citizen's Zoning Task Force* (City of Renton 2006),
    - *Report and Recommendation of the Highlands Phase II Task Force* (City of Renton 2008a),
    - *Highlands Action Plan* (City of Renton 2009c),
    - *Sunset Area Community Investment Strategy* (City of Renton 2009b),
    - *Renton Trails and Bicycle Master Plan* (City of Renton 2009d),
    - *Renton Parks, Recreation, Open Space and Natural Resources Plan* (estimated completion date September 2011),
    - Utility system plans, and
    - Library replacement (in process).
6. Create a Great Street[6] on NE Sunset Boulevard, as described in the CIS. Implement the City Complete Streets policy for the NE Sunset Boulevard corridor and the Sunset Area Green Connections.[7] Extend conceptual design of improvements between the Interstate 405 limited access right-of-way and Monroe Avenue NE, and include them in the Planned Action effort.

[6] A "Great Street" has numerous characteristics, including: accommodating multiple motorized and nonmotorized modes, exhibiting quality urban design and architecture, offering a variety of interesting activities and uses, promoting environmental sustainability, and incorporating design elements that facilitate maintenance. The CIS suggests that the NE Sunset Boulevard "[i]mprovements would create a gateway and sense of place for the area, as well as enhanced pedestrian safety through traffic calming using improved crossings and landscaped medians."

[7] The term Green Connections refers to public stormwater facility development serving desired new private development as well as public facilities and rights-of-way per the CIS.

7. Encourage low-impact stormwater management methods and areawide solutions as part of a master drainage plan to support development.
8. Engage the community in a transparent process using available outreach opportunities and tools successfully used in prior planning efforts.
9. Optimize funding strategies by leveraging partnerships, innovation and sustainable development for a healthy community. Recognize the importance and timing of integrating housing, transportation, infrastructure, expanded economic opportunity, parks and recreation, and the environment.

2.6.3.2 Potential Sunset Terrace Redevelopment

As well as being a key part of the overall Planned Action Study Area revitalization strategy, the Sunset Terrace redevelopment is intended to meet the following goals and objectives.

- Replace at a 1:1 ratio the existing 100 Sunset Terrace public housing units: 20 one-bedroom, 36 two-bedroom, 36 three-bedroom, and eight four–bedroom units. Some will be replaced on site and some off site within the Planned Action Study Area.
- Provide new affordable and market-rate housing to accommodate a mixed-income community that includes the Sunset Terrace property and nearby RHA- or City-owned sites.
- Maximize the visibility and location of the redevelopment as the heart of Sunset Area Community.
- Act as a catalyst for improvements and investments in the Sunset Area Community.
- Integrate the Sunset Terrace site and residents with the surrounding neighborhood.
- Provide amenities to be shared by the Sunset Area Community neighborhood and other Renton residents, employees, and visitors, including a “third place” for all to gather, and park and open space opportunities such as active recreation and community garden space.
- Improve the pedestrian realm and connection across NE Sunset Boulevard.
- Provide a mix of uses, including residential, open space, and potential for community, civic, retail, or commercial.

2.7 Proposal Alternatives

This section provides a description of the Draft EIS alternatives, and identifies key land use and infrastructure elements of each.

2.7.1 Description of Proposal Alternatives

The proposal includes redevelopment of the Sunset Terrace public housing community and associated neighborhood growth and revitalization. The objective of the proposal is to promote the redevelopment of public housing, implement infrastructure improvements throughout the Planned Action Study Area, and facilitate planning and environmental review for the Planned Action study area. The proposal is reviewed in terms of three alternatives.

- **Alternative 1, No Action.** The No Action Alternative represents conditions where Sunset Terrace public housing redevelopment would not occur, and very limited public investment would be implemented in the neighborhood (e.g., some community services but no NE Sunset Boulevard or master drainage plan improvements), resulting in lesser redevelopment across the Planned Action study area. A Planned Action would not be designated. The No Action Alternative is required to be studied under NEPA and SEPA.
- **Alternative 2.** This alternative represents a moderate level of growth in the Planned Action Study Area based on investment in mixed-income housing and mixed uses in the Potential Sunset Terrace Redevelopment Subarea, targeted infrastructure and public services throughout the Planned Action study area, and adoption of a Planned Action Ordinance.
- **Alternative 3.** This alternative represents the highest level of growth in the Planned Action study area, based on investment in the Potential Sunset Terrace Redevelopment Subarea with a greater number dwellings developed in a mixed-income, mixed-use style, major public investment in study area infrastructure and services, and adoption of a Planned Action Ordinance.

Each alternative is described in more detail below.

2.7.1.1 Alternative 1: No Action

Alternative 1 would continue the current City Comprehensive Plan land use designations and zoning classifications for the Planned Action Study Area, with limited public investment in redevelopment of the Sunset Terrace public housing and in civic and infrastructure improvements in the Planned Action Study Area. With a low level of public investment, private investment in businesses and housing would be limited and would occur incrementally at scattered locations in the Planned Action Study Area. Land use form would largely continue to consist of single-use residential and single-use commercial developments with an occasional mix of uses. The development pattern would begin to transition incrementally from its current suburban pattern to a village center, but, this transition would occur slowly over time due to the relatively low level of investment in public housing redevelopment and Planned Action Study Area improvements. A Planned Action would not be designated and each proposed development would be subject to individual environmental review. Some pedestrian- and transit-oriented development would occur, but it would be the exception rather than the rule, because new development would represent a small portion of the overall Planned Action Study Area. More piecemeal development could preclude opportunities for leveraging and combining strategies among individual projects.

In the Potential Sunset Terrace Redevelopment Subarea, RHA would develop affordable housing and senior housing with supporting elder day health services on two vacant properties, but it would not redevelop the Sunset Terrace public housing property. The City would not make major infrastructure improvements. NE Sunset Boulevard would continue to emphasize vehicular mobility with less attention on pedestrian and transit facilities and limited aesthetic appeal (e.g., sparse landscaping). No changes to non-motorized facilities or transit are expected except for those non-motorized improvements identified in the Renton Trails and Bicycle Master Plan adopted in May 2009 (City of Renton 2009d). Drainage systems would continue as presently configured; any improvements would be localized, incremental, and in compliance with the City's existing stormwater regulations.

The current Highlands Library would be relocated from the Central Subarea to another location in the Planned Action Study Area; since a new site has not been selected, the Draft EIS assumes a new community services building in the study area of sufficient size to house a library or other social services. Parks and recreation services would largely continue as they exist today.

2.7.1.2 Alternative 2

Alternative 2 provides for a moderate level of mixed-income housing and mixed uses in the Planned Action Study Area, while continuing the current City Comprehensive Plan land use designations and zoning classifications for the Planned Action Study Area. Infrastructure and public services would be improved in a targeted manner in the Planned Action Study Area. Stand-alone residential uses and local-serving commercial development would continue but would be interspersed with mixed-use development at identified nodes throughout the Planned Action Study Area such as the Potential Sunset Terrace Redevelopment Subarea and portions of NE Sunset Boulevard. Densities of new development would occur at moderate urban levels that are pedestrian- and transit-oriented. The environmental review process for development would be streamlined under a Planned Action Ordinance.

RHA would redevelop the Sunset Terrace public housing community according to a master plan on properties it currently owns; the redevelopment would allow for new public, affordable and market-rate housing accommodating a mixed-income community. All 100 existing public housing units would be replaced at a 1-to-1 ratio; some would occur on the current Sunset Terrace public housing property and some elsewhere in the Planned Action Study Area; a duplex would be replaced with affordable townhouse units. An estimated 310 new dwellings would be developed in the Potential Sunset Terrace Redevelopment Subarea, with more moderate-density flats and townhomes at a combined density of 40 units per acre, approximately. New public amenities would include civic and community facilities, which may include a single-use library building with a plaza and/or a community services center/office building, as well as ground-floor retail as required by zoning, and a proposed 0.89-acre park. Senior housing on RHA's Piha site would include supportive elder day health services.

NE Sunset Boulevard would be improved to meet the intent of the City Complete Streets standards (Renton Municipal Code [RMC] 4-6-060). Improvements would largely occur within the current right-of-way and would allow for signal improvements, expanded sidewalks, greater landscaping, new transit shelters and street furniture, pedestrian- and street-level lighting, a bike lane/multi-purpose trail in one direction, consolidated driveways, and a center median with left-turn vehicle storage. No on-street business parking would be available (consistent with current conditions).

Natural stormwater infrastructure would be integrated in design of streets, parks, and new development. Options for green infrastructure are addressed in Section 2.7.2.4.

Active and passive recreation opportunities would be retained and enhanced through coordination between the Renton School District and the City such as through a joint-use agreement. Possible locations for enhancement include a reconfigured Hillcrest Early Childhood Center and North Highlands Park and repurposed public properties or acquired private properties in areas where demand for recreation is anticipated to be higher.

2.7.1.3 Alternative 3

Alternative 3 provides for a high level of growth in the Planned Action Study Area, and also maintains the current City Comprehensive Plan land use designations and zoning classifications for the Planned Action Study Area. RHA would redevelop the Sunset Terrace public housing community as part of redevelopment of the entire Potential Sunset Terrace Redevelopment Subarea into a mixed-income, mixed-use development according to a master plan. This alternative also includes major public investment in Planned Action Study Area transportation, drainage, sewer, water, cultural, educational, and parks and recreation facilities. This public investment in Sunset Terrace and neighborhood infrastructure and services would catalyze private property reinvestment at a greater scale, and realize the existing permitted zoning uses and density, which would create greater opportunities for market-rate and affordable homeownership and rental housing opportunities, and for local and regional shopping opportunities. Land use patterns would be of an urban intensity focused along the Sunset Boulevard corridor and allow for vertical and horizontal mixed uses. Similar to Alternative 2, environmental review of development would be streamlined with a Planned Action Ordinance.

It is expected that, with the Sunset Terrace property and associated properties owned or purchased by RHA, up to 479 additional new units could be created, some of which would be public, affordable, and/or market rate, resulting in a density of approximately 52 units per acre. The existing 100 public housing units would be replaced at a 1-to-1 ratio. Replacement of the public housing units would occur on the current public housing site and elsewhere in the Planned Action Study Area; the duplex units located adjacent to Sunset Terrace would be replaced with townhouse units, some affordable and some market-rate. Public amenities would be integrated with the residential development and could include the following: a community gathering space in a vacated Harrington Avenue NE (at Sunset Lane NE); a new recreation/community center and senior center; a new public library in a mixed-use building; a new park and open space; retail shopping and commercial space; and/or green infrastructure. The civic and recreation spaces could act as a "third place."

A "family village" in the North Subarea would provide an opportunity for integrated reinvestment in housing, education, recreation, and supportive services designed to promote a healthy, walkable, and neighborhood-friendly community.

NE Sunset Boulevard would be transformed to improve all forms of mobility and to create an inviting corridor through urban design amenities. A wider right-of-way would allow for intersection improvements, bike lanes in both directions, and sidewalks. Improvements to traffic operations at intersections would prioritize transit vehicles; there would also be a planted median with left-turn storage, and u-turns. Improved sidewalks and crosswalks together with streetscape elements such as street trees, transit shelters, street furniture, public art, and lighting would promote walkability. Added bike lanes would promote non-motorized transportation.

Natural stormwater infrastructure would be integrated in design of streets, parks, and new development. Options for green infrastructure are addressed in Section 2.7.2.4.

Active and passive recreation opportunities would be retained and enhanced. For example, the family village concept would allow for blending of education services outside the conventional K-12 spectrum such as early childhood education, the North Highlands Park, and RHA senior housing. Joint-use agreements could be forged between the City and the Renton School District to allow for public use of school grounds for parks and recreation purposes during non-school hours. When

public properties are no longer needed for present uses, they could be repurposed for parks and recreation.

2.7.2 Comparison of Features of Proposal Alternatives

The following features of each alternative are compared in Tables 2-2 through 2-5:

- neighborhood land use,
- potential Sunset Terrace redevelopment,
- NE Sunset Boulevard improvements, and
- stormwater management.

Each of these features, as well as other public service and utility improvements, is further described following the tables.

Table 2-2. Alternative Development Matrix—Neighborhood Land Use

ALTERNATIVE 1: No Action

Land Use Form and Location	Housing	Employment	Public Facilities, Services & Infrastructure	Development Pattern Supports Interconnection/ Walkability
Stand-alone commercial: clustered complexes	Multiplex Redevelopment	Small Retail Redevelopment	Civic Uses - e.g. Community Center, Senior Center, and/or Library on single purpose sites	No improvement
Primarily residential: urban scale, stacked flat and/or townhouses with structured parking.	Vacant Infill Development	Retail Lot Consolidation	Civic Uses - - e.g. Community Center, Senior Center, and/or Library integrated into mixed use development	Pedestrian-oriented development: minimize setbacks, promote public realm, structured parking
Horizontal Mixed use	Homeownership Opportunities	Shopping Center Redevelopment	New parkland to support increased residential capacity.	Transit-oriented development: density supports, transit integrated
Vertical Mixed Use	Rental Opportunities	Local serving retail & services	Parks & Recreation: Integrated with Master Planned Development	
Urban Intensity Focused Around Key Nodes, e.g. Sunset Terrace, Institutions	Market Rate	Regional serving retail & services	Parks & Recreation: Optimize City/School Facilities	
Urban Intensity Focused Along Corridor: Sunset Boulevard	Affordable		Parks & Recreation: Integration with Regional Drainage Facilities	
	Mixed Income		Land Use Pattern Supports Low Impact Development, Green Streets	
	Sunset Terrace Redevelopment		Education - Spectrum of Ages	
	Family Village Redevelopment		Integrated Social Services	

ALTERNATIVE 2: Mid-Range Intensity Improvements

Land Use Form and Location	Housing	Employment	Public Facilities, Services & Infrastructure	Development Pattern Supports Interconnection/ Walkability
Stand-alone commercial: clustered complexes	Multiplex Redevelopment	Small Retail Redevelopment	Civic Uses - e.g. Community Center, Senior Center, and/or Library on single purpose sites	No improvement
Primarily residential: urban scale, stacked flat and/or townhouses with structured parking.	Vacant Infill Development	Retail Lot Consolidation	Civic Uses - - e.g. Community Center, Senior Center, and/or Library integrated into mixed use development	Pedestrian-oriented development: minimize setbacks, promote public realm, structured parking
Horizontal Mixed use	Homeownership Opportunities	Shopping Center Redevelopment	New parkland to support increased residential capacity.	Transit-oriented development: density supports, transit integrated
Vertical Mixed Use	Rental Opportunities	Local serving retail & services	Parks & Recreation: Integrated with Master Planned Development	
Urban Intensity Focused Around Key Nodes, e.g. Sunset Terrace, Institutions	Market Rate	Regional serving retail & services	Parks & Recreation: Optimize City/School Facilities	
Urban Intensity Focused Along Corridor: Sunset Boulevard	Affordable		Parks & Recreation: Integration with Regional Drainage Facilities	
	Mixed Income		Land Use Pattern Supports Low Impact Development, Green Streets	
	Sunset Terrace Redevelopment		Education - Spectrum of Ages	
	Family Village Redevelopment		Integrated Social Services	

ALTERNATIVE 3: High Intensity Improvements

Land Use Form and Location	Housing	Employment	Public Facilities, Services & Infrastructure	Development Pattern Supports Interconnection/ Walkability
Stand-alone commercial: clustered complexes	Multiplex Redevelopment	Small Retail Redevelopment	Civic Uses - e.g. Community Center, Senior Center, and/or Library on single purpose sites	No improvement
Primarily residential: urban scale, stacked flat and/or townhouses with structured parking.	Vacant Infill Development	Retail Lot Consolidation	Civic Uses - - e.g. Community Center, Senior Center, and/or Library integrated into mixed use development	Pedestrian-oriented development: minimize setbacks, promote public realm, structured parking
Horizontal Mixed use	Homeownership Opportunities	Shopping Center Redevelopment	New parkland to support increased residential capacity.	Transit-oriented development: density supports, transit integrated
Vertical Mixed Use	Rental Opportunities	Local serving retail & services	Parks & Recreation: Integrated with Master Planned Development	
Urban Intensity Focused Around Key Nodes, e.g. Sunset Terrace, Institutions	Market Rate	Regional serving retail & services	Parks & Recreation: Optimize City/School Facilities	
Urban Intensity Focused Along Corridor: Sunset Boulevard	Affordable		Parks & Recreation: Integration with Regional Drainage Facilities	
	Mixed Income		Land Use Pattern Supports Low Impact Development, Green Streets	
	Sunset Terrace Redevelopment		Education - Spectrum of Ages	
	Family Village Redevelopment		Integrated Social Services	

LEGEND

Shading corresponds with alternative as follows:

Feature of Alternative 1	Feature of Alternative 2	Feature of Alternative 3

Table 2-3. Alternative Development Matrix—Potential Sunset Terrace Redevelopment Subarea

ALTERNATIVE 1: No Action

Housing Development	Urban Form	Sunset Terrace Amenities	Street Network, Pedestrian Realm	Non-Residential Development
Infill on vacant RHA properties	No improvement	No improvement	No improvement	None
1:1 Public Housing replacement (100 units)	Focus density along Sunset Blvd	New open space, e.g. active, garden, other	Improved intersection and crossing at Sunset Blvd and Harrington	Neighborhood Retail
New affordable and market rate units (250-350)	Focus density at Sunset Blvd/ Harrington intersection and north on Harrington	New rainwater park	Green connection/ bioswale along Harrington	New stand alone Highlands Library at Sunset Terrace
New affordable and market rate units (450-550)	Use townhomes to transition to residential neighborhood	Third Place Plaza with civic or community building	New hillside path on Sunset Blvd east of Harrington	New Mixed-Use Highlands Library at Sunset Terrace
Neighborhood residential infill	Disperse townhomes and apartments	Third Place incorporated into new retail	Close portion of Harrington as green street/open space	Office
Build Sunset Terrace site to zoning capacity		Flexible Community Services Center	Transpo Hub: improved bus stops, carsharing, and bike storage	
		Community Center		

ALTERNATIVE 2: Mid-Range Intensity Improvements

Housing Development	Urban Form	Sunset Terrace Amenities	Street Network, Pedestrian Realm	Non-Residential Development
Infill on vacant RHA properties	No improvement	No improvement	No improvement	None
1:1 Public Housing replacement (100 units)	Focus density along Sunset Blvd	New open space, e.g. active, garden, other	Improved intersection and crossing at Sunset Blvd and Harrington	Neighborhood Retail
New affordable and market rate units (250-350)	Focus density at Sunset Blvd/ Harrington intersection and north on Harrington	New rainwater park	Green connection/ bioswale along Harrington	New stand alone Highlands Library at Sunset Terrace
New affordable and market rate units (450-550)	Use townhomes to transition to residential neighborhood	Third Place Plaza with civic or community building	New hillside path on Sunset Blvd east of Harrington	New Mixed-Use Highlands Library at Sunset Terrace
Neighborhood residential infill	Disperse townhomes and apartments	Third Place incorporated into new retail	Close portion of Harrington as green street/open space	Office
Build Sunset Terrace site to zoning capacity		Flexible Community Services Center	Transpo Hub: improved bus stops, carsharing, and bike storage	
		Community Center		

ALTERNATIVE 3: High Intensity Improvements

Housing Development	Urban Form	Sunset Terrace Amenities	Street Network, Pedestrian Realm	Non-Residential Development
Infill on vacant RHA properties	No improvement	No improvement	No improvement	None
1:1 Public Housing replacement (100 units)	Focus density along Sunset Blvd	New open space, e.g. active, garden, other	Improved intersection and crossing at Sunset Blvd and Harrington	Neighborhood Retail
New affordable and market rate units (250-350)	Focus density at Sunset Blvd/ Harrington intersection and north on Harrington	New rainwater park	Green connection/ bioswale along Harrington	New stand alone Highlands Library at Sunset Terrace
New affordable and market rate units (450-550)	Use townhomes to transition to residential neighborhood	Third Place Plaza with civic or community building	New hillside path on Sunset Blvd east of Harrington	New Mixed-Use Highlands Library at Sunset Terrace
Neighborhood residential infill	Disperse townhomes and apartments	Third Place incorporated into new retail	Close portion of Harrington as green street/open space	Office
Build Sunset Terrace site to zoning capacity		Flexible Community Services Center	Transpo Hub: improved bus stops, carsharing, and bike storage	
		Community Center		

LEGEND

Shading corresponds with alternative as follows:

Feature of Alternative 1	Feature of Alternative 2	Feature of Alternative 3

Table 2-4. Alternative Development Matrix—NE Sunset Boulevard

ALTERNATIVE 1: No Action

Traffic Capacity and Operations Improvements	Pedestrian Walkability	Community Based Design Amenities	Bikes	Transit Enhancements	Access Management Measures
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	Pedestrian supportive signals (countdown heads and audible signals)	Preserve existing street trees	Bike route signage	New shelters	Consolidate driveways
Left turn storage lengthened to meet design year LOS	Improved side street sidewalk connections to intersections	Plant new street trees in landscape strip along corridor	Narrow inside lanes, widen outside lane to accommodate bikes	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	Curbed median to restrict left turns from driveways
Traffic signal interconnection and coordination	Pedestrian refuges in median	Use special paving for crosswalks	Narrow lanes, stripe a bike lane (requires WSDOT approval)	Special concrete bus pad in roadway at transit stops	Directional left-turn pockets mid-block
Widen to add Business Access/Transit Lane	Narrow lanes and reduce crossing distances	Use special paving within intersections	Provide multi-use trail along the corridor.	New local transit service connecting across SR900 to Community Center/Library	Provide U-turn accommodations
	Hillside walk paved path and planting	Way finding and signage			
	Multi-use trail along project corridor	Incorporate Art			
	Realign skewed intersections and reduce crosswalk distances	Garden / Art Trellis			
	Comfortable separation of pedestrians from vehicle traffic (landscape buffer)	Benches, trash and recycling receptacles			
	Widen sidewalks to meet Complete Streets minimums (8 ft sidewalks and 8 ft landscape strips)	Improve corridor roadway lighting			
		Special pedestrian scale lighting			
		Surveillance cameras for increased security and/or emergency response.			

ALTERNATIVE 2: Mid-Range Intensity Improvements

Traffic Capacity and Operations Improvements	Pedestrian Walkability	Community Based Design Amenities	Bikes	Transit Enhancements	Access Management Measures
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	Pedestrian supportive signals (countdown heads and audible signals)	Preserve existing street trees	Bike route signage	New shelters	Consolidate driveways
Left turn storage lengthened to meet design year LOS	Improved side street sidewalk connections to intersections	Plant new street trees in landscape strip along corridor	Narrow inside lanes, widen outside lane to accommodate bikes	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	Curbed median to restrict left turns from driveways
Traffic signal interconnection and coordination	Pedestrian refuges in median	Use special paving for crosswalks	Narrow lanes, stripe a bike lane (requires WSDOT approval)	Special concrete bus pad in roadway at transit stops	Directional left-turn pockets mid-block
Widen to add Business Access/Transit Lane	Narrow lanes and reduce crossing distances	Use special paving within intersections	Provide multi-use trail along the corridor.	New local transit service connecting across SR900 to Community Center/Library	Provide U-turn accommodations
	Hillside walk paved path and planting	Way finding and signage			
	Multi-use trail along project corridor	Incorporate Art			
	Realign skewed intersections and reduce crosswalk distances	Garden / Art Trellis			
	Comfortable separation of pedestrians from vehicle traffic (landscape buffer)	Benches, trash and recycling receptacles			
	Widen sidewalks to meet Complete Streets minimums (8 ft sidewalks and 8 ft landscape strips)	Improve corridor roadway lighting			
		Special pedestrian scale lighting			
		Surveillance cameras for increased security and/or emergency response.			

ALTERNATIVE 3: High Intensity Improvements

Traffic Capacity and Operations Improvements	Pedestrian Walkability	Community Based Design Amenities	Bikes	Transit Enhancements	Access Management Measures
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	Pedestrian supportive signals (countdown heads and audible signals)	Preserve existing street trees	Bike route signage	New shelters	Consolidate driveways
Left turn storage lengthened to meet design year LOS	Improved side street sidewalk connections to intersections	Plant new street trees in landscape strip along corridor	Narrow inside lanes, widen outside lane to accommodate bikes	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	Curbed median to restrict left turns from driveways
Traffic signal interconnection and coordination	Pedestrian refuges in median	Use special paving for crosswalks	Narrow lanes, stripe a bike lane (requires WSDOT approval)	Special concrete bus pad in roadway at transit stops	Directional left-turn pockets mid-block
Widen to add Business Access/Transit Lane	Narrow lanes and reduce crossing distances	Use special paving within intersections	Provide multi-use trail along the corridor.	New local transit service connecting across SR900 to Community Center/Library	Provide U-turn accommodations
	Hillside walk paved path and planting	Way finding and signage			
	Multi-use trail along project corridor	Incorporate Art			
	Realign skewed intersections and reduce crosswalk distances	Garden / Art Trellis			
	Comfortable separation of pedestrians from vehicle traffic (landscape buffer)	Benches, trash and recycling receptacles			
	Widen sidewalks to meet Complete Streets minimums (8 ft sidewalks and 8 ft landscape strips)	Improve corridor roadway lighting			
		Special pedestrian scale lighting			
		Surveillance cameras for increased security and/or emergency response.			

LEGEND

Shading corresponds with alternative as follows:

Feature of Alternative 1	Feature of Alternative 2	Feature of Alternative 3

Table 2-5 Alternative Development Matrix—Stormwater Management

ALTERNATIVE 1: No Action

Parcel-Based Stormwater Requirements	Sunset Terrace Stormwater Techniques	Conveyance Improvements in ROW	Flow Control BMPs in ROW	Water Quality Treatment BMPs in ROW	Open Space/Sub-regional Facilities
Meet Code Requirements On-site	Meet Code Requirements On-site	No improvements	No improvements	No improvements	No improvements
Incentivize Green Stormwater Infrastructure Retrofits	Downspout Disconnection	Rebuild Curb & Gutter	Permeable Pavement Sidewalks	Media Filter Vaults	Rainwater Parks (e.g. rain gardens)
Require Green Stormwater Infrastructure where Infiltration is Feasible	Raingardens for Residential Units	Bioretention Swale/Planters with Curb Openings	Bioretention Swales	Bioretention planters	Regional Detention Ponds
Require Green Stormwater Infrastructure including non-infiltrating practices	Permeable Sidewalks	Build/Rebuild Storm Drain Pipes	Bioretention Planters with Detention	Rain Gardens in medians	Underground Detention
Allow Fee In-lieu of Providing On-site Detention	Cisterns for Residential Units		Rain Gardens in medians	Permeable Pavement Water Quality Treatment	Sportsfield/Playfield Detention (detention during wet season only)
Green Parking Lot Standards	Green Roofs		Develop narrow street standards to reduce impervious coverage	Allow parcel stormwater treatment within ROW	New Rainwater Park at Sunset Terrace
	Harrington Street Green Connection				Rainwater Harvesting for Irrigation Use
	Rainwater Harvesting				

ALTERNATIVE 2: Mid-Range Intensity Improvements

Parcel-Based Stormwater Requirements	Sunset Terrace Stormwater Techniques	Conveyance Improvements in ROW	Flow Control BMPs in ROW	Water Quality Treatment BMPs in ROW	Open Space/Sub-regional Facilities
Meet Code Requirements On-site	Meet Code Requirements On-site	No improvements	No improvements	No improvements	No improvements
Incentivize Green Stormwater Infrastructure Retrofits	Downspout Disconnection	Rebuild Curb & Gutter	Permeable Pavement Sidewalks	Media Filter Vaults	Rainwater Parks (e.g. rain gardens)
Require Green Stormwater Infrastructure where Infiltration is Feasible	Raingardens for Residential Units	Bioretention Swale/Planters with Curb Openings	Bioretention Swales	Bioretention planters	Regional Detention Ponds
Require Green Stormwater Infrastructure including non-infiltrating practices	Permeable Sidewalks	Build/Rebuild Storm Drain Pipes	Bioretention Planters with Detention	Rain Gardens in medians	Underground Detention
Allow Fee In-lieu of Providing On-site Detention	Cisterns for Residential Units		Rain Gardens in medians	Permeable Pavement Water Quality Treatment	Sportsfield/Playfield Detention (detention during wet season only)
Green Parking Lot Standards	Green Roofs		Develop narrow street standards to reduce impervious coverage	Allow parcel stormwater treatment within ROW	New Rainwater Park at Sunset Terrace
	Harrington Street Green Connection				Rainwater Harvesting for Irrigation Use
	Rainwater Harvesting				

ALTERNATIVE 3: High Intensity Improvements

Parcel-Based Stormwater Requirements	Sunset Terrace Stormwater Techniques	Conveyance Improvements in ROW	Flow Control BMPs in ROW	Water Quality Treatment BMPs in ROW	Open Space/Sub-regional Facilities
Meet Code Requirements On-site	Meet Code Requirements On-site	No improvements	No improvements	No improvements	No improvements
Incentivize Green Stormwater Infrastructure Retrofits	Downspout Disconnection	Rebuild Curb & Gutter	Permeable Pavement Sidewalks	Media Filter Vaults	Rainwater Parks (e.g. rain gardens)
Require Green Stormwater Infrastructure where Infiltration is Feasible	Raingardens for Residential Units	Bioretention Swale/Planters with Curb Openings	Bioretention Swales	Bioretention planters	Regional Detention Ponds
Require Green Stormwater Infrastructure including non-infiltrating practices	Permeable Sidewalks	Build/Rebuild Storm Drain Pipes	Bioretention Planters with Detention	Rain Gardens in medians	Underground Detention
Allow Fee In-lieu of Providing On-site Detention	Cisterns for Residential Units		Rain Gardens in medians	Permeable Pavement Water Quality Treatment	Sportsfield/Playfield Detention (detention during wet season only)
Green Parking Lot Standards	Green Roofs		Develop narrow street standards to reduce impervious coverage	Allow parcel stormwater treatment within ROW	New Rainwater Park at Sunset Terrace
	Harrington Street Green Connection	`			Rainwater Harvesting for Irrigation Use
	Rainwater Harvesting				

LEGEND

Shading corresponds with alternative as follows:

Feature of Alternative 1	Feature of Alternative 2	Feature of Alternative 3

2.7.2.1 Neighborhood Land Use

To determine future growth scenarios for the next 20 years, a land capacity analysis was prepared for each alternative using assumptions similar to the King County Buildable Lands methodology. See Appendix B. Generally, the analysis considers acreage that is vacant or that may redevelop due to low floor area ratios and/or age of the structure as well as the relative value of the property according to King County Assessor's data. Based on retaining the current land use plan and zoning while varying the location and mix of dwellings and jobs, the alternatives produce different future growth estimates. Each would affect different amounts of property.

- Alternative 1 assumes that about 16% (35 acres) of the 213 net acres of Planned Action Study Area parcels would infill or redevelop.
- Alternative 2 assumes that about 32% (68 acres) of the Planned Action Study Area parcels would infill or redevelop.
- Alternative 3 assumes that approximately 40% (84 acres) of the Planned Action Study Area parcels would infill or redevelop.

The number of dwelling units and jobs under each alternative is compared in Table 2-6. Alternative 1 provides the least growth and Alternative 3 the most growth, with Alternative 2 in the middle. The Sunset Mixed Use Subarea would include the most residential and employment growth under all three alternatives.

Table 2-6. Summary of Land Capacity—Net Additional Growth above Existing—2030

Subarea	Dwelling Units/Jobs	Alternative 1	Alternative 2[1]	Alternative 3
Potential Sunset Terrace Redevelopment	Dwelling units	168–175[2]	310	479
	Jobs	49[3]	164	182
Sunset Mixed Use	Dwelling units	1,109	1,052	1,509
	Jobs	410–652	1,728	2,875
Central, North and South	Dwelling units	206	296	518
	Jobs	152–213	273	273
Total Study Area Net Growth	Dwelling units[3]	1,483–1,490	1,658	2,506
	Population[4]	3,430-3,442	3,830	5,789
	Employment SF	251,700	844,351	1,310,113
	Jobs[6]	611–914[7]	2,165	3,330

1 The Draft EIS technical analysis for transportation, water, and sewer models studied two more net units in the Potential Sunset Terrace Redevelopment Subarea under Alternatives 1 and 3, and a slightly different mix of dwellings and jobs in the Potential Sunset Terrace Redevelopment Subarea under Alternative 2 (12 more dwellings and 38 fewer jobs). These differences are negligible and represent a less than 2% difference across the Planned Action Study Area.

2 The lower range represents proposed concepts on RHA's two vacant sites based on funding applications currently in process. The upper range represents the results of a land capacity analysis.

3 The estimate is based on a 90%/10% housing/employment split between residential and service uses; the housing/employment share based on example proposed developments prepared for RHA's two vacant sites in the Sunset Terrace subarea.

4 Includes 217 dwellings and approximately 8 jobs associated with Harrington Square. The first building was constructed in Summer 2010, and the other is under construction to be completed in spring/summer 2011.

5 Applies an average household size of 2.31, an average of two census tracts 252 and 254.

6 Includes retail, service, and education jobs.

7 The lower figure shown is based on a commercial employment rate of 400 square feet per employee for retail and service jobs. If applying a commercial employment rate of 250 square feet per employee, the employment would equal the upper range. This latter figure is more similar to Renton Transportation Zone assumptions.

These increases in dwellings and jobs associated with the Planned Action are illustrated in Figures 2-6 through 2-8.

Figure 2-6. Additional Growth by Alternative—2030

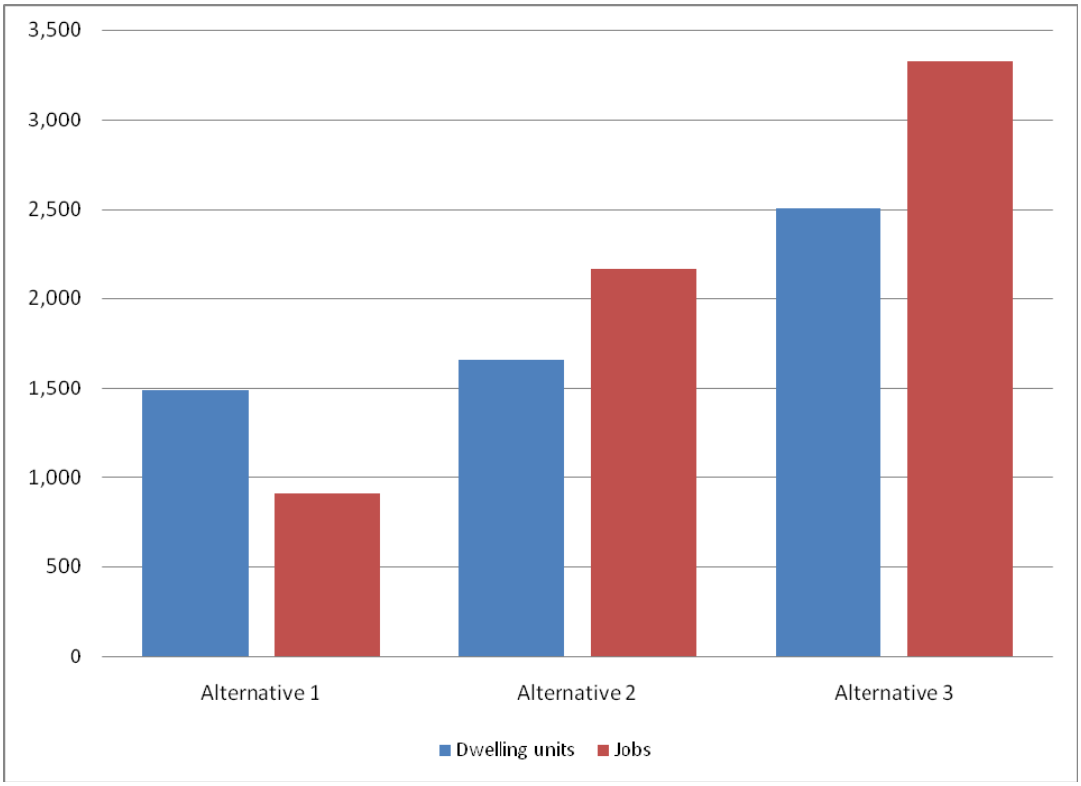

Figure 2-7. Additional Dwellings under Each Alternative by Subarea—2030

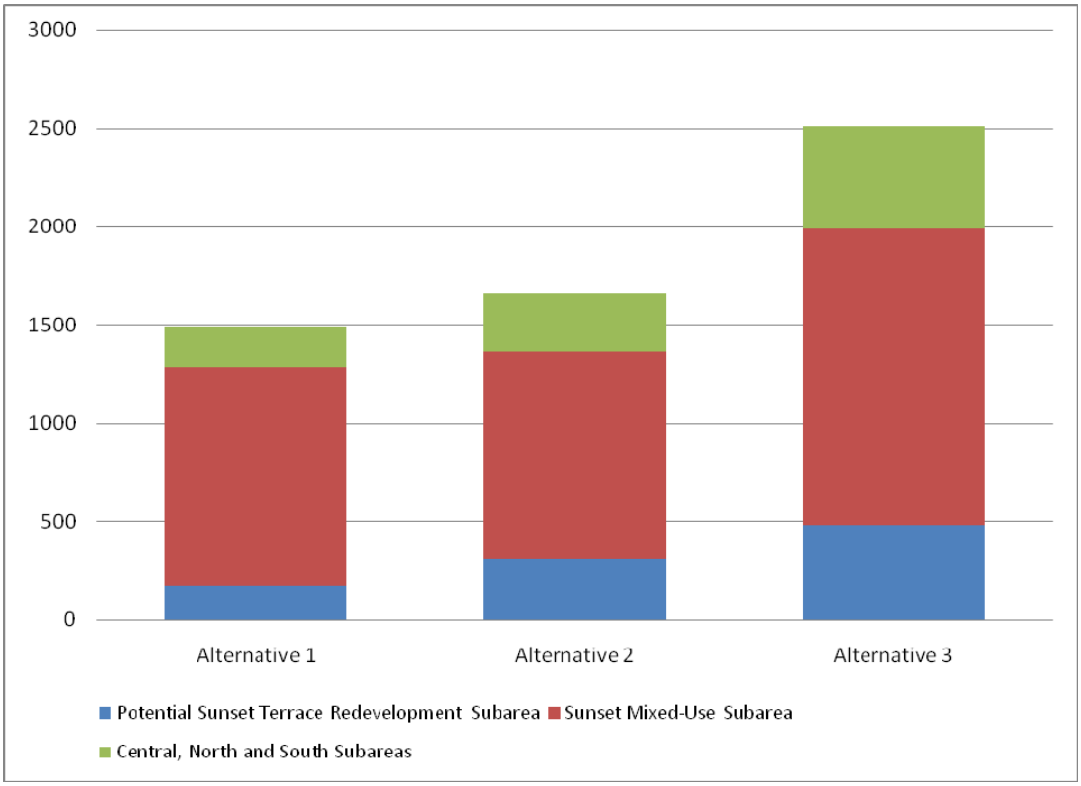

Figure 2-8. Additional Permanent Jobs under Each Alternative by Subarea—2030

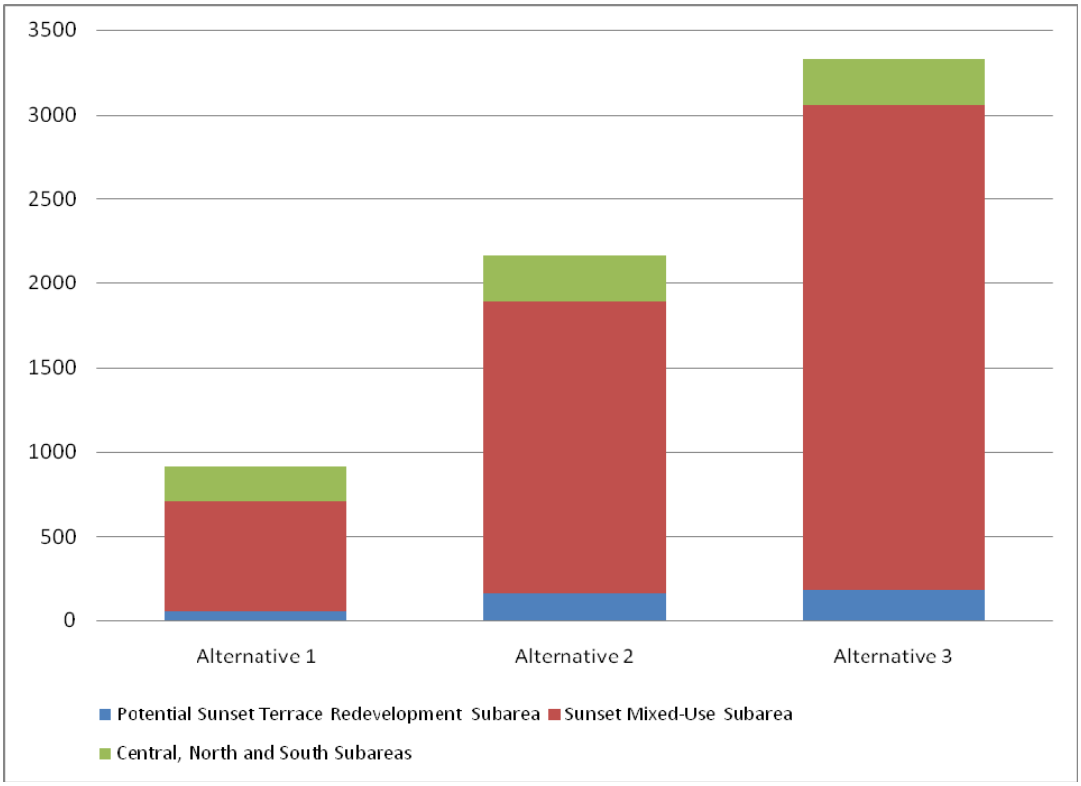

Table 2-7 shows total population, housing, and jobs adding net growth in Table 2-6 to existing development. As described above, Alternative 1 provides for the least growth and Alternative 3 the most.

Table 2-7. Existing and Total Growth—2030

Alternative	Planned Action Study Area Total		
	Population	Dwellings	Jobs
Existing[1]	2,978	1,289	1,306
Alternative 1	6,417	2,778	2,220
Alternative 2	6,808	2,947	3,471
Alternative 3	8,768	3,796	4,636

[1] Dwellings are based on King County Assessor 2010 data. Population estimated using a household size of 2.31, an average of census tracts 252 and 254. Jobs are based on transportation model estimates for 2006.

2.7.2.2 Potential Sunset Terrace Redevelopment Subarea

In the Potential Sunset Terrace Redevelopment Subarea, Alternative 1 would allow infill growth on vacant land, whereas Alternatives 2 and 3 would transform the subarea into a mixed-use, mixed-income development. The conceptual plans for Alternatives 2 and 3 are shown in Figures 2-9 and 2-10. Alternative 1 would only develop buildings 1 through 4 and 11, as shown on Figure 2-9. The anticipated land use mix, dwelling unit types, community amenities, and phasing and relocation are described for each alternative below.

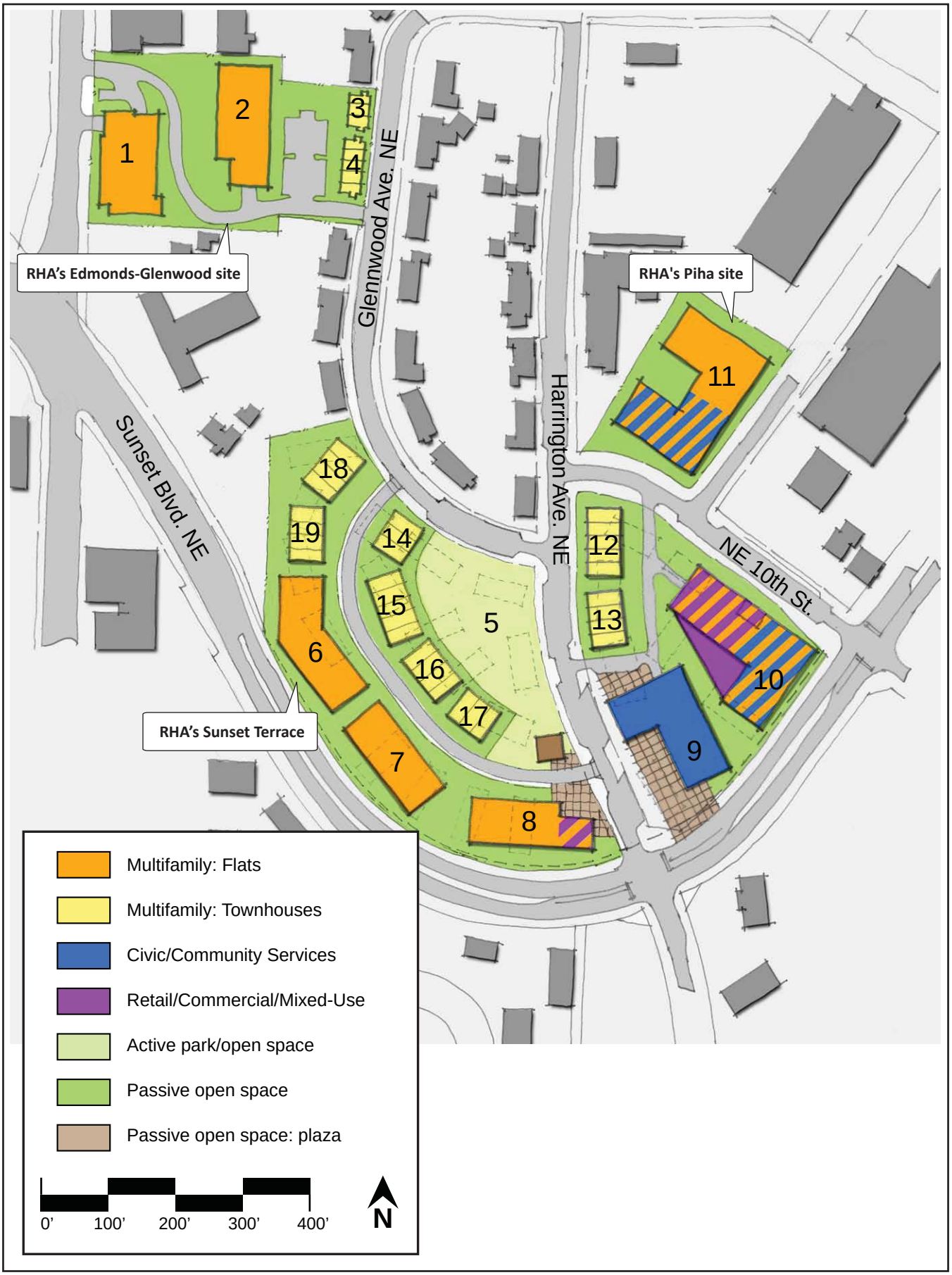

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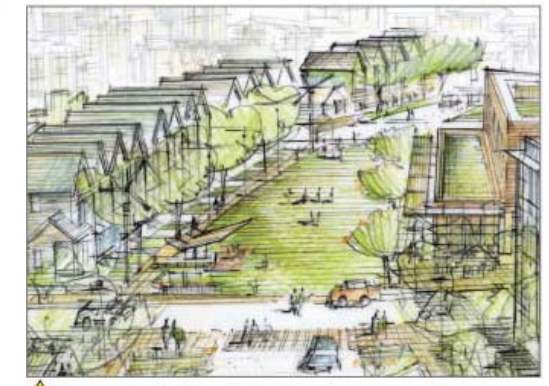
Figure 2-9
Potential Sunset Terrace Redevelopment Concept—Alternative 2
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

5 The Sunset Terrace entrance features abundant landscaping which will naturally facilitate stormwater runoff management.

4 The entry to the new Sunset Terrace neighborhood is flanked by walkable neighborhood retail with outside dining on the sunny south side, and convenient angle parking.

3 Leasing office, lobby entrance, and amenity space are accessible at street level, with residential units above and one level of parking below.



1 Low scale family oriented townhouses provide eyes on a safe linear park which also contributes outdoor space to the community center.

2 A new regional library with parking below and housing above, shares a pedestrian pathway with a coffee shop to the community center.

New Development Summary

Site	Building Type	Stories	Parking: Surface	Parking: Under Structure	Parking: Total	Units: Market	Units: Affordable	Units: Affordable Senior	Units: Total	Retail	Community Space
1	I	4		123			112				
2	II	3		49		37					
3	IIa	3		49		37					
4	IIa	3		49		37					
5	III	4		49		43				6,500 sf	
6	IV	4	62 Shared Streetside Angle Parking	49			43			10,000 sf	
7	V	4		36			43			15,000 sf	
8	VI	2									20,000 sf
9	VII	4		216				168			7,500 sf
10	VIII	2-3	62 Shared Stalls				4				
11	VIII	2-3					4				
12	VIII	2-3					4				
13	VIII	2-3					4				
14	VIII	2-3					4				
15	VIII	2-3					4				
16	VIII	2-3					4				
17	VIII	2-3					4				
18	IX	3		36			37				
		TOTAL	124	656	780	154	267	168	589	31,500 sf	27,500 sf

Residential
Ground Floor Retail
Community

6 IV Site & Building Type

0 80 160

NORTH

BUMGARDNER
ARCHITECTURE • INTERIORS • PLANNING

Figure 2-10
Potential Sunset Terrace Redevelopment Concept—Alternative 3
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Land Use Mix

While housing would be the predominate use in the Potential Sunset Terrace Redevelopment Subarea under all alternatives, the alternatives also include mixed-use elements to varying degrees, such as civic uses and in some cases retail and office.

Alternative 1 proposes predominantly apartment-style dwellings with some townhouse dwellings on RHA's western vacant site (Edmonds-Glenwood site) and senior housing on RHA's eastern vacant site (Piha site). See Figure 2-9 for locations of these sites. Enriched senior housing services, including elder day health for offsite patients, would be part of an approximately 12,500-square-foot facility on the ground floor of the eastern vacant site. The existing Sunset Terrace public housing complex would remain in place with no changes.

Alternative 2 proposes apartment-style dwellings along NE Sunset Boulevard west of Harrington Avenue NE, mixed commercial and civic uses with residential dwellings east of Harrington Avenue NE, a central court of townhomes, and a 38,605-square-foot (0.89-acre) public park to the central-north. An office building is planned at 11,000 square feet, which could accommodate public or private offices (e.g., RHA headquarters, if moved). Retail space is assumed at 2,500 square feet. Community service uses are estimated at 26,000 square feet in the central part of the subarea and could house a variety of community or social services and/or a library; another 12,500 square feet would house the senior enriched services described for Alternative 1. About 88 public housing units would be replaced on the existing Sunset Terrace public housing site and 12 would be replaced on another site(s) in the Planned Action Study Area.

Alternative 3 would maximize the number of residential dwellings and apartment-style units along the western boundary where topography allows more views, townhomes in the central area close to the open space, mixed-use retail and housing at the intersection of NE Sunset Boulevard and Harrington Avenue NE and civic uses, which could include a community center, senior center, and/or library (total space 42,000 square feet), west of Harrington Avenue NE. An open space of about 0.25 acre would be located in an open space provided in the Harrington Avenue NE right-of-way (if vacated) at Sunset Lane NE. Most of the 100 public housing units would be replaced within the Potential Sunset Terrace Redevelopment Subarea and some would be replaced elsewhere in the Planned Action Study Area, though the ratio has not been determined at this time.

Housing

Alternative 1 for the Potential Sunset Terrace Redevelopment Subarea would affect the least amount of property and would focus on infilling vacant land and redevelopment of one duplex on the Piha and Edmonds-Glenwood sites. Alternative 2 would alter the entire Sunset Terrace public housing site, as well as vacant acres, and a duplex, on the Piha and Edmonds-Glenwood sites. Alternative 3 would result in private property reinvestment in townhomes to the north of the Sunset Terrace site in addition to redevelopment of the entire Sunset Terrace public housing site, and the Piha and Edmonds-Glenwood sites.

The number of acres redeveloped would differ among alternatives as would the density:[8]

- Alternative 1 would redevelop approximately 170 to 177 dwelling units (a net increase of 168 to 175 dwelling units) on 3.1 net acres, resulting in a density of approximately 55 dwelling units per acre.
- Alternative 2 would redevelop approximately 412 dwelling units (a net increase of 310 dwelling units) on 10.3 acres, resulting in a density of approximately 40 dwelling units per acre.
- Alternative 3 would redevelop approximately 589 dwelling units (a net increase of 479 dwelling units) on 11.3 acres, resulting in a density of approximately 52 dwelling units per acre.

Whereas Alternative 1 would provide for affordable housing only, Alternatives 2 and 3 would provide public, affordable and market-rate housing.

- Alternative 1 would provide affordable dwelling units, but no public or market-rate dwellings units.
- Alternative 2 would provide approximately 21% public, 55% affordable, and 24% market-rate dwelling units.
- Alternative 3 would provide approximately 74% affordable and 26% market-rate dwelling units (amount of replacement public housing on site not determined; would be a portion of "affordable" percentage).

Lastly, all alternatives would provide flats and townhomes to differing degrees, and housing would potentially include both rental and home ownership, but the portion is not yet known.

- Alternative 1 would provide 170 units: eight townhomes and 162 flats.
- Alternative 2 would provide 412 units: 40 townhomes and 372 flats.
- Alternative 3 would provide 589 units: 32 townhomes and 557 flats.

Phasing and Relocation

Replacement housing would not be needed for the Potential Sunset Terrace Redevelopment Subarea under Alternative 1, because the existing Sunset Terrace public housing would remain intact; however RHA has committed to providing relocation assistance for a duplex it owns on one lot associated with the Edmonds-Glenwood site (see Figure 2-9 for the location of this site). For Alternatives 2 and 3, RHA has committed to replacement housing at a 1:1 ratio, consistent with the existing proportion of units by number of bedrooms. Such replacement housing could occur on site and/or off site, as described above.

Under any alternative, approval of necessary permits identified in the Fact Sheet (located behind the cover letter) for this Draft EIS and the availability of public financing will determine the timing and type of development activities in the Potential Sunset Terrace Redevelopment Subarea. A key permit approval is the HUD demolition/disposition application associated with the redevelopment of the Sunset Terrace public housing community under Alternatives 2 and 3.

Redevelopment of the subarea under Alternatives 2 and 3 would be phased, with vacant sites developing first followed by redevelopment of the Sunset Terrace public housing community.

[8] The acres and resulting density are calculated across sites and include portions of the property devoted to non-residential uses including civic and commercial areas.

During the time replacement housing is under construction, Section 8 vouchers would be used to relocate tenants, as necessary. Relocated tenants would also be offered spaces in the new development. A general sequence of events is summarized below and is subject to change based on funding opportunities:

1. HUD Demolition/Disposition process completed for Sunset Terrace public housing community: approximately 2011.
2. Buildout of vacant RHA-owned sites completed: anticipated for the Edmonds-Glenwood site between 2011 and 2012 and for the Piha site in 2012. (See Figure 2-9 for the locations of these properties.)
3. Sunset Terrace replacement housing funded and constructed: two phases, with the first phase in 2012-2013 and the second phase in 2014-2015.
4. Sunset Terrace tenants relocated with potential Section 8 voucher strategy during construction phases: relocation starting in 2012-2013 with phasing determined by construction schedule.
5. Offer spaces in the new developments on the vacant RHA-owned sites and/or at Sunset Terrace, as applicable, to relocated tenants: post-construction.

2.7.2.3 NE Sunset Boulevard Improvements

Alternative 1 would include no improvements to NE Sunset Boulevard. Alternative 2 would comply with the spirit of the City Complete Streets standards and improve all modes of travel on NE Sunset Boulevard with minimal changes to the current right-of-way (up to 5 feet of acquisition). Alternative 3 would fully comply with the City Complete Streets standards and would require the most right-of-way acquisition (up to 13 feet of acquisition) to accommodate planned multimodal improvements along NE Sunset Boulevard. A sample cross section is included in Figure 2-11 and represents a location west of Harrington Boulevard NE in the Potential Sunset Terrace Redevelopment Subarea vicinity.

In addition to changes along NE Sunset Boulevard, Alternative 3 would alter circulation patterns by closing Harrington Avenue NE for one block in the Potential Sunset Terrace Redevelopment Subarea. Additionally, both Alternatives 2 and 3 would alter cross sections of some local streets to create Green Connections. (See Section 2.7.2.4 below.) The potential sidewalk, crosswalk, bicycle, transit, and landscaping improvements, and associated rights-of-way proposals are shown on Figures 2-12 and 2-13.

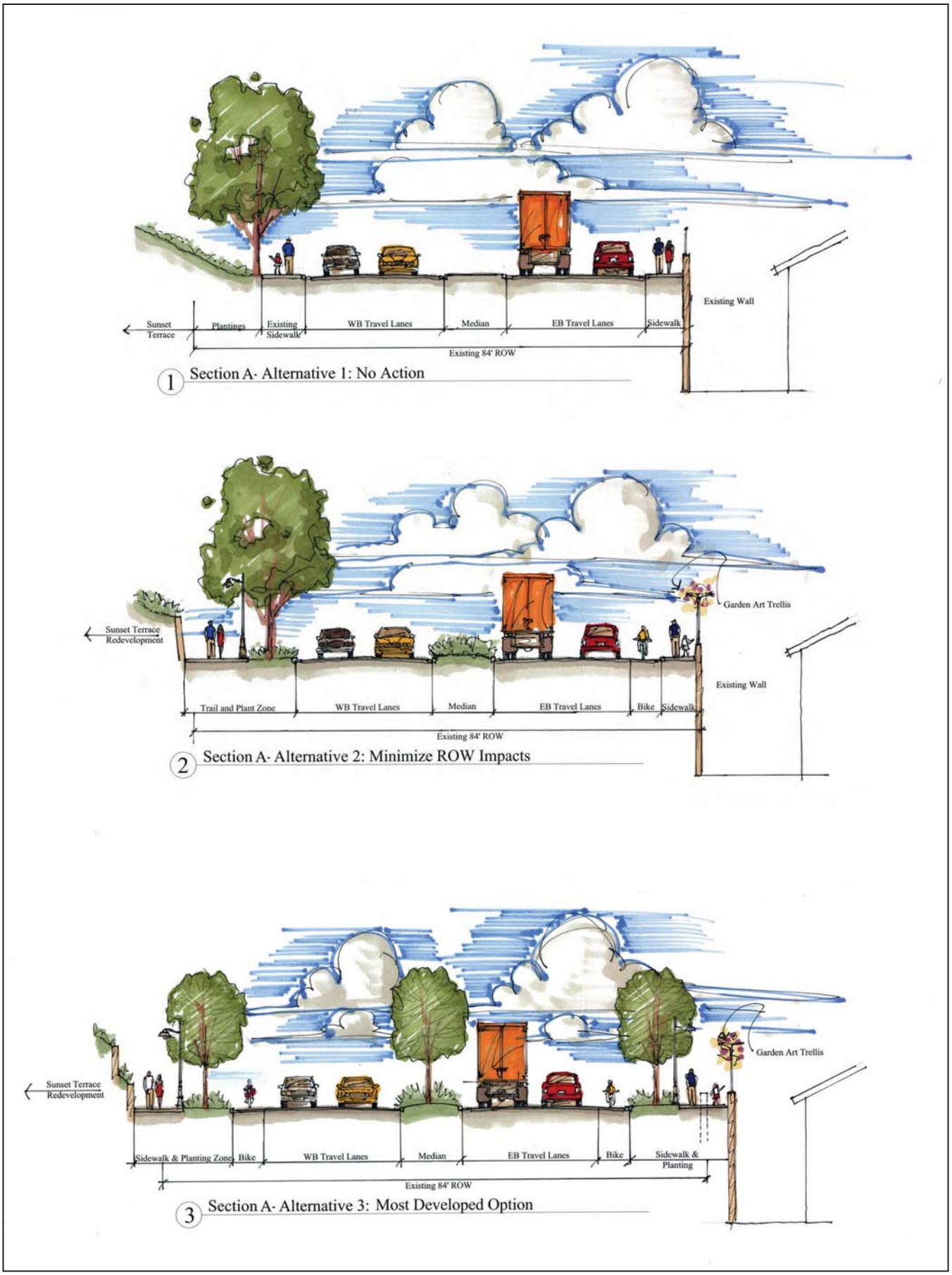


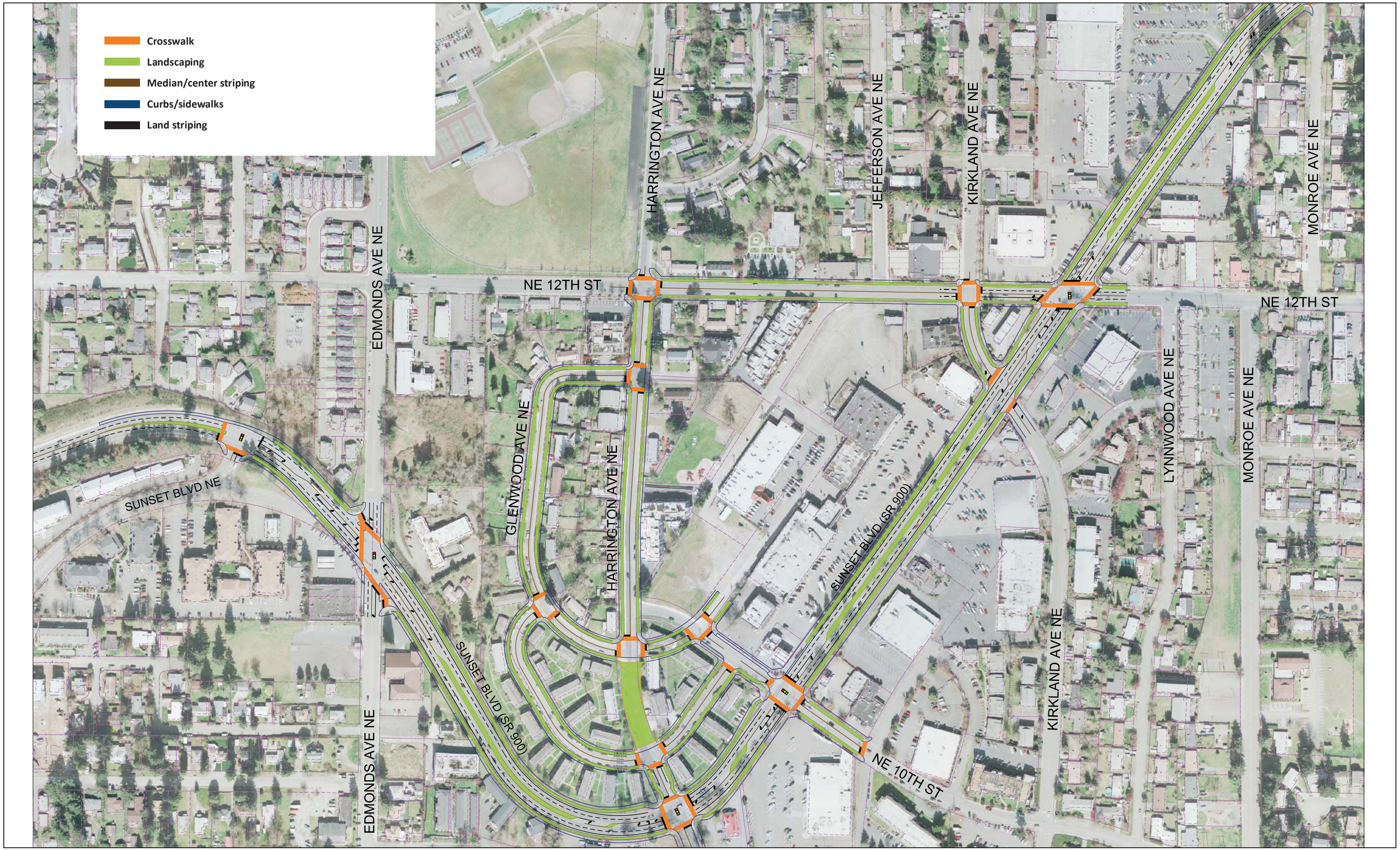
Figure 2-11

NE Sunset Boulevard—Alternative Cross Sections west of Harrington Avenue NE

Sunset Area Community Planned Action Draft NEPA/SEPA EIS

CH2MHILL

Figure 2-12
NE Sunset Boulevard—Alternative 2 Conceptual Layout
Sunset Area Community Planned Action Draft NEPA/SEPA EIS



CH2MHILL

Figure 2-13
NE Sunset Boulevard—Alternative 3 Conceptual Layout
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

2.7.2.4 Stormwater Management

Alternative 1 assumes no change to public stormwater systems in the Planned Action Study Area. Private development would be required to meet City standards for stormwater management including RMC 4-6-030 addressing the Surface Water Utility. Technical requirements for the design of drainage facilities are contained in the *2009 King County Surface Water Design Manual* (King County 2009), adopted by the City with amendments (City of Renton 2010c).

Alternatives 2 and 3 both include a stormwater strategy that integrates the following palette of options distributed throughout the parcels, rights-of-way, and rainwater parks in public open spaces, all of which would support, sustain, and promote the redevelopment in the Planned Action Study Area.

- **Private property options** include rain gardens, porous pavement, downspout disconnection, and cisterns.
- **Green connections** include roadside rain gardens, porous pavement, bioretention planters, and conveyance swales.
- **Rainwater parks** include rain gardens, porous pavement, underground storage beneath active or passive recreation areas, hydraulically functional landscaping.

Alternative 2 represents a "lead-by-example" approach that integrates stormwater improvements to retrofit the publically owned areas for improved water quality, flow reduction and groundwater recharge. Connected rights-of-way would be reconstructed with permeable sidewalks, bioretention swales and roadside rain gardens in curb bulbs to treat runoff from within the right-of-way and improve pedestrian access and livability. Opportunities include integrating hydraulically functional landscaping and stormwater improvements (e.g. rain gardens and porous surfacing) in public open spaces and facilities to demonstrate sustainable stormwater alternatives; integration of natural infrastructure is not intended to reduce the amount of or access to useable active recreational space. The approach for private property would be to primarily reduce barriers to integrating green stormwater infrastructure.

Alternative 3 includes many similar elements as Alternative 2; however, it includes opportunities to expand the stormwater infrastructure within public rights-of-way and spaces to enhance the capacity to mitigate for potential private redevelopment. The enhanced capacity would serve both as advance mitigation for stormwater impacts of the existing developed area (realizing benefits earlier) and as an incentive for redevelopment by providing off-site stormwater mitigation. Opportunities include more aggressive application of green stormwater and conveyance infrastructure in the rights-of-way to receive runoff from redeveloped properties. Additional opportunities include integrated multipurpose regional stormwater facilities with public open spaces that integrate stormwater treatment and runoff reduction within the same open spaces that serve the public; integration of natural infrastructure is not intended to reduce the amount of or access to useable active recreational space.

2.7.2.5 Other Public Service and Utility Improvements

Parks and Recreation

Currently, the Planned Action Study Area contains approximately 22 acres of parks and two neighborhood centers. Renton School District sites also provide recreation and sports fields, although these are dedicated for school use and there is no formal agreement with the City for use of school facilities during non-school-hours. The alternatives represent different growth levels and demand for parks and recreation and different opportunities to meet demand.

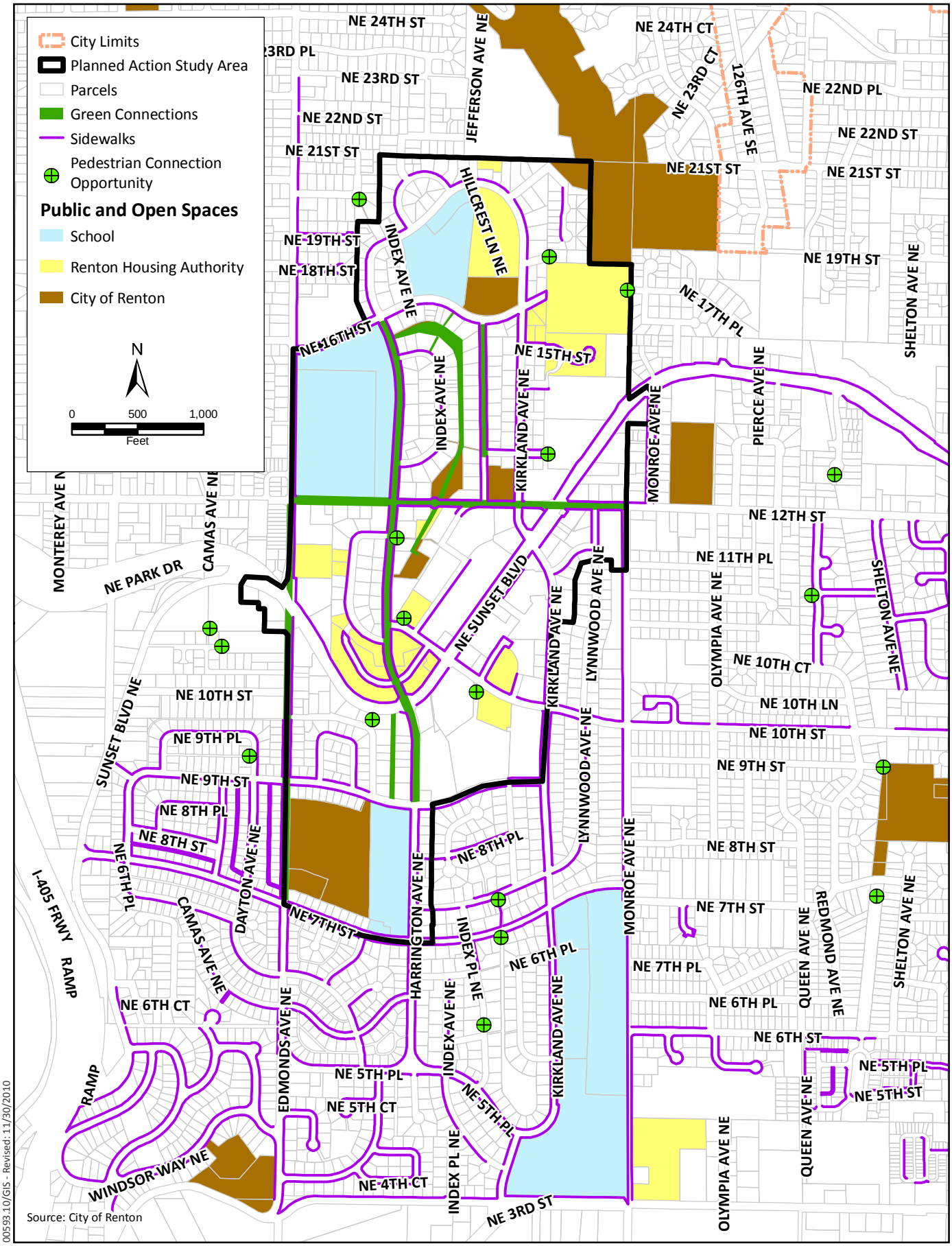
- **Alternative 1.** No change to parks and recreation facilities would occur.
- **Alternative 2.** Parks and recreation opportunities include a 0.89-acre park and a community center at Sunset Terrace, and a reconfigured Hillcrest Early Childhood Center site and North Highlands Park In addition, there are publicly owned properties, vacant properties, potential pedestrian connections between blocks, a sidewalk network, and proposed green connections that may allow for improvement and/or acquisition to create a coordinated "pocket park" system (Figure 2-14). In addition, opportunities are identified in this Draft EIS analysis regarding joint-use agreements between the City and Renton School District, repurposing of public properties, or acquisition of private properties in areas where demand for recreation is anticipated to be higher (see Section 4.15).
- **Alternative 3.** Parks and recreation opportunities include a linear park in the Potential Sunset Terrace Redevelopment Subarea within the Harrington Avenue NE right-of-way (if vacated) as well as a community center, a joint parks and recreation/education/housing concept at the "family village" (as envisioned and described in the Sunset Area CIS; See Figure 2-13), and green connections that connect a "necklace" of "pocket" parks (see Figure 2-14). Similar to Alternative 2, opportunities are identified in the Draft EIS analysis regarding joint-use agreements, repurposing of public properties and/or acquisition of private properties in areas where demand for recreation is anticipated to be higher (see Section 4.15).

Sections 3.15 and 4.15 of this Draft EIS address current parks and recreation conditions and potential impacts of the alternatives on parks and recreation in the Planned Action Study Area, respectively. Section 4.15 also identifies opportunities to accommodate park needs including possible acquisition of acreage and construction of amenities to meet the increased population needs.

Schools

The Planned Action Study Area includes potential changes to education facilities, which are studied cumulatively with other Planned Action proposals. The Renton School District proposes to upgrade school facilities in the Planned Action Study Area as follows:

- **Alternative 1.** Hillcrest Early Childhood Center would be reconstructed consistent with the *Renton School District Six Year Capital Facilities Plan, 2009–2015* (Renton School District and Greene Gasaway Architects 2008:26–28), and would equal approximately 30,000 square feet similar to its current size. Planned improvements to McKnight Middle School would add approximately 10 classrooms.



00593.10/GIS - Revised: 11/30/2010

Figure 2-14
Public and Open Spaces
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

- **Alternative 2.** In the North Subarea, Hillcrest Early Childhood Center would be rebuilt as an early childhood education center serving the entire school district. The facility would equal 65,000 square feet in size. Uses would also include social services and recreation. To maximize the limited land area, redevelopment of Hillcrest Early Childhood Center would occur in conjunction with redevelopment of the North Highlands Park allowing shared parks and recreation facilities between the two properties. See Figure 2-15 for the location of Hillcrest Early Childhood Center and the North Highlands Park facilities. Other changes to McKnight Middle School would be as described for Alternative 1.
- **Alternative 3.** In the North Subarea, the Hillcrest Early Childhood Center site would be combined with the North Highlands Park and RHA senior housing complex site and redeveloped to form a "family village" that offers education for a spectrum of ages, including early childhood education as well as recreation, and family housing. See Figure 2-16 which shows a visualization of what a family village could look like. Other changes to McKnight Middle School would be as described for Alternative 1.

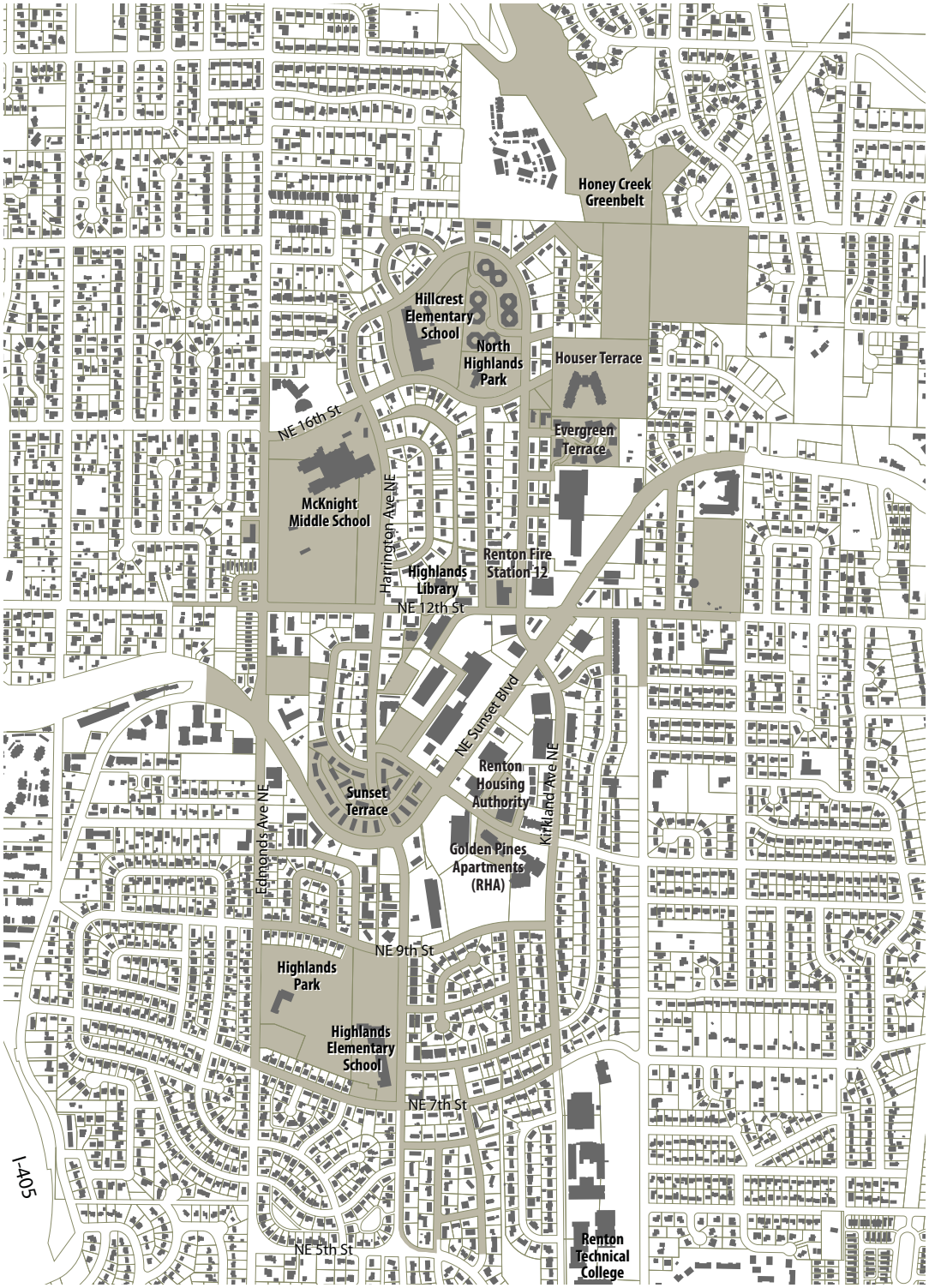
Community Services

Various community services are anticipated under all alternatives and would generally be focused on the Potential Sunset Terrace Redevelopment Subarea. Services could include a senior health services, social services in office or community center space, and/or library services. The current Highlands Library would move to a new location within the city limits, possibly within the Planned Action Study Area. The alternatives assume redevelopment of the library site, and potential new locations for community services, which could include a library. Community service assumptions for the alternatives are as follows.

- **Alternative 1** would include a 12,500-square-foot or larger space for senior health services including elder day health in the Potential Sunset Terrace Redevelopment Subarea on RHA's eastern vacant property and 10,000 to 15,000 square feet of space that could house a library or social services located on a single-purpose site likely in an area well served by circulation and transit, such as in the Sunset Mixed Use Subarea.
- **Alternative 2** would locate community service space in stand-alone and mixed-use structures, totaling about 38,500 square feet, in the Potential Sunset Terrace Redevelopment Subarea. The spaces would potentially house a senior health services similar to Alternative 1, library, and/or social services.
- **Alternative 3** would locate a senior center, community center, and, potentially, a library, totaling 42,500 square feet, within the Potential Sunset Terrace Redevelopment Subarea, most of which would occur in a mixed-use format.

Utilities

All alternatives would require improvements to utilities, particularly water and sewer to serve the new development in terms of fire flow, water use, and wastewater collection and treatment, with Alternative 1 creating less demand for service, Alternative 3 the greatest, and Alternative 2 within the range. See Draft EIS sections 3.17 and 4.17.



Publicly owned land (City of Renton, Renton Housing Authority, Renton School District, US/Federal Gov't, and ROW)

0 600 1200 1800 2400 feet

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Figure 2-15
Publicly Owned Sites in Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Artist's drawing of the Family Village concept at Hillcrest

Note: This is a conceptual rendering from the *Sunset Area Community Investment Strategy*, and thus subject to change.

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Figure 2-16
Alternative 3—Family Village Concept
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

2.7.2.6 Planned Action Ordinance

The City is proposing to adopt a Planned Action Ordinance applicable to the Planned Action Study Area pursuant to SEPA. A Planned Action Ordinance, if adopted, would exempt future projects from SEPA threshold determinations or EISs when they are consistent with the Sunset Area Community EIS assumptions and mitigation measures.

According to WAC 197-11-164, a Planned Action is defined as a project that:

- is designated a Planned Action by ordinance;
- has had the significant environmental impacts addressed in an EIS;
- has been prepared in conjunction with a comprehensive plan, subarea plan, master planned development, phased project, or with subsequent or implementing projects of any of these categories;
- is located within an urban growth area;
- is not an essential public facility; and
- is consistent with an adopted comprehensive plan.

Under Alternatives 2 and 3, the City would formally designate the Planned Action consistent with the Planned Action study area in Figure 2-1. The proposal alternatives studied in this Draft EIS implement projects identified in the City's Comprehensive Plan and the Sunset Area CIS. The proposal is located within the Renton Urban Growth Area, and proposal elements are not essential public facilities as defined by RCW 36.70A.200.

Although a SEPA threshold determination would not be required for future projects within the Planned Action Study Area that meet specific description and parameters, the City would follow adopted procedures to review proposed projects within the Planned Action Study Area through the land use review process associated with each project to determine its impacts and impose any appropriate development conditions.

SEPA rules at WAC 197-11-168 require the ordinance designating the Planned Action to include the following:

- a description of the type of project action being designated as a Planned Action,
- a finding that the probable significant environmental impacts of the Planned Action have been identified and adequately addressed in an EIS, and
- the identification of mitigation measures that must be applied to a project for it to qualify as a Planned Action.

Following the completion of the EIS process, the City would designate the Planned Action by ordinance. The ordinance would identify mitigation, as described in this Draft EIS, which would be applicable to future site-specific actions. Mitigation could include requirements that would apply to all development in the Planned Action Study Area as well as measures that would apply on a case-by-case basis. A draft Planned Action Ordinance is included in Appendix C.

2.7.2.7 Cumulative Growth

Cumulative impacts are those which result from the incremental impact of the proposals when added to past, present, and reasonably foreseeable future actions. The analysis in this Draft EIS describes the individual impacts of conceptual plans in the Potential Sunset Terrace Redevelopment Subarea, as well as civic and infrastructure improvements (e.g., NE Sunset Boulevard improvements), in the context of cumulative growth patterns expected over the next 20 years in the Planned Action Study Area. This growth in the Study Area is examined in the context of the City's adopted plans that included growth allocations citywide.

2.8 Benefits and Disadvantages of Deferring Implementation

Deferring implementation of the proposals would allow for residential and commercial development to occur in a more scattered manner in the study area over a longer period of time due to lack of substantive civic and infrastructure benefits. In the absence of a catalyst for redevelopment and neighborhood revitalization, economic development would occur more gradually. Benefits of new housing, employment, and civic uses – such as replacement of antiquated and dilapidated housing, greater cohesion of residents, opportunities for healthy active lifestyles, and greater local employment – at Sunset Terrace and in the Planned Action Study Area would not occur. Stormwater improvements would be made in a piecemeal fashion and would not achieve net improvements in stormwater treatment compared to a master plan approach. NE Sunset Boulevard would continue to lack access management and aesthetic appeal. Less mixed use development would provide less reduction in energy use and greenhouse gas emissions at a regional level. Each development would undergo separate environmental review, which would lengthen permit review time. Deferring implementation could result in marginally less traffic and would expose fewer new residents to noise for developments located along the roadway.

Chapter 3
Affected Environment

This chapter presents current environmental conditions and regulatory requirements applicable in the Planned Action Study Area and the Potential Sunset Terrace Redevelopment Subarea, addressing the following topics:

3.1 Earth

3.2 Air Quality

3.3 Water Resources

3.4 Plants and Animals

3.5 Energy

3.6 Noise

3.7 Environmental Health

3.8 Land Use

3.9 Socioeconomics

3.10 Housing

3.11 Environmental Justice

3.12 Aesthetics

3.13 Historic/Cultural

3.14 Transportation

3.15 Parks and Recreation

3.16 Public Services

3.17 Utilities

3.1 Earth

3.1.1 Environmental Context

This section discusses the existing conditions related to soils and geology in the Planned Action Study Area. Subsurface materials, seismicity, and geologic hazards are the primary topics. Groundwater also is discussed as it relates to potential construction impacts and the engineering properties of soil; however, infiltration characteristics and aquifer protection issues are discussed in Section 3.3, Water Resources.

3.1.1.1 Planned Action Study Area

Subsurface Materials

The soils influencing the design and function of the Planned Action Study Area generally consist of human-placed fill and deposits of the most recent glaciation, the Vashon, which receded approximately 13,500 years ago. The primary soil units present in the Planned Action Study Area are described in the subsections below. Both the geologic units used in the City of Renton (City) GIS database and the more commonly used names (in parentheses) are listed for the geologic units.

Figure 3.1-1 shows the surface geology as mapped by the Natural Resources Conservation Service (2010). The 20 borings drilled along NE Sunset Boulevard for the Renton Interceptor design (Golder Associates 1996 and 2003) and the fact that the northern half of the Planned Action Study Area is designated as an Aquifer Protection Zone (City of Renton 2009) suggest that the extent of the Pleistocene continental glacial till is not as extensive as indicated in Figure 3.1-1 and that perhaps more of Planned Action Study Area is underlain by Pleistocene advance glacial outwash.

Fill

Based on borings along NE Sunset Boulevard (Golder Associates 1996 and 2003), fill ranging from 4 to 7 feet deep, and in limited locations exceeding 10 feet deep, is common along roadways. Roadway and site grading fill is typically a reworked mix of the parent geologic units in the local area and consists primarily of loose to medium-dense, well to poorly graded sand with silt and varying proportions of gravel. Backfill for utility trenches tends to be more permeable than native soils or surrounding fill and sometimes may be a conduit for water movement. Key characteristics of fill are that the composition and density may not have been well controlled.

Pleistocene Continental Glacial Outwash (Vashon Recessional Outwash)

Recessional outwash is material that was deposited during the retreat of the glacier and typically consists of loose to medium-dense, well to poorly graded sand with silt and small amounts of gravel. It is moderately permeable. It is not as dense and strong and the glacially overconsolidated till and advance outwash, but is typically suitable for support of lightly loaded footings, such as commonly support residential and light commercial structures. While recessional outwash can settle under added loads, the amount of settlement under modest loads seldom exceeds a few inches and occurs almost instantaneously as the load is applied.

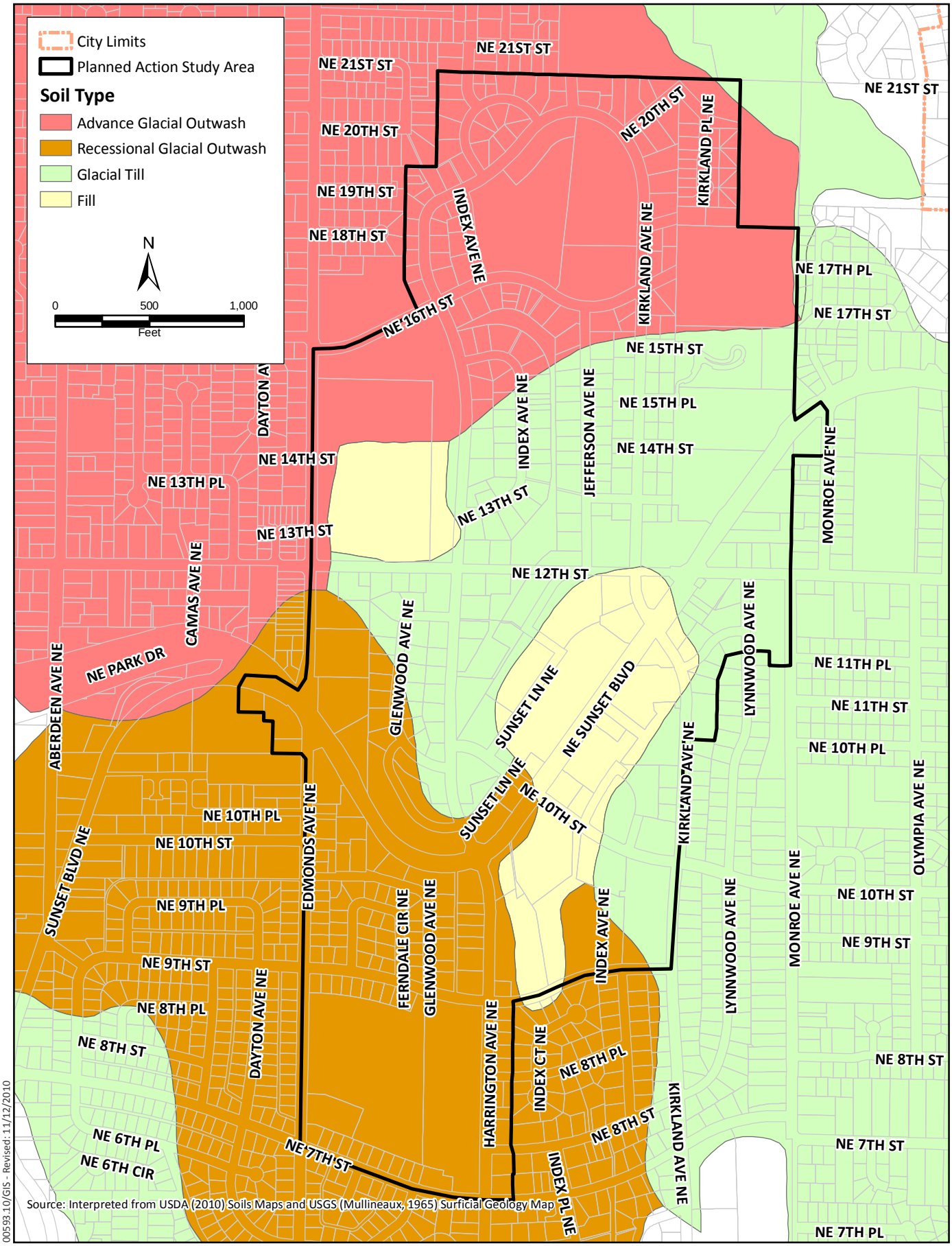

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Figure 3.1-1
Surface Geology
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

The Vashon recessional outwash can be slightly weather sensitive (i.e., difficult to place in an engineered fill during wet weather because the silt and clay absorb water that hinders compaction), but is relatively well-draining and is well suited for reuse in the Planned Action Study Area.

Occasionally, recessional outwash is loose enough to liquefy, or lose strength, during design-level earthquake shaking; however, the material must be saturated to liquefy. Based on the borings along NE Sunset Boulevard (Golder Associates 2003 and 2006), most of the loose Recessional Outwash appears to be unsaturated, so the risk of large scale liquefaction of this material during a seismic event is low.

Pleistocene Continental Glacial Till (Vashon Till)

Vashon till is typically a very dense, unsorted, unstratified mixture of gravel, sand, silt, and clay deposited next to or under the glacial ice. It commonly contains occasional cobbles and boulders. Within the Planned Action Study Area, the material appears to be primarily sand with silt and gravel.

Because it is very dense and contains a large percentage of granular materials, the till is very strong and is typically an excellent foundation material. Residential, light commercial, and even relatively heavily loaded bridge foundations are usually supported on spread footings in glacially overconsolidated till. Temporary excavations stand at relatively steep slopes. Excess excavation can be recompacted into excellent embankment material; however, the till is typically very weather-sensitive, so earthwork must be done during the dry season if the material is to be reused in embankments that require strength.

Vashon till tends to be of low permeability and groundwater perches near the surface of the deposit. Dewatering of temporary excavations below the water table can usually be accomplished with sump pumps. The till can contain lenses of sand, which are more permeable than the overall mass and yield water when intercepted; however, the volume of flow from these lenses is typically small.

The moderate fines (i.e., clay and silt) content and high compactness makes the till somewhat more resistant to erosion than cleaner, sandier materials; however, the low permeability means that stormwater tends to run off more than infiltrate, increasing the erosion risk. Once the till erodes, the fine particles tend to stay suspended, increasing the area/time required for runoff treatment to reduce turbidity.

Pleistocene Advance Glacial Outwash (Vashon Advance Outwash)

Advance outwash is a river deposit laid down in advance of the glacial front and overridden by the glacial ice. Vashon recessional outwash in the Planned Action Study Area is typically stratified, very dense, well to poorly graded sand with minor amounts of silt and gravel.

The Vashon advance outwash is typically very strong, well-draining, and suitable for spread footing foundation support of residential and most commercial structures. Although there may be some layers or areas with elevated fines content, the material is generally clean (fines-free) enough that the material can be recompacted with minimal effort.

The Vashon advance outwash is relatively permeable, so excavations below the groundwater table will require dewatering with pumping wells or construction techniques that can be done in the wet. Dewatering, if required, could involve substantial flow rates. However, where measurements are available, the water table in the Planned Action Study Area is commonly is excess of 20 feet below

the ground surface. Most excavations for residential and light commercial construction will not penetrate the groundwater table in Vashon recessional outwash.

Seismicity

The entire Puget Sound area is considered to be seismically active. Seismicity in this region is caused by the Juan de Fuca plate being thrust beneath the North American plate. This convergence leads to three different source mechanisms for seismic events in the Puget Sound area.

1. **Shallow zone earthquakes** are random crustal events (Magnitude 6.5 to 7.25) that could occur in the upper 20 miles anywhere in the region.
2. **Deep earthquakes** are from the intraplate source (up to about Magnitude 7.5 on the Richter scale) occurring 20 to 40 miles in a wide zone beneath Puget Sound.
3. **Subduction zone earthquakes** are very large in magnitude (Magnitude 8.5+) from the Cascadia source located off the coast of Washington.

The Seattle Fault is an example of a shallow, random crustal event. These sources are currently assumed to be capable of causing a magnitude 7.0 to 7.25 event and are estimated to have a recurrence interval of approximately 1,000 to 1,200 years. The southernmost trace of the Seattle Fault zone is approximately 0.75 mile north of the northern edge of the Planned Action Study Area boundary (Johnson et al. 2004). Because of the close distance, this source has a relatively large impact on the intensity of shaking for the long recurrence interval used in the International Building Code (see Regulatory Context) even though the magnitude associated with it is smaller than the other sources. At lower design recurrence intervals, this source has much less impact.

The 1949 Olympia earthquake (Magnitude 7.1), the 1965 Sea-Tac earthquake (Magnitude 6.5), and the 2001 Nisqually earthquake (Magnitude 6.8) are recent events associated with the intraplate fault mechanism. This type of earthquake occurs more frequently than the other two sources and has more impact on the hazard-analysis-produced design acceleration for short design life relative to the other two sources.

Large (Magnitude 8.5+) Cascadia Subduction Zone earthquakes are believed to have a recurrence interval of 1,000 years or more (Atwater et al. 1995). Evidence of these large earthquakes, which have not been documented in modern times, consists of buried marshes or forests (sudden subsidence), areas buried by sand layers suggestive of tsunamis, signs of liquefaction, and landsliding. The Cascadia Subduction Zone earthquake is thought to be capable of producing ground motions as high as 0.5 gravitational acceleration. The location of the assumed rupture is about 100 kilometers west of the Washington coast; therefore, shaking from this source would be substantially reduced in Renton.

Earthquake accelerations codified for design in the Planned Action Study Area have been determined from probabilistic seismic hazard modeling conducted by the U.S. Geological Survey (American Association of State Highway and Transportation Officials 2010; International Code Counsel 2009). This type of modeling considers the recurrence interval, magnitude, and distance to the project site for all possible source mechanisms. The seismic recurrence intervals used by the two codes that cover most development in the area are discussed in the Regulatory Context section below.

Geologic Hazards

Geologic hazards mapped in the Planned Action Study Area include:

- steep slope areas,
- erosion hazard areas, and
- landslide hazard areas.

The locations of the mapped hazards are shown in Figures 3.1-2 and 3.1-3.

3.1.1.2 Potential Sunset Terrace Redevelopment Subarea

Renton Interceptor borings and published geologic mapping suggest that the Potential Sunset Terrace Redevelopment Subarea is likely to be underlain by relatively thin (perhaps less than 10 or 15 feet total) layers of fill and recessional outwash, underlain by Vashon till. Measurable quantities of groundwater were not encountered in the borings, though it is likely that relatively small volumes are perched on top of the till, especially during the winter and spring.

3.1.2 Regulatory Context

3.1.2.1 Federal

The federal government provides seismic information and standards. The International Building Code has adopted the seismic recommendations developed by the National Earthquake Hazards Reduction Program (Federal Emergency Management Agency 2003). The National Earthquake Hazards Reduction Program (NEHRP) uses the 2002[1] probabilistic seismic hazard maps developed by the U.S. Geological Survey for a seismic event with a recurrence interval of 2,500 years. The American Association of State Highway and Transportation Officials (AASHTO) standards also rely on the 2002 U.S. Geological Survey probabilistic hazard mapping; however, AASHTO (2010) uses a seismic event with a recurrence interval of 1,000 years as the basis of design.

3.1.2.2 State

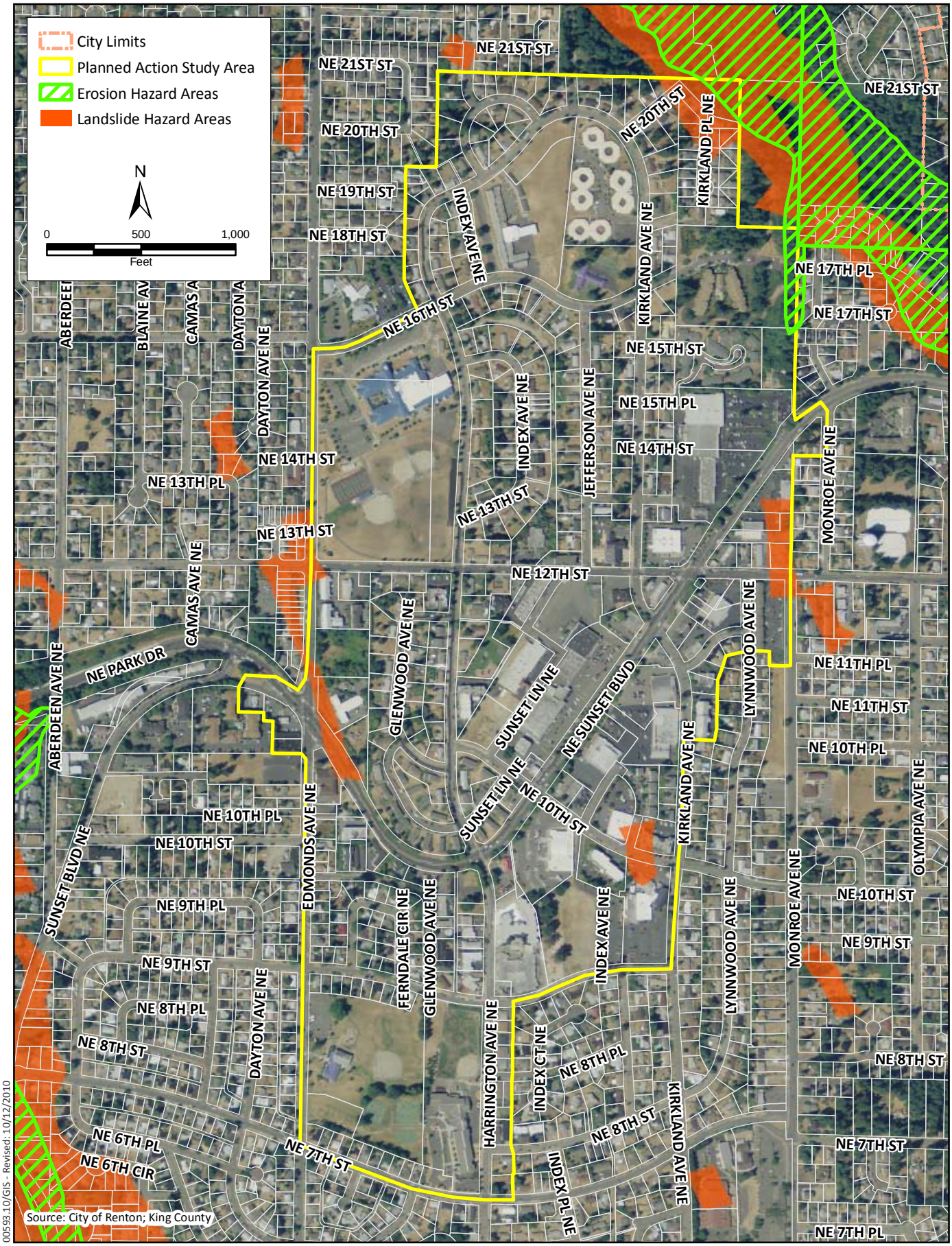
The State of Washington has adopted the 2009 International Building Code (International Code Counsel 2009). This code applies to the design of continuously occupied buildings, so would apply to residences and most commercial buildings. The types of buildings that would be developed in the Planned Action Study Area would be designed for a seismic event with a recurrence interval of 2,500 years.

State highway projects in the state typically are designed in accordance with the *Washington State Department of Transportation Design Manual* (2010), which generally adopts AASHTO standards, with certain additional requirements or guidance.

3.1.2.3 Local

The City has adopted the International Building Code together with state amendments and City amendments in Renton Municipal Code (RMC) 4-5-050.

[1] The U.S. Geological Survey has developed more recent maps than the 2002 versions, but the codes still use the 2002 versions.



00593.10/GIS - Revised: 10/12/2010

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Figure 3.1-2
Erosion and Landslide Hazard Areas
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

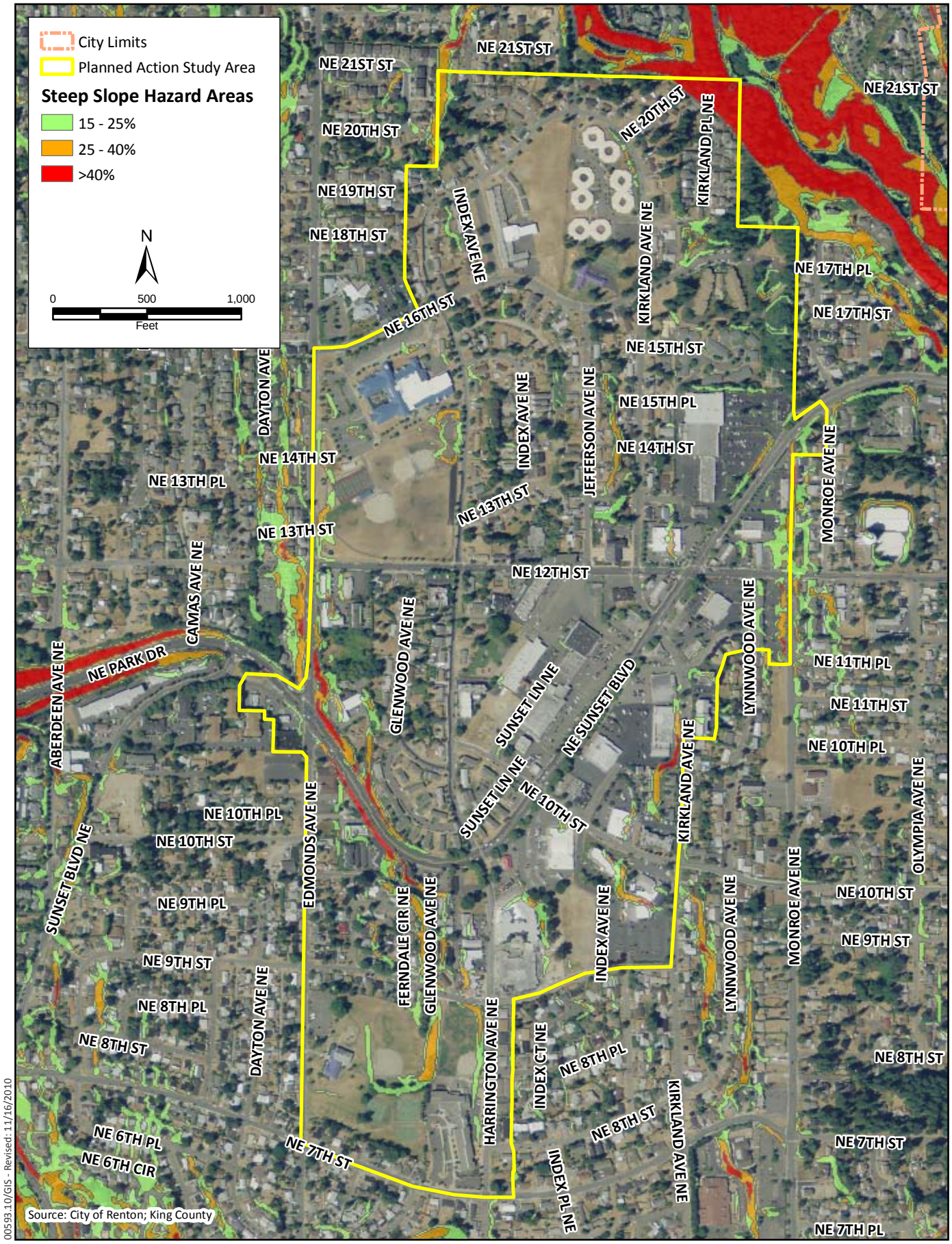

Figure 3.1-3
Steep Slope Hazard Areas
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

The City has also adopted critical areas regulations (RMC 4-3-050), including regulations that govern development in geologic hazard areas (Subsection J2). The regulations do not preclude development within geologic hazard areas, but do require permitting and special design and review to show that the proposed development:

- does not increase the threat of the hazard to adjacent properties beyond the predevelopment condition,
- does not adversely impact other critical areas, and
- can be safely accommodated on the site.

The geologic hazards are defined in the code; the maps of the hazard locations provided in Figures 3.1-2 and 3.1-3 can be overridden by site-specific information.

3.2 Air Quality

3.2.1 Environmental Context

This section discusses the existing conditions related to air quality in the Planned Action Study Area.

3.2.1.1 Planned Action Study Area

Existing Air Pollution Sources

Typical air pollution sources in the Planned Action Study Area include vehicular traffic, commercial and retail businesses, light industry, and residential wood-burning devices. While many types of pollutant sources are present, the single largest contributor to most criteria pollutant emissions is derived from on-road vehicles, which contribute the majority of the carbon monoxide (CO), volatile organic compounds (VOCs), and nitrogen dioxide (NO_2). Secondary sources of emissions are derived from commercial and industrial land uses. Additionally, space heating (e.g., gas and diesel heating equipment) and wood-burning appliance emissions contribute to background air quality.

Key Criteria Air Pollutants

The following paragraphs describe the sources and environmental effect of key criteria pollutants (CO, ozone, and particulate matter) considered in this analysis.

CO is a product of incomplete combustion generated by mobile sources, residential wood combustion, and industrial fuel-burning sources. CO is a concern related to on-road mobile sources because it is the pollutant emitted in the greatest quantity for which short-term health standards exist. CO is a pollutant whose impact is usually localized, and CO concentrations typically diminish within a short distance of roads. The highest ambient concentrations of CO usually occur near congested roadways and intersections during wintertime periods of air stagnation.

Ozone is a highly reactive form of oxygen created by an atmospheric chemical reaction of nitrogen oxides and VOC, both of which are emitted directly from industrial and mobile sources. Ozone problems tend to be regional in nature because the atmospheric chemical reactions that produce ozone occur over a period of time, and because, during the delay between emission and ozone formation, ozone precursors can be transported far from their sources. Transportation sources like automobiles and trucks are some of the sources that produce ozone precursors.

Particulate matter is generated by industrial emissions, residential wood combustion, motor vehicle tailpipes, and fugitive dust from roadways and unpaved surfaces. When first regulated, particle pollution was based on "total suspended particulate," which included all size fractions. As sampling technology has improved and the importance of particle size and chemical composition has become clearer, ambient standards have been revised to focus on the size fractions thought to be most dangerous to people. At present, there are standards for particulate matter less than 10 micrometers in size (PM10) and particulate matter less than 2.5 micrometers in size (PM2.5), because these sizes of particulate contribute the most to human health effects, regional haze, and acid deposition. The highest ambient concentrations generally occur near the emissions sources, which in the study area would be motor vehicle tailpipes from State Route (SR) 900 and major

roads. PM2.5 has a greater impact than PM10 at locations far from the emitting source, because it remains suspended in the atmosphere longer and travels farther.

Air Quality Attainment Status

Based on monitoring information collected over a period of years, the U.S. Environmental Protection Agency (EPA) and Washington State Department of Ecology (Ecology) designate regions as being attainment or nonattainment areas for regulated air pollutants. Attainment status indicates that air quality in an area meets the National Ambient Air Quality Standards (NAAQS), and nonattainment status indicates that air quality in an area does not meet those standards. If the measured concentrations in a nonattainment area improve so they are consistently below the NAAQS, Ecology and EPA can reclassify the nonattainment area to a maintenance area.

Renton, including the Planned Action Study Area, is currently designated as a maintenance area for CO and an attainment area for all other criteria air pollutants (ozone, PM10, PM2.5, lead, sulfur dioxide [SO_2], and NO_2). In March 2008, the EPA lowered its 8-hour ozone standard from 0.08 parts per million (ppm) to 0.075 ppm to better protect public health. In January 2010, EPA proposed a revision to the 2008 ozone standard, and put all area designations to the 2008 standard on hold. Until the revised standard is adopted, the region is still designated an attainment area for ozone.

Similarly, in 2010, EPA enacted a new, more stringent 1-hour average ambient air quality standard for NO_2. At this time it is not known which regions in the country will be redesignated based on the new standard. Therefore, as of this time, Renton is still considered an attainment area for NO_2.

Air Toxics Issues

The Planned Action Study Area includes residential and commercial uses that pose no special issues related to air toxics. The study area is not near any major industrial facilities that emit large amounts of toxic air pollutants, nor is it near any major transportation corridors (e.g., rail lines, marine terminals, freeways, or industrial haul truck routes) that are used by unusually high numbers of diesel-powered vehicles. Existing traffic on NE Sunset Boulevard includes only 2% heavy diesel vehicles, which is typical of commercial arterials. Based on these considerations, it is expected that existing and future air quality in the study area would not be affected by unusually high concentrations of toxic air pollutants.

According to EPA's National Air Toxics Assessment (NATA-2000) database, the existing respiratory cancer risk in the census tracts[1] that includes the study area is roughly 500 x 10^{-6} or 500 cancer cases per million population[2] (U.S. Environmental Protection Agency 2010). That reported respiratory cancer risk is typical of other mixed-use urban areas in King County.

Puget Sound Regional Council Transportation Conformity Analysis

Under federal and state regulations, Puget Sound Regional Council is required to demonstrate that the Regional Transportation Plan (RTP) or Transportation Improvement Program (TIP) conforms to the State Implementation Plan (SIP) allowable emissions budget. The SIP provides a blueprint of

[1] The EPA's NATA database reports broader the census tract level (e.g., 250, 260, 270), rather than the more detailed level (e.g., 252, 253, 254).

[2] This has been rounded up to 500 per million. The database report a cancer risk for the 250 census tract grouping of 470 per million.

how maintenance and nonattainment areas such as the central Puget Sound region will meet or maintain the NAAQS. The most recent air quality analysis (Puget Sound Regional Council 2010) for the 2010–2013 Regional TIP and the long-range RTP, demonstrates that 2040 forecasted regional emissions conform to the SIP's allowable emissions budgets. That analysis included the SR 900 roadside safety improvement project in the Planned Action Study Area.

3.2.1.2 Potential Sunset Terrace Redevelopment Subarea

The affected environment for air quality in this subarea is the same as described above for the Planned Action Study Area.

3.2.2 Regulatory Context

3.2.2.1 Federal

National Ambient Air Quality Standards

EPA establishes NAAQS and specifies future dates for states to develop and implement plans to achieve these standards. The standards are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life. Table 3.2-1 lists the NAAQS for six criteria pollutants: CO, ozone, PM10, PM2.5, lead, SO_2, and NO_2.

Table 3.2-1. National and Washington State Ambient Air Quality Standards

Pollutant	Federal Primary	Federal Secondary	State
Carbon monoxide			
8-hour average[a]	9 ppm	No standard	9 ppm
1-hour average[a]	35 ppm	No standard	35 ppm
Ozone			
8-hour average[b]	0.075 ppm	0.075 ppm	0.075 ppm
Total suspended particles			
Annual average	No standard	No standard	60 μg/m^3
24-hour average[c]	No standard	No standard	150 μg/m^3
Particulate matter—PM10			
24-hour average[c]	150 μg/m^3	150 μg/m^3	150 μg/m^3
Particulate matter—PM2.5			
Annual average	15 μg/m^3	15 μg/m^3	15 μg/m^3
24-hour average[d]	35 μg/m^3	35 μg/m^3	35 μg/m^3
Lead			
Quarterly average	1.5 μg/m^3	1.5 μg/m^3	1.5 μg/m^3
Sulfur dioxide			
Annual average	0.03 ppm	No standard	0.02 ppm
24-hour average[a]	0.14 ppm	No standard	0.10 ppm
3-hour average[a]	No standard	0.50 ppm	No standard
1-hour average[e]	No standard	No standard	0.40 ppm
Nitrogen dioxide			
Annual average	0.053 ppm	0.053 ppm	0.05 ppm
1-hour average[f]	0.100 ppm	No standard	No standard

Source: Chapter 173, Sections 470 to 475 Washington Administrative Code

ppm = parts per million; μg/m^3 = micrograms per cubic meter

Notes:

Annual standards are never to be exceeded. Short-term standards are not to be exceeded more than once per year unless noted.

[a] Not to be exceeded once per year.

[b] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).

[c] Not to be exceeded more than once per year on average over 3 years.

[d] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 μg/m^3.

[e] 0.25 ppm are not to be exceeded more than two times in 7 consecutive days.

[f] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm.

Transportation Conformity Regulations

Regionally significant transportation projects (with federal or state funding) proposed for construction within nonattainment areas or maintenance areas are subject to the transportation conformity regulations specified under federal regulations (Code of Federal Regulations [CFR], Title 40, Parts 51 and 93) and state regulations (Chapters 173–420 of the Washington Administrative Code [WAC]). Regionally significant projects include constructing or widening new roadways and widening signalized intersections. The intent of these regulations is to ensure that transportation

projects, plans, and programs affecting regional and local air quality will conform to existing plans and time tables for attaining and maintaining federal health-based air quality standards. The permitting agency must demonstrate transportation conformity by the following steps for any proposed future roadway improvement projects.

- Confirm that the proposed projects are included in the RTP or TIP.
- Confirm that the regional emissions described in the TIP are within the allowable emissions budget specified by Ecology.
- Use an EPA-approved air quality dispersion model to conduct a project-level CO hot-spot analysis at the most heavily congested intersections.

Inclusion of a project in the regional conformity analysis does not satisfy project-level conformity requirements. Project-level hot-spot analyses must be performed by the project sponsor as part of the project's environmental review process.

Currently, no such roadway project is proposed in the Planned Action Study Area; however, if the City used state or federal funds to construct any roadway improvements, then it would be required to include the preceding air quality demonstrations in Washington State Environmental Policy Act (SEPA) and/or National Environmental Policy Act (NEPA) documentation.

National Environmental Policy Act Requirement for Climate Change Analysis

On December 7, 2009, EPA signed the Endangerment and Cause or Contribute findings for greenhouse gases (GHGs) under Section 202(a) of the Clean Air Act. Under the Endangerment Finding, EPA determines that the current and projected concentrations of the six key well-mixed GHGs—CO^2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations. Under the Cause or Contribute Finding, EPA determines that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities; however, they are a prerequisite to finalizing the new Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles, which EPA and the U.S. Department of Transportation jointly proposed on September 15, 2009.

On February 19, 2010, the Council on Environmental Quality issued draft NEPA guidance on the consideration of the effects of climate change and GHG emissions. This guidance advises federal agencies to consider opportunities to reduce GHG emissions caused by federal actions, adapt their actions to climate change impacts throughout the NEPA process, and address these issues in their agency NEPA procedures. Where applicable, the scope of the NEPA analysis should cover the GHG emission effects of a proposed action and alternatives and the relationship of climate change effects to a proposed action or alternatives.

3.2.2.2 State

State Ambient Air Quality Standards

Ecology establishes state ambient air quality standards for the same six pollutants that are at least as stringent as the national standards; in the case of SO_2, state standards are more stringent. Table 3.2-1 lists the state ambient air quality standards for six criteria pollutants.

Outdoor Burning

Burning yard waste and land-clearing debris is not allowed at any time in the Renton or in King County. The Puget Sound Clean Air Agency (PSCAA) enforces state outdoor burning regulations required by the Revised Code of Washington 70.94.743.

State of Washington Greenhouse Gas Initiatives

In response to growing worldwide concerns, Washington State Governor Christine Gregoire issued Executive Order 07-02 in February 2007. The executive order established the following GHG reduction goals (Washington State Department of Ecology 2008).

- Reduce emissions to 1990 levels by 2020 and 50% below 1990 levels by 2050.
- Increase green economy jobs to 25,000.
- Reduce expenditures on fuel imported into Washington State by 20% by 2020.

In 2008, Engrossed Substitute House Bill 2885, an act to create a framework to reduce GHG emissions in Washington State, codified the GHG reduction goals of Executive Order 07-02 and added a fourth requirement to help achieve the GHG reduction targets.

- Decrease the annual per capita vehicle miles traveled 18% by 2020, 30% by 2035, and 50% by 2050.

3.2.2.3 Local

Puget Sound Clean Air Agency Regulations

All construction sites in the Puget Sound region are required to implement rigorous emission controls to minimize fugitive dust and odors during construction, as required by PSCAA Regulation 1, Section 9.15, Fugitive Dust Control Measures.

All industrial and commercial air pollutant sources in the Puget Sound region are required to register with PSCAA. Facilities with substantial emissions are required to obtain a Notice of Construction air quality permit before construction is allowed to begin. The application for this permit requires the facility to install best available control technology to reduce emissions, conduct computer modeling to demonstrate that the facility's emissions will not cause ambient concentrations to exceed the NAAQS limits, and minimize the impacts of odors and toxic air pollutants.

King County Greenhouse Gas Initiatives

King County developed the *2007 King County Climate Plan* (King County 2007), mandating significant reductions in countywide GHG emissions. While neither the state nor county GHG goals have promulgated any current GHG restrictions that would apply to future development in Renton, these goals illustrate the importance of local action to reduce GHG emissions.

3.3 Water Resources

3.3.1 Environmental Context

This section addresses the existing conditions in the Planned Action Study Area and its downstream receiving waters as they relate to water resources.

3.3.1.1 Planned Action Study Area

Drainage Basins and Land Cover

The Planned Action Study Area is currently developed for residential and commercial land uses. In general, the stormwater runoff from the Planned Action Study Area drains to roadside ditches, catch basins, and storm drains. The runoff is collected and conveyed into larger storm drains within the major streets and discharges into local creeks and drainage tributaries. No stream, water body, or water-related critical area is located in or immediately adjacent the Planned Action Study Area; no local flooding has been reported in the Planned Action Study Area; and the Planned Action Study Area is not within a special flood hazard area mapped by the Federal Emergency Management Agency (1985).

The Planned Action Study Area, which comprises approximately 269 acres of urban developed area, drains to three tributary creeks: Honey Creek, May Creek (Lower May Creek), and Johns Creek. All three creeks are part of the Greater Lake Washington Watershed (Water Resources Inventory Area [WRIA] 8 in King County). Approximately 3 acres at the northeast corner of the study area drain to Honey Creek, which is a tributary to May Creek. The northwest corner of the study area, which includes 23 acres of primarily single-family residential land use, drains to May Creek. The balance of the study area, approximately 243 acres of mixed single-family residential, multifamily residential, and commercial uses, drains to Johns Creek (Figure 3.3-1).

Johns Creek discharges to Lake Washington at Gene Coulon Park in Renton. Johns Creek extends upstream in a southeasterly direction for less than 1 mile. Because of its proximity to Lake Washington, the stream water elevation is controlled by Lake Washington, and, therefore, is considered to be a flow-control-exempt water body per the City's *Amendments to the King County Surface Water Design Manual* (City of Renton 2010). The Johns Creek Basin covers approximately 1,236 acres and is located east of the Cedar River, in the northeastern portion of Renton. The upper basin is dominated by residential and commercial land use, and the lower basin is dominated by industrial and commercial uses. The drainage system serving the overall basin consists primarily of roadside ditches and storm drain pipes.

May Creek is 7 miles long and originates in the steep forested slopes of Cougar and Squak mountains and in the highlands of the Renton Plateau. The entire basin encompasses an area of 14 square miles that drains to the southeast portion of Lake Washington (City of Renton and King County 2001). The May Creek Basin also includes other tributaries: Honey Creek, Boren Creek, and the north, east, and south forks of May Creek. May Creek and its tributaries are designated by Ecology as "Class AA" (superior), because May Creek is a feeder stream to Lake Washington. Class AA waters can be used for water supply (domestic, industrial, and agricultural), stock watering, fish spawning, wildlife habitat, and recreation (Foster Wheeler Environmental 1995).

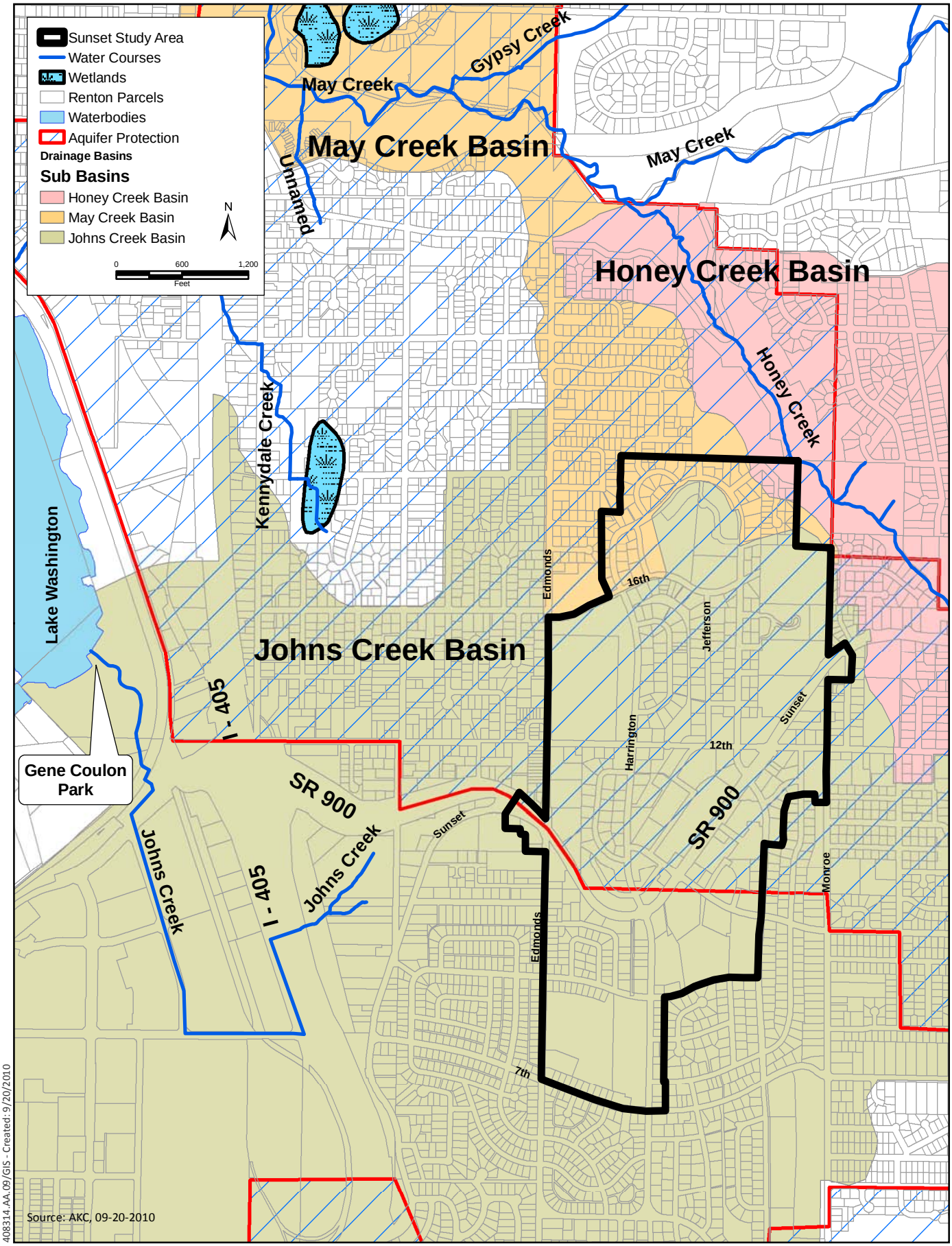

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Figure 3.3-1
Drainage Basins
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Lake Washington, the receiving water body from May Creek and Johns Creek, is the second largest natural lake in Washington. The majority of the immediate watershed is highly developed and urban in nature, with 63% fully developed.

Impervious surfaces are hardscaped, preventing rainfall from infiltrating surficial soils. Where these surfaces are plumbed directly to a piped storm drainage system, termed effective impervious areas, it results in rapid runoff of stormwater to downstream water bodies. Additionally, impervious surfaces are a large source of urban pollution, especially when subjected to vehicular traffic. These pollution-generating impervious surfaces are a primary source of pollution that can impair water quality in downstream waters. The Planned Action Study Area is already a highly urbanized neighborhood with a total impervious coverage of approximately 60%. Under current conditions, the majority of this impervious surface is likely directly connected to the creeks downstream and largely pollution-generating with minimal treatment. See Table 3.3-1 below for a summary of these existing conditions.

Table 3.3-1. Existing Land Cover Summary

	Total Area (acres)	Total Impervious Area (acres)	Total Pervious Area (acres)	Total PGIS[1] (acres)	Total Untreated PGIS[1] (acres)	Effective Impervious
Planned Action Study Area	255.40	161.17	94.23	93.31	88.56	161.17
Potential Sunset Terrace Redevelopment Subarea	13.06	4.73	8.33	1.83	1.83	4.73
Total	268.46	165.90	102.56	95.14	90.39	165.90

[1] Pollution-generating impervious area

Water Quality

Water bodies downstream of the Planned Action Study Area exhibit water quality conditions generally associated with urban developed areas, such as higher concentrations of metals and sediments, elevated water temperature, and increased fecal coliform. Ecology monitors the water quality of the state, and maintains a list of water bodies that have water quality concerns (the 303(d) list). The latest version of the 303(d) list, approved by the U.S. Environmental Protection Agency, was released by Ecology in 2008. The list divides water body impairments into five major categories:

- **Category 1.** This is a water body that meets tested standard for clean waters.
- **Category 2—water body of concern.** This is a water body for which some evidence exists of a water quality problem, but not enough to require initiating a water quality improvement project.
- **Category 3—insufficient data.** This is a water body that has not been tested.
- **Category 4—polluted water body that does not require a total maximum daily load (TMDL) assessment.** This is a polluted water body that does not require a TMDL because its pollution problems are being solved in one of three ways:
    - **Category 4a—has a TMDL.** This is a water body that has an approved TMDL in place and is actively being rehabilitated.

  - **Category 4b—has a pollution control program.** This is a water body that has a program in place that is expected to solve the problem.
  - **Category 4c—is impaired by a nonpollutant.** This is a water body that is impaired by causes that cannot be addressed through a TMDL, such as low water flow, channelization, and dams.
- **Category 5—polluted water body that requires a TMDL.** This is a water body for which sufficient data exist showing that the water quality standards have been violated for one or more pollutants and for which no current TMDL or pollution control plan is in place.

Lake Washington at Gene Coulon Park, at the mouth of Johns Creek, is listed as Category 5 on the 303(d) list for fecal coliform bacteria (Washington State Department of Ecology 2009). Further studies and monitoring by the City (City of Renton 2006) have found high concentrations of fecal coliform bacteria in the industrial areas of the basin and in the upland residential subbasin between NE 5th Place and NE Sunset Boulevard. This area includes a large portion of the Planned Action Study Area.

May Creek is listed as Category 2 on the 303(d) list for mercury and dissolved oxygen, and as Category 5 for fecal coliform (Washington State Department of Ecology 2009). Major sources of nonpoint pollution in the May Creek Basin include roadway runoff, quarry outflow runoff from construction sites and commercial operations, animal-keeping practices and grazing in riparian areas, and leaking septic tanks. Sediment deposition is accelerated by increased storm flows from developed areas and changes in land cover.

Honey Creek is listed as Category 2 on the 303(d) list for temperature (Washington State Department of Ecology 2009).

Groundwater

The Planned Action Study Area is within the City's Aquifer Protection Zone 2. The protection areas are the portions of an aquifer within the zone of capture, and the recharge area for wells owned or operated by the City. Zone 2 is the land area situated between the 365-day groundwater travel time contour and the boundary of the zone of potential capture wells. This aquifer is the sole drinking water source for the City of Renton. The Planned Action Study Area south of NE Sunset Boulevard lies within the source area of Cedar Valley Sole Source Aquifer (U.S. Environmental Protection Agency 2010), which is also part of the City's Aquifer Protection Zone 2. The limits of the Aquifer Protection Zone and infiltration potential within the study area are presented in Figure 3.3-2.

3.3.1.2 Potential Sunset Terrace Redevelopment Subarea

The Potential Sunset Terrace Redevelopment Subarea, currently a multifamily residential area, is located within the Johns Creek Basin of the Greater Lake Washington Watershed. Impervious areas consist of local roadways, sidewalks, driveways and roofs. Pervious areas consist primarily of lawns and trees scattered around thinly. Stormwater runoff collects in the catch basins and storm drains, which then convey the runoff to the storm drain system on NE Sunset Boulevard and eventually to Johns Creek and Lake Washington. No streams or water bodies are located in this subarea.

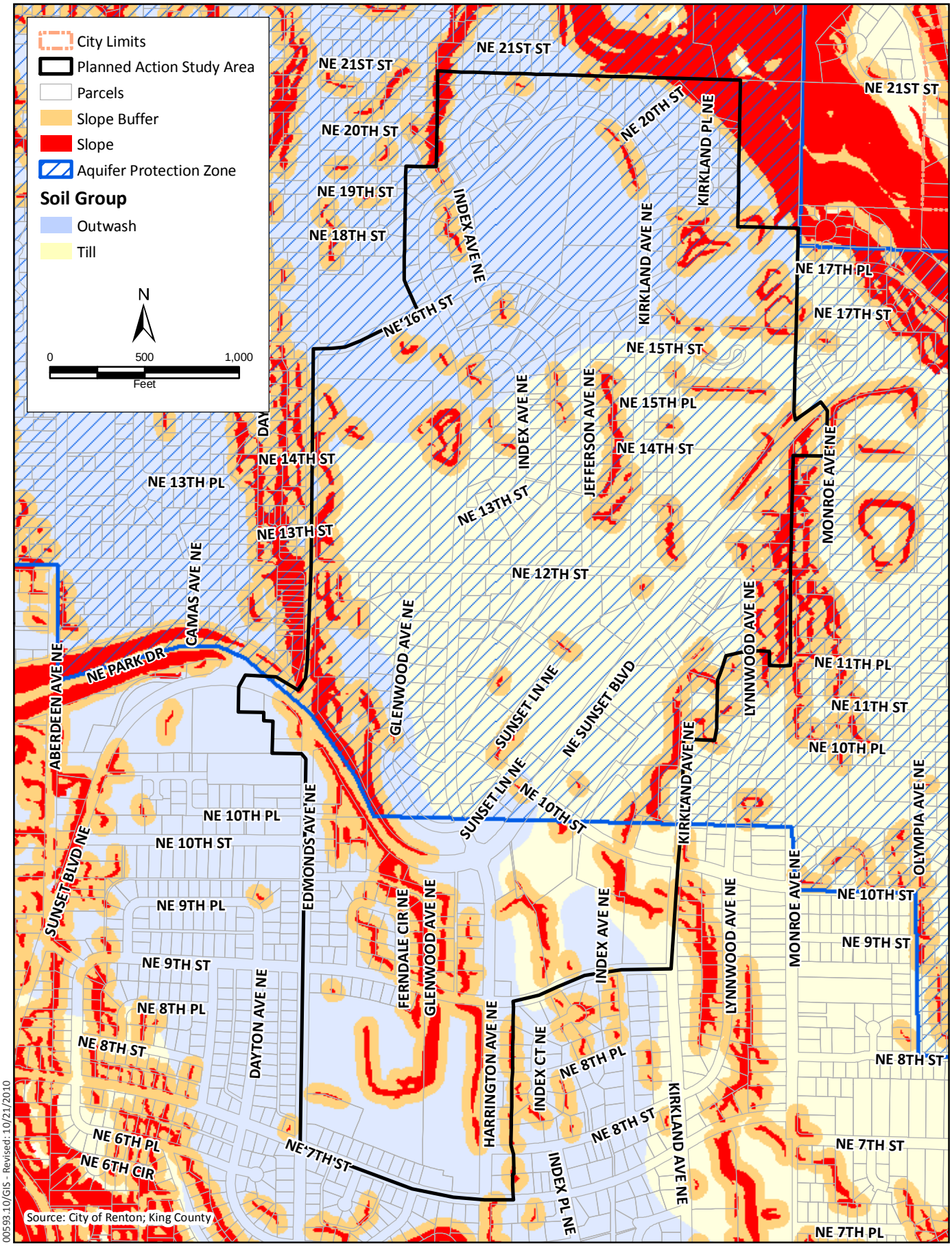

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Figure 3.3-2
Infiltration Feasibility
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3.3.2 Regulatory Context

3.3.2.1 Federal

Federal stormwater regulations in the Clean Water Act are typically promulgated through local stormwater requirements. Federal stormwater-related requirements and approvals for the proposal will need to meet the requirements of Section 7 of the Endangered Species Act, which is regulated by the U.S. Department of the Interior, National Marine Fisheries Service, and U.S. Fish and Wildlife Service. See also Section 3.4 of this Draft Environmental Impact Statement (EIS).

In addition, proposals in designated sole source aquifers are subject to the Safe Drinking Water Act, which requires that federally funded projects that have the potential to contaminate the aquifer "so as to create a significant hazard to public health" are subject to EPA review and approval (U.S. Environmental Protection Agency 2010b).

3.3.2.2 State

For projects with an area of disturbance exceeding 1 acre, the City is required to file a Notice of Intent with Ecology for coverage under the National Pollutant Discharge Elimination System program's General Permit for Stormwater Discharges Associated with Construction Activities. These filings typically require projects to provide erosion-control measures consistent with Ecology's *Stormwater Management Manual for Western Washington* (Washington State Department of Ecology 2005). Permanent stormwater features must meet the manual's design standards or be equivalent.

3.3.2.3 Local

RMC 4-6-030 and Ordinance No. 5526 address storm drain utilities. Technical requirements for the design of stormwater facilities are contained in the 2009 *King County Surface Water Design Manual* (King County 2009) and the City amendments to the manual (City of Renton 2010).

RMC 4-3-050, Critical Areas Regulations, addresses the requirements for development within the aquifer protection zone.

The City's stormwater management standards are focused on reducing potential pollution from impervious surfaces (Renton 2009 and King County 2009). Redevelopment and new development are required to comply with the current standards for stormwater treatment and discharge. The majority of the Planned Action Study Area was developed prior to the advent of modern stormwater requirements (e.g., implementation of the 1998 *King County Surface Water Design Manual*) or under less stringent editions.

The stormwater management code also requires the use of flow-control best management practices (BMPs), where feasible. Flow-control BMPs include many Low Impact Development (LID) techniques such as infiltration, dispersion, rain gardens, permeable pavements, vegetative roofs, rainfall harvesting, reduction of impervious area, and retention of native vegetation. Where impervious surfaces cannot feasibly be dispersed or infiltrated, the code requires that a minimum portion of the site or impervious area be managed through these practices. Small lots of less than 22,000 square feet are required to provide either full infiltration/dispersion of stormwater, where feasible, or provide flow-control BMPs for an impervious area equal to 10% or 20% of the site area, where infiltration is not feasible, depending on if the lot is less than or greater than 11,000 square feet, respectively. For larger lots in excess of 22,000 square feet, the total allowable impervious area

exceeds 65% for all zoning classifications; therefore, all potential new or redevelopment projects within the study area under each alternative are required to comply with the flow-control requirements for Large Lot High Impervious BMP requirements that require flow-control BMPs to manage 10% of the site. Additional flow control may be required within the Johns Creek Basin to match peak flows under existing conditions. Areas within May Creek and Honey Creek basins are required to comply with the more stringent Flow Control Duration Standard, which requires matching forested conditions.

3.4 Plants and Animals

3.4.1 Environmental Context

3.4.1.1 Planned Action Study Area

The analysis area for plants and animals consists of the Planned Action Study Area and the areas downstream that may be affected by stormwater originating within the Planned Action Study Area (Figure 3.4-1). Stormwater originating from most of the Planned Action Study Area enters the City storm sewer system and has no potential to affect plants or animals. Stormwater originating in about 10% of the northernmost portion of the Planned Action Study Area, however, is conveyed to May Creek, or to Honey Creek, a tributary of May Creek. Accordingly, this stormwater could affect aquatic habitat in Honey Creek and in May Creek downstream towards its mouth at Lake Washington. Aquatic habitat in these areas is included in the analysis area for plants and animals.

Terrestrial habitat in the analysis area was reviewed by reference to aerial photographs, zoning maps, "Best Available Science" reviews prepared during the 2003–2004 revision of the City's Critical Areas Ordinance (Ordinance No. 5137), and reference to the Priority Habitats and Species database (Washington Department of Fish and Wildlife 2010a). These sources indicate that the only cover types present in the Planned Action Study Area are impervious surfaces in the form of roads, roofs, and sidewalks; and landscaped areas. The landscaped areas can generally be divided into treed and treeless types. The principal treeless landscapes include playing fields associated with schools, and ornamental lawns. These are dominated by a cover of nonnative grasses subject to intensive maintenance using machinery (e.g., lawnmowers) and chemicals (e.g., fertilizers and pesticides). These areas have very low habitat value for all types of wildlife. Ruderal vegetation (e.g., nonnative herbs, Himalayan blackberry [*Rubus armeniacus*], and young trees) is rare in the Planned Action Study Area, and in consequence, invasive plant species are similarly rare. The treed areas consist of landscape trees, primarily conifers with a substantial representation of hardwoods. Most are associated with single-family residences; some are associated with school grounds or other institutional buildings. Such trees have habitat value for common songbirds such as robins (*Turdus migratorius*) and juncos (*Junco hyemalis*), as well as crows (*Corvus brachyrhynchos*) and flickers (*Colaptes auratus*), and may also provide habitat for arboreal mammals such as squirrels (chiefly *Sciurus carolinensis*), raccoons (*Procyon lotor*), and opossums (*Didelphis virginiana*). They are unlikely to provide substantial habitat for any sensitive species, but may occasionally be used for perches by birds such as hawks (Accipitridae) or herons (Ardeidae, chiefly *Ardea herodias*), or for foraging by birds that occupy habitat in the Honey Creek area just to the north. No other natural areas are located near the Planned Action Study Area.

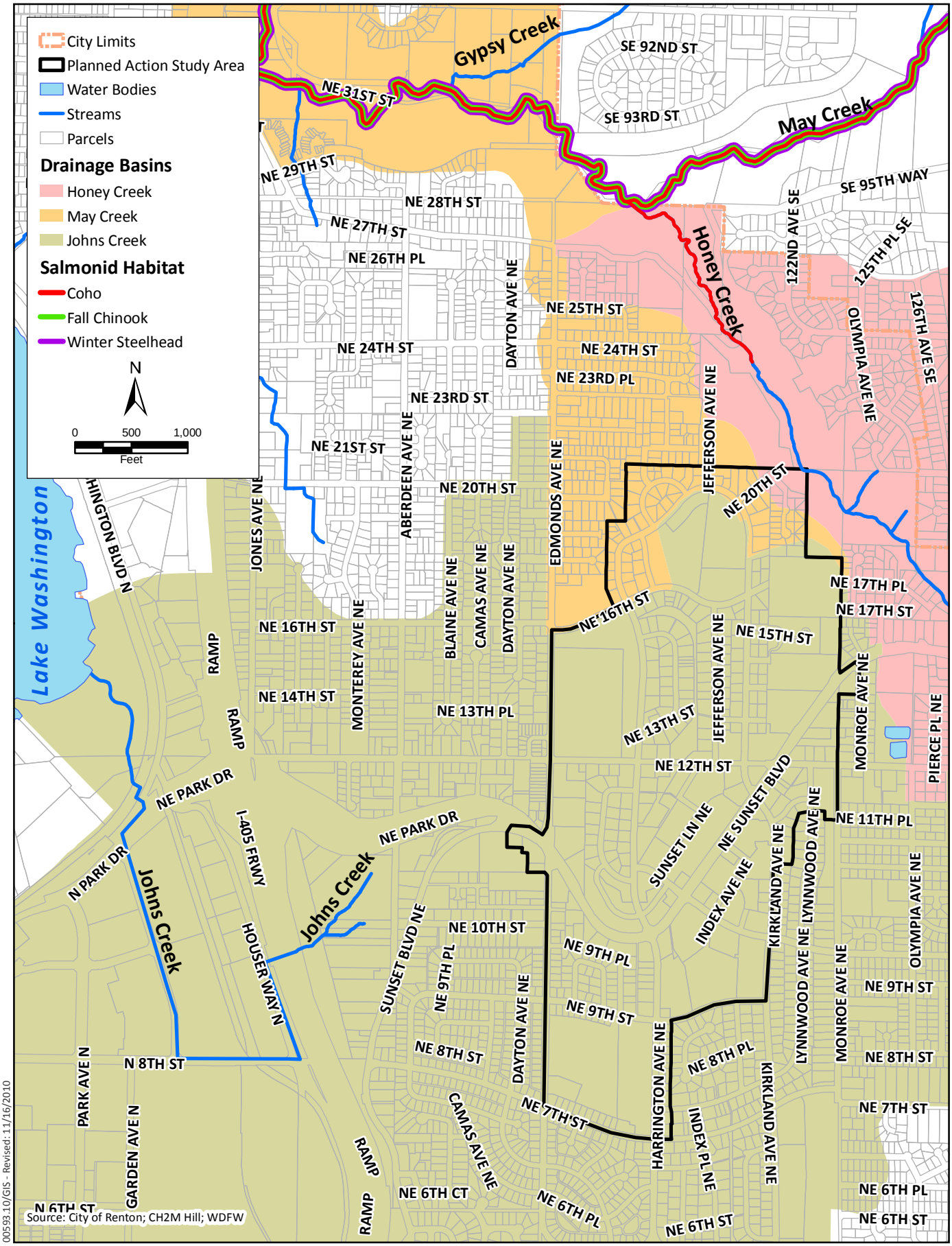

Figure 3.4-1
Aquatic Habitat
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Aquatic habitat in the analysis area was reviewed with reference to aerial photographs, zoning maps, the National Wetlands Inventory maps maintained by the U.S. Fish and Wildlife Service (2010), "Best Available Science" reviews prepared during the 2003–2004 revision of the City's Critical Areas Ordinance, StreamNet (2010) and Salmonscape (Washington Department of Fish and Wildlife 2010b) database query results, and the *Final Adopted May Creek Basin Action Plan* (King County and City of Renton 2001). No aquatic habitat has been identified within the Planned Action Study Area, but aquatic habitat does occur in the form of streams in Honey Creek and May Creek, which receive stormwater from portions of the Planned Action Study Area. No wetlands are mapped anywhere in the Planned Action Study Area, or in the vicinity of Honey Creek or May Creek downstream of the study area (U.S. Fish and Wildlife Service 2010).

Honey Creek (also called Honey Dew Creek) originates within the Renton city limits just north-east of the Planned Action Study Area, near the junction of NE Sunset Boulevard and Redmond Place NE. The creek flows west-northwest approximately 1.0 mile to its confluence with May Creek, which then flows another 1.8 miles to its mouth at Lake Washington. The City has classified the upper 0.5 mile of Honey Creek as a Class 3 stream, and the lower 0.5 mile as a Class 2 stream. May Creek is also a Class 2 stream for the first 0.25 mile below the confluence, and below that point is a Class 1 stream. All of these stream classes signify a perennial stream; Class 1 and 2 streams are also salmonid-bearing. Four anadromous salmonid species are found in these streams. May Creek, from Lake Washington to above Honey Creek, provides migration, spawning, and rearing habitat for Chinook, coho, and sockeye salmon (*Oncorhynchus tshawytscha*, *O. kisutch*, and *O. nerka*). From Lake Washington to above Honey Creek, it provides migration habitat for steelhead (*O. mykiss*). Additionally, the lower 0.32 mile of Honey Creek provides spawning and rearing habitat for coho salmon (StreamNet 2010; Washington Department of Fish and Wildlife 2010b). No other sensitive aquatic species have been identified within the analysis area, but it is likely that these waters also contain many common aquatic species such as three-spined stickleback (*Gasterosteus aculeatus*), freshwater sculpins (*Cottus* sp.), nonnative fishes in the sunfish family (Centrarchidae), and long-toed salamanders (*Ambystoma macrodactylum*).

Special-Status Species

The only special-status species that have been identified in or downstream of the Planned Action Study Area are the salmonids: Chinook, coho, and sockeye salmon, and steelhead. The Puget Sound Chinook salmon and Puget Sound steelhead are both listed as threatened under the federal Endangered Species Act (ESA) and are listed as candidates for protection by the Washington Department of Fish and Wildlife (WDFW). Additionally, their distribution within the analysis area is designated as critical habitat under the ESA. The coho and sockeye salmon have no federal status, but are also listed as candidates for protection by WDFW. No special-status terrestrial species have been identified in or within 0.25 mile of the Planned Action Study Area.

3.4.1.2 Potential Sunset Terrace Redevelopment Subarea

Existing conditions in the Potential Sunset Terrace Redevelopment Subarea are substantially the same as described above for the Planned Action Study Area. This subarea does include one substantial patch of ruderal vegetation, which covers about 1.8 acres west of Glenwood Avenue NE. Otherwise, terrestrial vegetation cover consists of the same mixture of treeless and treed areas described above, and has the same low habitat value. This subarea drains only to the City's stormwater system; thus, it has no potential to affect aquatic habitat.

Special-Status Species

The special-status species that have been identified in this subarea are the same as those listed above for the Planned Action Study Area.

3.4.2 Regulatory Context

A variety of existing regulations are intended to reduce the potential environmental impacts of development and redevelopment projects. Within the Planned Action Study Area, the principal existing regulations that protect plants and animals and their habitat are described below.

3.4.2.1 Federal

Endangered Species Act. Federal review applies to any projects funded, authorized, or performed by the United States. Because the proposal would be funded in part by the U.S. Department of Housing and Urban Development, a detailed review of potential effects on plants and animals protected under the ESA is required, and would be performed by the National Marine Fisheries Service. Impacts must be avoided and minimized to the maximum extent practicable and in some cases mitigation may be required.

Clean Water Act. Federal stormwater regulations are contained in the Clean Water Act, but are promulgated through local stormwater requirements, described below. See also Section 3.3, Water Resources.

3.4.2.2 State

National Pollutant Discharge Elimination System. If a project's area of disturbance will exceed 1 acre, the City is required to file a Notice of Intent with Ecology for coverage under the National Pollutant Discharge Elimination System program's General Permit for Stormwater Discharges Associated with Construction Activities. Projects are required to provide erosion-control measures consistent with these permit requirements. See also Section 3.3, Water Resources.

3.4.2.3 Local

Comprehensive Plan. Through land use permits, the City ensures project compliance with environmental policies identified in the comprehensive plan and amendments. Numerous environmental policies were adopted under the last (2009) plan revision (City of Renton 2009).

Critical Areas Ordinance. City review applies to projects in an environmentally critical area. These projects must comply with the City's Critical Areas Ordinance. Areas specifically protected under this ordinance include wetlands, critical aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas (including streams and riparian areas). City authorizations commonly include requirements intended to fully disclose impacts in critical areas and to minimize environmental impacts.

Stormwater Regulations. Renton Municipal Code 4-6-030 and City Ordinance No. 5526 address Storm Drain Utility. Technical requirements for the design of stormwater facilities are contained in the *King County Surface Water Design Manual* (King County 2009) and the City amendments thereto.

Urban Forest Plan. In 2009, the Renton City Council adopted the *Renton Urban and Community Forestry Redevelopment Plan*. Plan implementation over a 10-year timeline will serve four goals: 1) achieving high performance standards; 2) managing a healthy urban forest and other vegetation; 3) increasing public safety; and 4) adopting supportive legislation.

3.5 Energy

3.5.1 Environmental Context

This section discusses the existing conditions related to energy in the Planned Action Study Area.

3.5.1.1 Planned Action Study Area

Primary energy uses in the Planned Action Study Area include electricity and natural gas used by homes and business buildings in the study area and gasoline and diesel fuel used by vehicles traveling to and from the study area. Puget Sound Energy is the provider of electricity and natural gas in the study area. In general, winter is the peak season for electricity and natural gas usage in the Puget Sound area because of space heating.

Energy use is estimated using King County's Greenhouse Gas Emissions Worksheet (King County 2007). The worksheet provides regional average energy usage by different types of land uses. Table 3.5-1 summarizes the annual building energy usage based on the average energy usage for similar types of land uses.

Table 3.5-1. Estimated Existing Annual Energy Usage from Buildings

Land Use Type	Existing Land Use	Unit	Annual Energy Usage per Unit (million Btu)	Total Annual Energy Usage (million Btu)
Single-family housing	117	Dwelling unit	107.3	12,554
Multifamily housing in large building	783	Dwelling unit	41.0	32,103
Multifamily housing in small building	389	Dwelling unit	78.1	30,381
Education	223.6	Thousand square feet	83.01	18,558
Retail	352.3	Thousand square feet	74.23	26,148
Service	226.3	Thousand square feet	77.08	17,439
			Total	137,183

Source: King County 2007
Btu = British thermal unit

In addition to building energy usage, the vehicle energy usage is estimated from the population of the Planned Action Study Area, annual vehicle miles traveled (VMT) per capita, and the fuel economy per vehicle. The average values used to calculate the existing annual energy usage from vehicles are listed below.

- Population in the Planned Action Study Area: 2,978
- Average daily VMT per capita in Puget Sound: 22.9 (Puget Sound Regional Council 2010)
- Average fuel economy of a light duty vehicle: 21.1 miles per gallon (mpg) (U.S. Environmental Protection Agency 2009)
- 1 gallon of gasoline: 124,238 British thermal units (Btu)

The existing annual energy usage from vehicles to and from the Planned Action Study Area is estimated with the following equation.

Annual energy usage from vehicles = 2,978 people × 22.9 VMT/day-capita ÷ 21.1 mpg × 124,238 Btu/gallon × 365 days/year = 146,543 million Btu

The total energy usage from both buildings and vehicles in the Planned Action Study Area is estimated to be 283,726 million Btu.

3.5.1.2 Potential Sunset Terrace Redevelopment Subarea

This subarea area currently consists of 100 multifamily units in large buildings and 10 multifamily units in small buildings with a population of 314. With the same energy assumptions described above, total energy usage (buildings and vehicles) for the subarea is estimated to be 20,310 million Btu.

3.5.2 Regulatory Context

3.5.2.1 Federal

Public Housing Environmental and Conservation Clearinghouse

Utility costs make up approximately 24% of the operating expenditures for Public Housing Authorities (PHAs). Every 5 years, PHAs undergo an energy audit pursuant to 24 CFR 95.302. To help PHAs manage energy costs, HUD's Public Housing Energy Conservation Clearinghouse has published news and resources regarding energy conservation and efficiency in public housing.

On October 16, 2009, HUD released a notice, PIH-2009-43, encouraging the use of renewable energy and "green" construction practices in public housing. Through the notice, HUD strongly encourages PHAs to use solar, wind, geothermal/ground coupled heat pumps, and other renewable energy sources, and to use "green" construction and rehabilitation techniques for maintenance, construction, or modernization.

On October 12, 2010, HUD released a notice, PIH-2010-41, encouraging ENERGY STAR products as the standard for PHAs. HUD is interested in promoting and expanding the use of energy-efficient equipment, appliances, and standards in public housing to reduce energy consumption and control operating costs. PHAs are encouraged to construct ENERGY-STAR-qualified homes as part of any new construction project, if economically feasible.

HUD also provides the guidance and requirements on Energy Performance Contracts (EPCs) that applies to public housing under the Public Housing Operating Fund Program pursuant to 24 CFR Part 990 and EPCs pursuant to 24 CFR Part 965, Subpart C (PIH-2009-16). An EPC is a financing technique that uses cost savings from reduced energy consumption to pay the cost of installing energy conservation measures. HUD encourages PHAs to employ innovative approaches such as EPCs to achieve programmatic efficiency and reduce utility costs, particularly as PHAs transition to asset management.

Corporate Average Fuel Economy

The Corporate Average Fuel Economy (CAFE) standards were established from the "Energy Policy Conservation Act," first enacted by the U.S. Congress in 1975, and intended to improve the average fuel economy of cars and light trucks (trucks, vans and sport utility vehicles) sold in the United States. CAFE is the required average fuel economy for a vehicle manufacturer's entire fleet of passenger cars and light trucks for each model year. The National Highway Traffic Safety Administration regulates CAFE standards and the EPA measures vehicle fuel efficiency.

The CAFE standards for model year 2010 are 27.5 mpg for passenger cars and 23.5 mpg for light trucks; the targeted standard for year 2020 is 35 mpg for the combined fleet of passenger cars and light trucks, which was established from the Energy Independence and Security Act in 2007.

3.5.2.2 State

Washington State Building Code and Energy Code

The Washington State Energy Code (Chapter 51-11 of the WAC) is adopted by the Washington State Building Code Council pursuant to Chapter 19.27A.020 of the Revised Code of Washington (RCW). This code provides a minimum level of energy efficiency, but allows flexibility in building design, construction, and heating equipment efficiencies. The design of this code allows space heating equipment efficiencies to offset or substitute for building envelope thermal performance.

The State Building Code Act (RCW 19.27) requires that each local jurisdiction enforce the State Building Code within its jurisdiction. Any jurisdiction can contract with another jurisdiction or an inspection agency to provide the mandated enforcement activities. Any jurisdiction may amend the State Building Code provided the amendments do not reduce the minimum performance standards of the codes. Local amendments are limited or prohibited in the following areas.

- Residential provisions of the Washington State Energy Code (WAC 51-11) and the Ventilation and Indoor Air Quality Code (WAC 51-13), any provision of the International Building Code or International Residential Code affecting accessibility, and standards specifically adopted in RCW 19.27 and 19.27A cannot be amended by any local jurisdiction.
- Amendments by local jurisdictions that affect the construction of single-family and multifamily residential buildings must be reviewed and approved by the State Building Code Council before such amendments can be enforced.

3.5.2.3 Local

Renton Building Code and Energy Code

The City of Renton's Building and Energy codes are specified in Chapter 4-5 (Building and Fire Prevention Standards) of the RMC. The Building Code (RMC 4-5-050) primarily consists of the adoption and amendment of state (WAC 51-40) and international building codes. The City's energy regulations (RMC 4-5-051) adopt the Washington State Energy Code (WAC 51-11).

3.6 Noise

3.6.1 Environmental Context

This section discusses the existing conditions related to noise in the Planned Action Study Area.

Below are brief definitions of noise terminology used in this section. Table 3.6-1 provides sound levels of various sound sources. Emphasis is on noise from roadways and airfields.[1]

- **Sound.** A vibratory disturbance transmitted by pressure waves through a medium (e.g., air, water, and solids) and capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable. In general, sound waves travel away from a ground-level noise source in a hemispherical pattern. As a result, the energy contained in a sound wave is spread over an increasing area as it travels away from the source. This results in a decrease in loudness at greater distances from the noise source.
- **Decibel (dB).** A measure of sound intensity based on a logarithmic scale that indicates the squared ratio of actual sound pressure level to a reference sound pressure level (20 micropascals).
- **A-weighted decibel (dBA).** A measure of sound intensity that is weighted to take into account the varying sensitivity of the human ear to different frequencies of sound. Typical A-weighted noise levels for various types of sound sources are summarized in Table 3.6-1.
- **Equivalent sound level (Leq).** Leq represents an average of the sound energy occurring over a specified period. Leq is the steady-state sound level that would contain the same acoustical energy as the time-varying sound that actually occurs during the monitoring period. The 1-hour A-weighted equivalent sound level (Leq 1h) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Day-night level (Ldn).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10-dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m. when community noise diminishes and noise from roadways, railroads and airports becomes amplified.

People generally perceive a 10-dBA increase in a noise source as a doubling of loudness. For example, an average person would perceive a 70-dBA sound level as being twice as loud as a 60-dBA sound level. People generally cannot detect differences of 1 to 2 dBA between noise levels of a similar nature (e.g., an increase in traffic noise compared to existing traffic noise). However, under ideal listening conditions, some people can detect differences of 2 or 3 dBA. Under normal listening conditions, most people would likely perceive a 5-dBA change in sounds of a similar nature. When the new sound is of a different nature than the background sound (e.g., backup alarms compared to quiet residential sounds), most people can discern the new noise even if it increases the overall Leq noise by less than 1 dBA.

[1] There are no railroad lines within the Planned Action Study Area; therefore, their contribution to noise levels is not considered.

Attenuation rate is used to describe the rate at which the intensity of a sound signal declines as it travels outward from its source. When distance is the only factor considered, sound levels from isolated point sources of noise typically decrease by about 6 dBA for every doubling of distance from the noise source. When the noise source is a continuous line (e.g., vehicle traffic on a highway), sound levels decrease by about 3 dBA for every doubling of distance. For traffic noise studies, an attenuation rate of 4.5 dBA per doubling of distance is often used when the roadway is at ground level and the intervening ground (e.g., ground vegetation, scattered trees, and clumps of bushes) is effective in absorbing sound. When the roadway is elevated, 3 dBA of noise attenuation per doubling of distance is used because the sound-absorbing effects of the intervening ground are limited.

Noise levels can also be affected by several factors other than the distance from the noise source. Topographic features and structural barriers that absorb, reflect, or scatter sound waves can affect the reduction of noise levels. Atmospheric conditions (e.g., wind speed and direction, humidity levels, and temperatures) also can affect the degree to which sound is attenuated over distance.

Table 3.6-1. Typical A-Weighted Sound Levels

Sound Source	Decibels (A-weighted)	Typical Response
Carrier deck jet operation	140	Limit amplified speech
Limit of amplified speech	130	Painfully loud
Jet takeoff (200 feet) Auto horn (3 feet)	120	Threshold of feeling and pain
Riveting machine Jet takeoff (2,000 feet)	110	—
Shout (0.5 foot) New York subway station	100	Very annoying
Heavy truck (50 feet) Pneumatic drill (50 feet)	90	Hearing damage (8-hour exposure)
Passenger train (100 feet) Helicopter (in flight, 500 feet) Freight train (50 feet)	80	Annoying
Freeway traffic (50 feet)	70	Intrusive
Air conditioning unit (20 feet) Light auto traffic (50 feet)	60	—
Normal speech (15 feet)	50	Quiet
Living room Bedroom Library	40	—
Soft whisper (15 feet)	30	Very quiet
Broadcasting studio	20	—
	10	Just audible
	0	Threshold of hearing

Source: Federal Transit Administration 2006.

3.6.1.1 Planned Action Study Area

Land Uses and Noise-Sensitive Receivers

Noise-sensitive receivers addressed by community noise studies generally include residences, schools, parks, places of worship, and businesses with outdoor use areas. Generally, outdoor areas of

frequent human use are considered noise-sensitive receivers. Noise-sensitive land uses in the Planned Action Study Area consist mainly of single-family houses, multiplexes, residential condominiums, apartment buildings, parks, schools, and a library.

Existing Noise Levels and Sources

The Planned Action Study Area is likely affected by the following noise sources:

- vehicles on NE Sunset Boulevard (SR 900) and local public streets,
- aircraft from the Renton Municipal Airport, and
- rooftop equipment (e.g., ventilation systems) placed on top of buildings.

Throughout the Planned Action Study Area, traffic is likely the dominant noise source near major roadways. Although no sound-level measurements were taken as part of this evaluation, noise levels are expected to generally comply with Federal Highway Administration (FHWA) criteria, except near busy roads and NE Sunset Boulevard (SR 900). Noise levels vary throughout the Planned Action Study Area because of the variety of development and land use. Typical background day-night noise levels are estimated to be between 40 and 50 dBA Ldn in rural areas, between 50 and 55 dBA Ldn in residential areas away from major roadways, and between 55 and 70 dBA Ldn in commercial areas and near major roadways, depending on distance from the roadway (Federal Transit Administration 2006).

In addition to traffic noise, aircraft noise from Renton Municipal Airport may also contribute to background noise. The airport is located approximately 1.5 miles southwest of the Planned Action Study Area. However, according to the airport's master plan (City of Renton 1997), the 65-dBA-Ldn contour projected for the year 2015 is mostly within the boundary of the airport. Therefore, the aircraft noise levels caused by Renton Municipal Airport are far below the Federal Aviation Administration's 65-dBA-Ldn threshold in the Planned Action Study Area.

3.6.1.2 Potential Sunset Terrace Redevelopment Subarea

Noise-sensitive receivers in the subarea are residences, and the dominant noise source is vehicles traveling on NE Sunset Boulevard, adjacent to the subarea.

Existing traffic noise in the subarea is estimated using the U.S. Housing and Urban Development's (2010) site noise level calculator. The existing annual average daily traffic (AADT) on NE Sunset Boulevard adjacent to the subarea is 20,200 vehicles per day (Washington State Department of Transportation 2009); this is estimated to result in the noise level of 68.1 dBA Ldn for the first row homes facing the roadway.

3.6.2 Regulatory Context

3.6.2.1 Federal

Department of Housing and Urban Development Noise Limits

Noise criteria established by the U.S. Department of Housing and Urban Development (HUD) in its Noise Guidebook (U.S. Department of Housing and Urban Development 1985) are applicable to the Potential Sunset Terrace Redevelopment Subarea, because federal approval is required for

disposition of the property and/or federal funding may be used. Table 3.6-2 summarizes HUD noise criteria and their corresponding acceptability categories for housing developments. HUD recommends that outdoor day-night sound levels not exceed 65 dBA Ldn in residential areas. Federal funding for housing projects in areas where noise levels exceed 75 dBA Ldn is considered unacceptable and is normally withheld unless there is special approval, based on particular circumstances and specific criteria.

In addition to exterior noise criteria, HUD noise policy further clarifies that the indoor noise level shall not exceed 45 dBA Ldn. Attenuation measures (e.g., noise barriers, natural terrain or constructed buffers, site design, mitigation in building materials) shall be employed, where feasible. Emphasis shall be given to noise-sensitive interior spaces such as bedrooms. The exterior noise criteria also apply at other outdoor locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site. Other outdoor locations may include play areas, open spaces, or parks incorporated into residential development.

Table 3.6-2. Housing and Urban Development Noise Guidelines

Acceptability Category	Outdoor Noise Levels (dBA Ldn)	Special Approvals and Requirements
Acceptable	Not exceeding 65	None
Normally unacceptable	Above 65 but not exceeding 75	Special approvals, environmental review, and attenuation[a]
Unacceptable	Above 75	Special approvals, environmental review, and attenuation[b]

Source: U.S. Department of Housing and Urban Development 1985

[a] 5 dBA of additional attenuation required for sites above 65 dBA but not exceeding 70 dBA, and 10 dBA additional attenuation required for sites above 70 dBA but not exceeding 75 dBA.

[b] Attenuation measures to be submitted to the Assistant Secretary for Community Planning and Development on a case-by-case basis.

Federal Traffic Noise Impact Criteria

FHWA has adopted criteria for evaluating noise impacts associated with federal- and state-funded highway projects, and for determining whether such impacts are sufficient to justify the funding of noise abatement as part of roadway improvement projects. These criteria are specified in the Code of Federal Regulations, Title 23, Section 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise. The FHWA Noise Abatement Criteria (NAC) are summarized in Table 3.6-3.

Table 3.6-3. Federal Highway Administration Noise Abatement Criteria

Activity Category	Criterion (dBA Leq)	Description of Activity Category
A	57 (exterior)	Lands where serenity and quiet are of extraordinary significance and that serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above
D	—	Undeveloped lands
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

3.6.2.2 State

State Traffic Noise Impact Criteria

The Washington State Department of Transportation (WSDOT) has adopted the FHWA NAC for evaluating noise impacts and for determining if such impacts are sufficient to justify funding of noise abatement for roadway improvement projects with state funding. For WSDOT roadway projects, a noise impact occurs when a predicted traffic noise level under the design year conditions exceeds the NAC, or when the predicted traffic noise level substantially exceeds the existing noise level. A 10-dBA increase over existing noise levels is considered a substantial increase.

3.6.2.3 Local

City of Renton Noise Regulations

Chapter 8-7 of the Renton Municipal Code adopted the Washington Administrative Code 173-60 that establishes limits on the noise levels and durations of noise crossing property boundaries. Permissible noise levels at a receiving land use depend on its environmental designation for noise abatement (EDNA). The City of Renton EDNAs are classified as follows: residential zones are classified as Class A; commercial zones as Class B; and industrial zones as Class C. Permissible noise limits are shown in Table 3.6-4. Between the hours of 10:00 p.m. and 7:00 a.m. (nighttime hours), the noise limits are reduced by 10 dBA for receiving property within a Class A EDNA.

Table 3.6-4. Maximum Permissible Noise Levels at Receiving Property Line

	Permissible Noise Level in dBA EDNA of Receiving Property			
	A		B	C
EDNA of Noise Source	Daytime	Nighttime	All Hours	All Hours
A	55	45	57	60
B	57	47	60	65
C	60	50	65	70

For noise levels that exceed the above levels for short durations, maximum permissible sound levels are regulated as shown in Table 3.6-5.

Table 3.6-5. Adjustment to Maximum Permissible Noise Levels at Receiving Property Line

Duration of Sound Level within a 1-Hour Interval	Add Amount to Maximum Permissible Sound Level
15 minutes	+ 5 dB
5 minutes	+ 10 dB
1.5 minutes	+ 15 dB

Sounds that are exempt, at all times, from the maximum permissible noise levels adopted by the City include but are not limited to sounds:

- originating from temporary construction (the exceptions do not apply to the receiving properties within Class A EDNA between the hours of 10:00 p.m. and 7:00 a.m.);
- originating from vehicles on public roads (in these cases, the WSDOT noise regulations described previously govern allowable noise levels);
- originating from aircraft in flight and originating from airports that are directly related to flight operations;
- created by warning devices not operating continuously for more than 5 minutes or bells, chimes, and carillons; and
- created by motor vehicles, licensed or unlicensed, when operated off public highways, except when such sounds are received in Class A EDNA.

3.7 Environmental Health

This section inventories the locations of hazardous material sites within the Planned Action Study Area. Hazardous material sites are those properties that have been impacted by a current or previous use that could have resulted in a release of hazardous substances or petroleum products. These materials could include pesticides, volatile and semivolatile organic compounds, heavy metals, petroleum products (e.g., gasoline, diesel fuel, and lubricants), lead-based paint, and asbestos-containing materials (ACMs).

Information regarding hazardous materials sites in the Planned Action Study Area was obtained by reviewing environmental agency records and through Environmental Data Resources, Inc. (EDR), a database service that searches current federal and state environmental agency records of sites known to contain hazardous materials or have contained them in the past. The search area included the Planned Action Study Area and properties within 1 mile of the center of the Planned Action Study Area, depending on the database. The EDR report is included as Appendix D. The list of major federal, state and local database sources are listed below.

- **Federal National Priority List (NPL) and Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List.** CERCLIS contains data on potentially hazardous waste sites that have been reported to EPA by states, municipalities, private companies, and private individuals. CERCLIS contains sites that are either proposed to be included or are included on the NPL (also known as Superfund) and sites that are in the screening and assessment phase for possible inclusion on the NPL. Another category of the CERCLIS list is the CERCLIS No Further Remedial Action Planned (CERCLIS-NFRAP) list, which includes sites that have been removed and archived from the inventory of CERCLIS.
- **Federal Resource Conservation and Recovery Act Information (RCRAInfo).** RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act of 1976 (RCRA) and the Hazardous and Solid Waste Amendments of 1984. RCRAInfo includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. For this Draft EIS, the RCRAInfo data have been subdivided into the Federal RCRA Treatment, Storage, and Disposal (TSD) Facilities List and the Federal RCRA Generators List.
    - **Federal RCRA TSD Facilities List.** TSD facilities are permitted under RCRA by EPA (or states authorized by EPA) to treat, store for up to 90 days, and dispose of hazardous waste. There are few of these sites in western Washington.
    - **Federal RCRA Generators List.** The RCRA Generators List includes facilities identified as small-quantity generators (SQGs) and large-quantity generators (LQGs) of hazardous wastes. The wastes handled are separated into non-acute hazardous waste and acutely hazardous waste. (State Dangerous Waste regulations define hazardous and dangerous waste and acute hazardous and dangerous waste.) SQGs are defined as those generating less than 100 kilograms (220 pounds) per month of non-acute hazardous waste or less than 1 kilogram (2.2 pounds) of acute hazardous waste. LQGs generate at least 1,000 kilograms (2,200 pounds) per month of non-acute hazardous waste or 1 kilogram per month of acutely hazardous waste. Conditionally exempt SQGs generate less than 100 kilograms of hazardous waste, or less than 1 kilogram of acutely hazardous waste per month.

- **Washington State waste sites identified for investigation or remediation.** These are the equivalent at the state level of the NPL and CERCLIS lists. They include the Washington State Confirmed or Suspected Contaminated Sites List (CSCSL), CSCSL–No Further Action (CSCSL-NFA), Independent Clean-Up Report (ICR), and Voluntary Clean-Up Program (VCP) sites. The Washington State lists have some cross-over reporting that is not necessarily consistent. For example, a site can be on the ICR and the VCP list but not on the CSCSL; also, a site can be on the VCP list and the CSCSL but not on the ICR. For this Draft EIS, the sites are discussed by their presence on the ICR, the CSCSL, and the CSCSL-NFA.
- **Washington State Landfill or Solid Waste Site List.** This list includes active and closed landfills and solid waste disposal areas within the state.
- **Washington State Underground Storage Tank (UST) List and Leaking UST List.** Presence on the UST list means that the property has a registered UST; this means that there is a potential for a future release and resulting impact to possible future construction if the UST remains on site. Residential properties are not required to register USTs. Presence of a site on the leaking UST list means that the site has a reported leaking UST. Status of the site needs to be researched in Ecology records to determine if clean-up has been completed or is ongoing and the extent of the problem.

3.7.1 Environmental Context

3.7.1.1 Planned Action Study Area

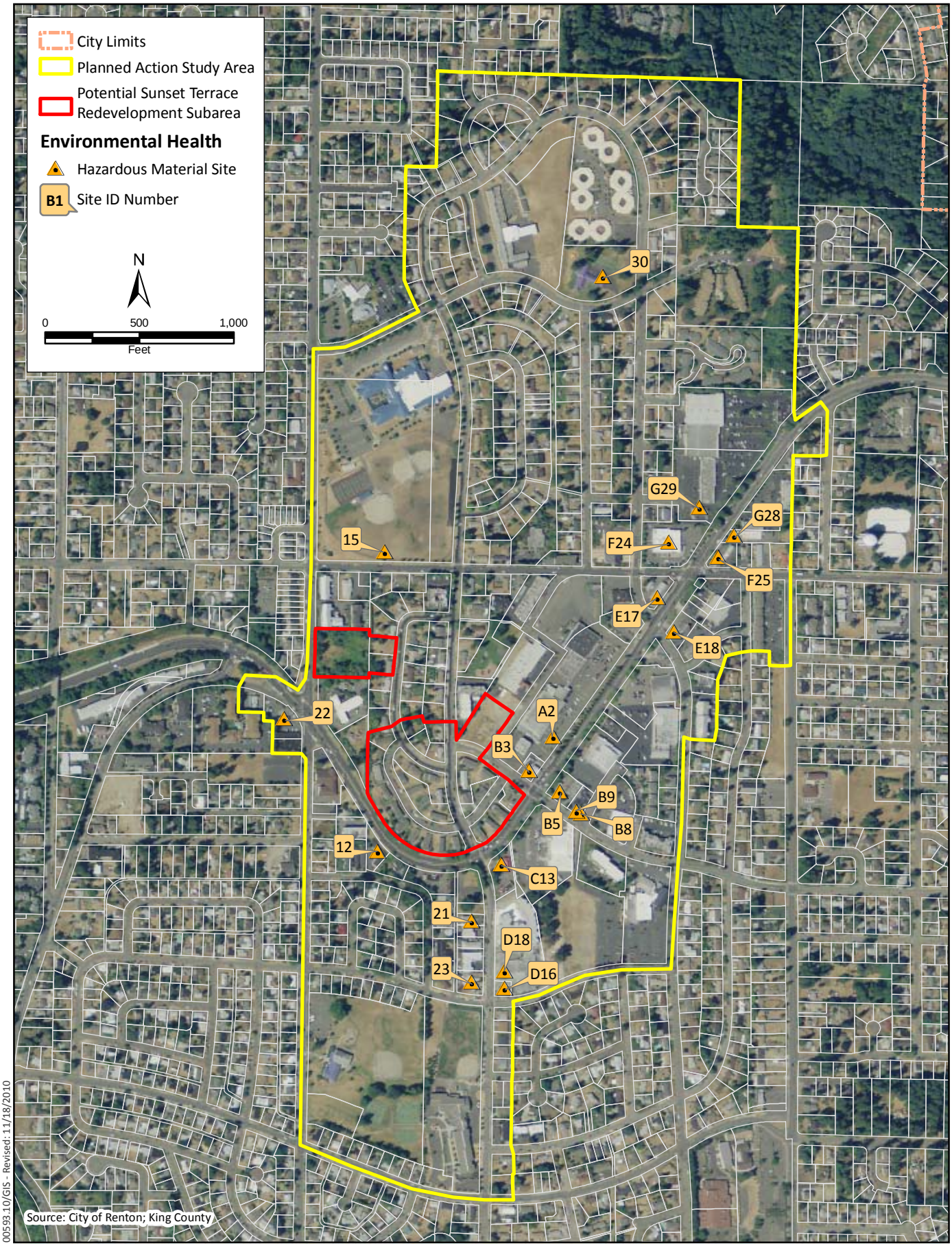
This section presents the existing conditions related to environmental health in the Planned Action Study Area. The potential to encounter hazardous materials is closely related to past and existing land use. Existing land use in the Planned Action Study Area includes single-family and multifamily residential, mixed use, institutional-public services, commercial, and park. These land uses have relatively low potential for hazardous materials compared to properties with a history of industrial land use. Properties in the Planned Action Study Area where a current or previous use could have resulted in a release of hazardous substances or petroleum products are identified below.

Hazardous Materials Sites

This section consists of lists of sites in or near the Planned Action Study Area that might contain hazardous materials or wastes. Figure 3.7-1 identifies sites where hazardous materials or wastes are known to exist or to have existed in the past. The far left column of each table provides the corresponding site number from the figure.

Federal NPL Site List and CERCLIS List

One NPL site was identified within 1 mile from the center of the Planned Action Study Area. The Pacific Car and Foundry is located at 100 North 4th Street, approximately 0.75 mile to the southeast of the Planned Action Study Area.



00593.10/GIS - Revised: 11/18/2010

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Figure 3.7-1
Hazardous Materials Sites
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Federal RCRA TSD Facilities List

No RCRA TSD facilities or RCRA Corrective Action sites were identified within the Planned Action Study Area.

Federal RCRA Generators List

The RCRA-SQGs, RCRA-LQGs, RCRA-CESQGs (conditionally exempt SQGs), and RCRA non-generators (RCRA-NonGen, which are former hazardous waste generators) are identified on Table 3.7-1.

Table 3.7-1. RCRA Generators of Hazardous Waste in the Planned Action Study Area

Map ID No.	Type of Generator	Site Name	Address
D18	RCRA-SQG	Colpetts Development	936 Harrington Avenue NE
B9	RCRA-CESQG	Renton Highlander Center Inc	2806 NE 10th Street
A2	RCRA-NonGen	Cleaning Shoppe	2830 Sunset Blvd NE
B8	RCRA-NonGen	Highlands One Hour Cleaners Inc	2808 NE10th Street
B5/A11	RCRC-NonGen	Plaid Pantries Inc	2801 Sunset Blvd NE
E17	RCRA-NonGen	ConocoPhillips 2705509	3002 Sunset Blvd NE
D16	RCRA-NonGen	Renton Marine	900 Harrington Avenue NE
G28	RCRA-LQG	Daniels Drycleaners Sunset Blvd	3155 NE Sunset Blvd
G29	RCRA-CESQG	Busy Bee Cleaners	3164 Sunset Blvd NE

SQG = small-quantity generator; CESQG = conditionally exempt small quantity generator;
LQG = large-quantity generator; NonGen = former

Washington State Confirmed or Suspected Contaminated Sites List

The Washington State CSCSL sites located within 1 mile of the center of the Planned Action Study Area are presented in Table 3.7-2. Sites more than 0.5 mile from the center of the Planned Action Study Area are not shown on the figure. These sites have been identified by Ecology as having confirmed or potentially contaminated environmental media, which can include soil, groundwater, surface water, sediment, and air. Contaminants identified at these sites include one or more of the following: petroleum hydrocarbons, volatile organic carbons, and polychlorinated biphenyls (PCBs). Sites that have received a no further action (NFA) determination are also listed in the table below.

Table 3.7-2. Washington State CSCSL Sites within 1 Mile of the Planned Action Study Area

Map ID No.	In Study Area?	Site	Address	Database
0	No	Pacific Car & Foundry Co.	1400 North 4th Street	CSCSL
33	No	Learning Center	4101 NE Sunset Blvd	CSCSL
32	No	Renton Highlands Landfill	NE 3rd Street/NE 4th Street	CSCSL
B5	Yes	JC Mart	2801 NE Sunset Blvd	CSCSL-NFA
E17	Yes	ConocoPhillips 2705509	3002 Sunset Blvd NE	CSCSL-NFA
F25	Yes	Arco #4400	3123 NE Sunset Blvd	CSCSL-NFA

CSCSL = confirmed or suspected contaminated site list; NFA = no further action

Washington State Independent Clean-Up Report and Voluntary Cleanup Program Sites

The Washington State ICR and VCP sites found in the Planned Action Study Area are presented in Table 3.7-3 below. These sites include previously contaminated sites where Ecology has received reports on site clean-up actions. These clean-up actions have been conducted independently by the owners or operators of these sites, and Ecology has not formally overseen these actions.

Table 3.7-3. Washington State ICR and VCP Sites in the Planned Action Study Area

Map ID No.	Site	Address
B5	JC Mart	2801 NE Sunset Blvd
E17	ConocoPhillips 2705509	3002 Sunset Blvd NE
F26	Arco #4400	3123 NE Sunset Blvd

Washington State Landfill or Solid Waste Site Lists

Based on the information provided, no solid waste facilities were identified within the Planned Action Study Area. The Renton Highlands Landfill is located at NE 3rd Street/NE 4th Street about 0.75 mile to the south.

Washington State Leaking Underground Storage Tank Lists

No leaking USTs were identified in the Planned Action Study Area.

Washington State Registered Underground Storage Tank Lists

The registered USTs located in the Planned Action Study Area are identified in Table 3.7-4.

Table 3.7-4. Washington State Registered Underground Storage Tank Sites in the Planned Action Study Area

Map ID No.	Site	Address
B3/B4	Sunset Blvd Shell	2800 NE Sunset Blvd
B5	JC Mart	2801 NE Sunset Blvd
15	McKnight Middle School	2600 NE 12th Street
D16	Renton Marine	900 Harrington Avenue NE
22	Friendly Fuels Inc Renton	1190 Sunset Blvd NE Ste F
23	Renton Fire Station	901 Harrington Avenue NE
F24	Rite Aid Store 5203	3116 NE Sunset Blvd
30	North Highlands Community Center	3000 NE 16th Street

Historical Service Stations and Dry Cleaners

In addition to the regulatory agencies listed above, historical service stations and dry cleaners identified by EDR are provided in the Table 3.7-5. Historical service stations and dry cleaners are sites that are no longer in operation, but because of the nature of their past use, have a higher potential for having previous releases that may not have been discovered.

Table 3.7-5. Historical Service Stations and Dry Cleaners in the Planned Action Study Area

Map ID No.	Site	Address	Database
12	Highland Automotive	2615 NE Sunset Blvd	Historical Service Station
C13	Farrell S Service Shop	960 Harrington Avenue	Historical Service Station
E18	Highlands Texaco	3005 NE Sunset Blvd	Historical Service Station
B3	Gull Service Station	2800 NE Sunset Blvd	Historical Service Station
A2[a]	Cleaning Shoppe	2830 NE Sunset Blvd	Historical Dry Cleaners
B9	Renton Highlander Center	2806 NE 10th Street	Historical Dry Cleaner
B8[b]	Highlands One Hour Martinizing	2808 NE 10th Street	Historical Dry Cleaner
21	Sparkle Dry Cleaning and Laundromat	927 Harrington Avenue NE	Historical Dry Cleaners

[a] ID no. in EDR report is A1; A1 and A2 are the same property and only A2 is shown on Figure 3.7-1.
[b] ID no. in EDR report is B10; B10 and B8 are the same property and only B8 is shown on Figure 3.7-1.

Lead-Based Paint and Asbestos-Containing Materials

Lead-based paint and ACMs probably are also present within the Planned Action Study Area, due to the age of the buildings. Many of the structures in the Planned Action Study Area were constructed prior to the 1978 Consumer Products Safety Commission ban on the manufacture and sale of lead-based paint. Therefore, lead-based paint is likely present in these buildings. Similarly, ACMs that were banned after the 1970s and are likely present in structures where asbestos abatement has not been conducted.

Underground Storage Tanks

In addition to lead-based paint and asbestos, unregistered USTs may also be present in residential and commercial areas. Depending on age and use, USTs may or may not be registered under Ecology's UST regulations. For example, residential heating USTs are not typically registered. USTs in residential areas likely contain heating oil, whereas tanks used in service stations and locations where fuel can be purchased typically contain automobile fuel and other petroleum products.

Aboveground Storage Tanks

Aboveground stationary storage tanks (ASTs) with capacity greater than 100 gallons have not been identified within the Planned Action Study area. According to the Fire Inspector at the City's Emergency Management Department, there were no records of commercial liquid propane tanks (the most common liquid gas stored in ASTs) located within the Planned Action Study Area (Cappelletti pers. comm.).

Polychlorinated Biphenyls

PCBs may also be present in fluorescent light ballasts, paint, hydraulic systems (e.g., at service stations), or other materials, or historical spills in the Planned Action Study Area. Although utilities have removed most PCBs from larger transformers and capacitors, PCBs may be present in privately owned smaller equipment due to the age of the existing development.

3.7.1.2 Potential Sunset Terrace Redevelopment Subarea

Existing land use in the Potential Sunset Terrace Redevelopment Subarea primarily consists of multifamily residential housing owned by the Renton Housing Authority (RHA) and vacant properties. The multifamily residential housing was built in 1959, and, therefore, likely contains lead-based paint and ACMs. USTs and PCB-contaminated equipment/materials may also be present in this subarea. No ASTs greater than 100 gallons are believed to be present in the subarea.

Additional historical information about a vacant property located on the northwest corner of Sunset Lane NE and NE 10th Street (Piha site) was provided in a Phase I Environmental Site Assessment (Adapt Engineering Inc. 2010). The assessment revealed that the vacant property supported multiple residences in the 1940s and that the possibility exists that the former residences may have utilized oil-burning heating systems, which may have utilized USTs. The property was reported to be vacant from 1960 until present. The assessment concluded that there was no evidence of current or historical recognized environmental conditions that could have resulted in a release of hazardous substances or petroleum products at the property or the immediate surrounding area.

3.7.2 Regulatory Context

3.7.2.1 Federal

The following federal regulations are potentially applicable to the proposal.

- CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund) and the Community Environmental Response Facilitation Act of 1992, provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.
- RCRA, as amended by the Federal Facilities Compliance Act of 1992, governs the generation, treatment, storage, and disposal of solid and hazardous wastes.
- The Toxic Substances Control Act of 1976 allows the EPA to track the 75,000 industrial chemicals currently produced or imported into the United States.
- The Pollution Prevention Act of 1990 discloses the extent to which each of the actions and alternatives would prevent or reduce pollution, or recycle potentially polluting materials, or treat and dispose of pollutants in an environmentally safe manner.
- Under Section 112 of the Clean Air Act, the National Emissions Standards for Hazardous Air Pollutions for asbestos, 40 CFR Part 61 Subpart M, establishes work practices to minimize release of asbestos fibers during activities involving processing, handling, and disposal of ACM when a building is being demolished or renovated.
- Under Section 2 Housing and Urban Development Act of 1969, 24 CFR Part 51 establishes environmental standards, criteria, and guidelines for determining project acceptability and necessary mitigating measures to achieve the goal of a suitable living environment in HUD-assisted projects.
- 24 CFR Part 35, Lead-Based Paint Poisoning Prevention in Certain Residential Structures, contains lead-abatement requirements for housing that is federally owned or receives federal assistance.

3.7.2.2 State

The following state regulations are potentially applicable to the proposal.

- **The Model Toxics Control Act of the State of Washington.** This act sets forth prescribed limits of contamination that must be addressed by any disturbance, based on the type of activity and proposed use for a parcel. The standards for voluntary clean up for lower levels of contaminants are incorporated into new development or redevelopment parcels that have been noted to have contamination potential.
- **Water Quality Standards.** Ecology administers the National Pollutant Discharge Elimination System permit program (WAC 173-220) which regulates the discharge of pollutants and waste materials to surface waters of the state. Water quality standards protect beneficial uses of surface waters of the state. Any activity that could affect water quality is subject to WAC 173-201A. Ecology regulates groundwater quality under the Water Quality Standards for Groundwater of the State of Washington (WAC 173-200). See Section 3.3.
- **State Dangerous Waste Regulations (WAC 173-303).** Wastes or environmental media that are designated as dangerous must be managed in accordance with these regulations.
- **Underground Storage Tank Statute & Regulations (Revised Code of Washington 90-76, WAC 173-360)**. A registered UST site assessor is required to conduct a site assessment/check at the time any regulated UST is removed from a site. Regulated tank removal regulations include specifics on appropriate notification, closure, and reporting procedures.

3.7.2.3 Local

Critical Areas Ordinance. Projects in environmentally critical areas must comply with the City of Renton Critical Areas Ordinance (Regulation No. 5137). Areas specifically protected under this ordinance include wetlands, critical aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas (including streams and riparian areas). City authorizations commonly include requirements intended to fully disclose impacts in critical areas and to minimize environmental impacts. Of these regulations, the aquifer protection regulations place additional restrictions on uses and activities related to hazardous materials for facilities located within an aquifer protection zone. The Planned Action Study Area is located within Zone 2 defined as the land area situated between the 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 (City of Renton 2008).

Puget Sound Clean Air Agency. The requirements of the Clean Air Act are administered by Ecology and delegated to the PSCAA. Owners and operators subject to the asbestos standards contained in the National Emissions Standards for Hazardous Air Pollutions are required to notify the PSCAA before beginning any demolition or renovation activity involving ACM.

3.8 Land Use

3.8.1 Environmental Context

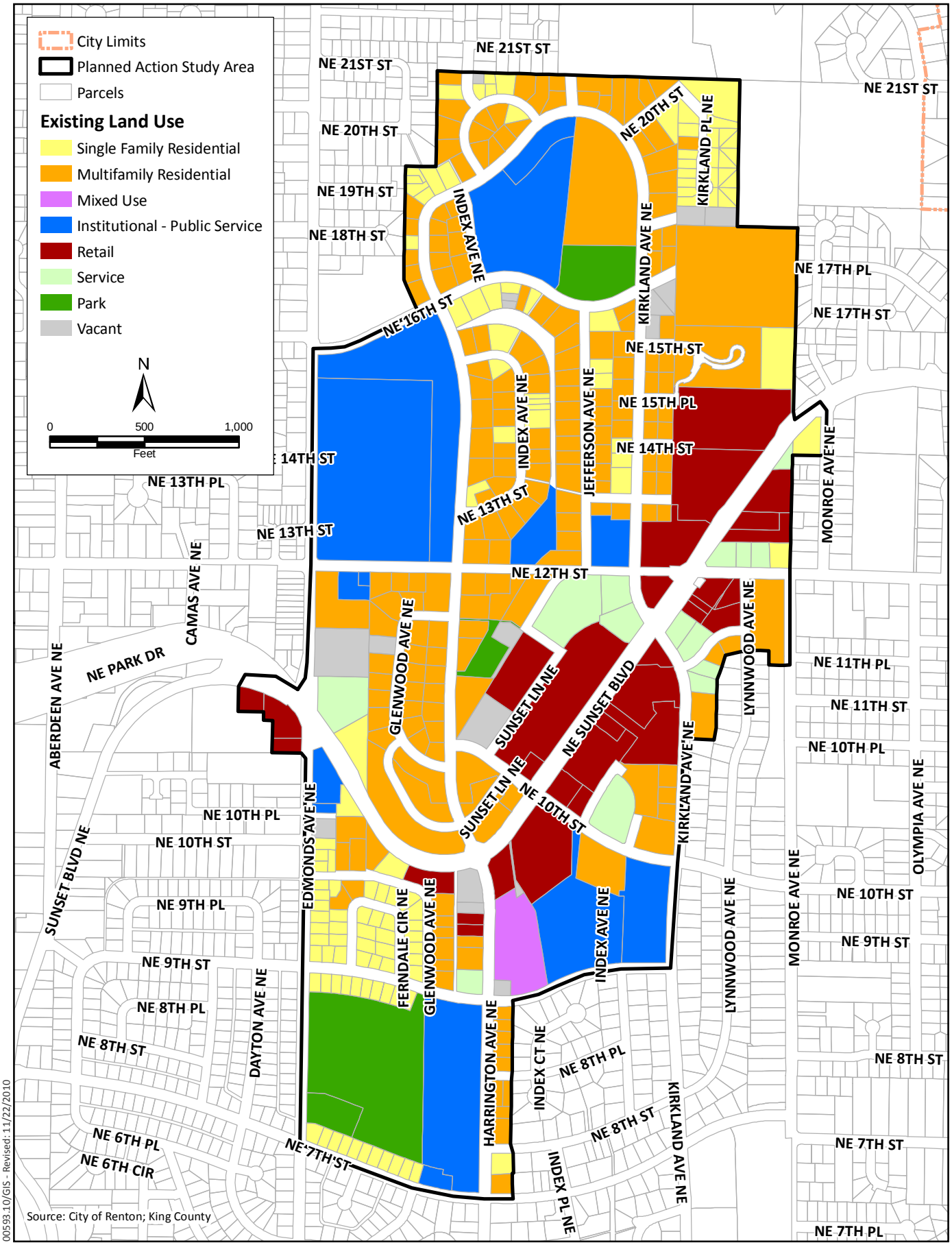
This section discusses the existing conditions related to land use and plans and policies and describes existing and planned (or future) land use patterns in the Planned Action Study Area. Land use plans and policies are addressed under the regulatory framework. Additional information on plans and policies is provided in Appendix E.

3.8.1.1 Planned Action Study Area

Existing Land Uses

The Planned Action Study Area is generally oriented around the NE Sunset Boulevard (SR 900) corridor between Edmonds Avenue NE and Monroe Avenue NE (Figure 2-1). Existing uses in the area are generally auto-oriented commercial and multifamily development served by surface parking lots. Smaller amounts of existing uses include single-family, park, church, and vacant parcels. The Planned Action Study Area is served by several public institutions outlined by subarea below. Building heights are generally one to two stories, but multifamily development includes three- to five-story buildings. Existing land uses are shown on Figure 3.8-1 and described below by subarea from north to south.

- **North Subarea.** This subarea is largely multifamily (mostly duplex), but also includes larger multifamily developments on larger properties. The subarea also includes the Hillcrest Early Childhood Center, North Highlands Park, and multifamily housing on a large block north of NE 16th Street, between Index Avenue NE and Kirkland Avenue NE. The McKnight Middle School campus is located on the western edge of this subarea acting as a buffer between the subarea and adjacent single-family residential areas to the west and north.
- **Central Subarea.** Existing uses consist of low-intensity multifamily (mostly duplexes) housing, a park, a church, and the Highlands branch of the King County Public Library.
- **Sunset Mixed Use Subarea.** The western portion consists of auto-oriented commercial uses south of NE Sunset Boulevard and west of Edmonds Avenue NE. Between Edmonds Avenue and Harrington Avenue NE the subarea includes a church, several single-family and multifamily parcels, a commercial use (tavern), and a vacant lot. Commercial uses abut NE Sunset Boulevard from Harrington Avenue NE through the remainder of the subarea. South of NE Sunset Boulevard, the southern half of the block between Harrington and Kirkland Avenues NE consist of a five-story multifamily development with structured parking, a large church property with surface parking, and multifamily and office developments. East of Kirkland Avenue NE, the southern part of the subarea consists of multifamily and commercial uses. The northern part of the subarea includes commercial uses and Fire Station No. 12.
- **South Subarea.** Largely single-family residences are located between NE 9th Place and NE 9th Street. The Highlands Elementary school campus and the Highlands Neighborhood Park and Community Center take up a large part of the southwestern portion of this subarea and act as a transition between the Planned Action Study Area and single-family residential uses adjacent to the subarea. Low intensity multifamily uses are located on the east side of Harrington Avenue NE.



ICF INTERNATIONAL

Figure 3.8-1
Existing Land Use
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Existing uses surrounding the Planned Action Study Area are described clockwise from the north. The north edge of the subarea consists of single-family residential uses and a 72-unit two-story condominium complex. The northeast corner abuts the Honey Creek natural area, which is owned by the City. Northeast of NE Sunset Boulevard, a small-lot single-family neighborhood extends south to approximately NE 12th Street. A small multifamily area exists along the eastern edge of the Planned Action Study Area between NE 12th Street and NE 11th Street, with the remainder of the eastern edge further south bounded by a single-family residential neighborhood. A single-family residential neighborhood borders the southern edge. The west edge consists of single-family residential north to NE 9th Place, where it transitions to a multifamily area with some single-family and church buildings until reaching NE Sunset Boulevard. North of NE Sunset Boulevard, the west edge is bordered by a single-family residential area. A church is located on the west edge just north of the McKnight Middle School Campus.

Future Land Uses

The majority of the Planned Action Study Area is within the Center Village (CV) land use designation on the City's Comprehensive Plan Land Use Map (Figure 2-2). The exceptions are the McKnight Middle School campus in the North Subarea, the Highlands Community Church in the southeast corner of the Sunset Mixed Use Subarea, and a single-family neighborhood in the South Subarea south of NE 9th Place/west of Glenwood Avenue NE, as well as the Highlands Elementary School, and Highlands Neighborhood Park properties. These areas are all designated Residential Single Family (RSF). In addition, the commercial area located south of NE Sunset Boulevard and west of Edmonds Avenue NE is designated Commercial Neighborhood (CN).

The City Comprehensive Plan characterizes the CV designation as areas of the city that provide an opportunity for redevelopment as pedestrian-oriented urban mixed-use residential and commercial areas. These areas are intended to accommodate medium- to high-density residential development and a wide range of commercial activities serving citywide and sub-regional markets. CVs typically are developed within an existing suburban land use pattern where opportunities exist to modify the development pattern to accommodate more growth by providing compact urban development, transit orientation, pedestrian circulation, and a community focal point organized around an urban village concept (City of Renton 2009).

Land designated RSF is intended to be used for quality detached residential development organized into neighborhoods at urban densities. Larger subdivision, infill development, and rehabilitation of existing housing are to be carefully designed to enhance and improve the quality of single-family living environments in RSF areas (City of Renton 2009).

The purpose of the CN designation is to provide small-scale, low-intensity commercial areas located within neighborhoods primarily to provide convenient goods and services to residents who live nearby. In addition, these areas are intended to provide a limited amount of residential opportunities (City of Renton 2009).

The majority of the land surrounding the Planned Action Study Area has an RSF land use designation. There are small areas of Residential Medium Density (RMD) on the north, east, and southern boundaries; Residential Low Density (RLD) on the northeast border (Honey Creek Natural Area); and Residential Multifamily (RM-F) in a small area east of Monroe Avenue NE and south of NE 12th Street, and on the western boundary south of NE Sunset Boulevard and the property boundary between NE 9th and NE 10th Streets. See Table 3.8-1 for implementing zoning for these designations.

Table 3.8-1 lists the zoning that implements the comprehensive plan land use designations discussed above, within and abutting the Planned Action Study Area. Figure 2-3 illustrates zoning in the Planned Action Study Area. Table 2-1 also provides more information about the purpose and development standards of the zones.

Table 3.8-1. Comprehensive Plan Designations and Implementing Zones in the Planned Action Study Area

Comprehensive Plan Designation	Implementing Zoning Designation
Center Village (CV)	Center Village (CV) Residential 10 dwelling units per acre (R-10) Residential 14 dwelling units per acre (R-14) Residential Multifamily (RM-F)
Residential Single Family (RSF)	Residential 8 dwelling units per acre (R-8)
Commercial Neighborhood (CN)	Commercial Neighborhood (CN)
Residential Low Density (RLD)	Residential 1 dwelling units per acre (R-1)
Residential Medium Density (RMD)	Residential 10 dwelling units per acre (R-10)
Residential Multifamily (RM-F)	Residential Multifamily (RM-F)

3.8.1.2 Potential Sunset Terrace Redevelopment Subarea

Existing Land Uses

The Potential Sunset Terrace Redevelopment Subarea consists of 100 multifamily dwelling units owned and operated by RHA as public housing in the southern portion of the subarea (south of where Glenwood Avenue NE and NE 10th Street intersect). Dwellings are contained in approximately 27 one- and two-story buildings. Four small parcels are located north of Glenwood Avenue NE and west of Harrington Avenue NE, each with a one-story duplex. The northeast portion of the subarea includes a 1.1-acre vacant parcel that is also owned by RHA (Piha site). A small discontinuous part of the subarea to the northwest consists of 2 acres of vacant land and a one-story duplex located on a 0.33-acre parcel (Edmonds-Glenwood site).

The subarea is bordered on the north by multifamily developments in the Central Subarea, mostly of a similar scale and character as the subarea's duplexes found north of Glenwood Avenue NE. The exceptions are: a 60-unit three-story apartment building on the northwest corner and a 30-unit three-story condominium on the northeast corner of the subarea. The northeast border of the subarea (north of NE 10th Street) within the Sunset Mixed Use Subarea includes single-story commercial shopping center property served by large surface parking lots, and a gas station. South of NE Sunset Boulevard, also within the Sunset Mixed Use Subarea, are commercial uses in the southeast (including a grocery store, restaurant, and tavern) and a vacant lot. A variety of multifamily developments, some single-family residences, and a church are southwest. The area between the two noncontiguous portions of the subarea is made up of duplexes, a single-family residence, and a medical/dental office.

Future Land Uses

The Potential Sunset Terrace Redevelopment Subarea is completely within the City's CV land use designation. This designation is implemented with CV zoning in the entire subarea with the following exceptions.

- Four parcels north and east of Glenwood Avenue NE and west of Harrington Avenue NE in the northern portion of the subarea are zoned R-14.
- Two parcels abutting Glenwood Avenue NE totaling approximately 0.65 acre (part of the Edmonds-Glenwood site) in the northwest part of the subarea (part of the noncontiguous portion of the subarea) are zoned R-14[1].

With the exception of the 1.7-acre parcel that abuts Edmonds Avenue NE in the noncontiguous part of the subarea, the entire subarea is surrounded by properties with the CV land use designation. The 1.7-acre parcel abutting Edmonds Avenue NE borders an area to the west with an RSF land use designation.

The main part of the subarea abuts R-14 and CV zoning on the north, CV on the east, CV and RM-F zoning on the south (across NE Sunset Boulevard), and CV and R-14 on the west. The noncontiguous portion of the subarea abuts CV and R-14 on the north, R-14 on the east, CV and R-14 on the south, and R-10 zoning on the west.

3.8.2 Regulatory Context

3.8.2.1 Federal

There are no applicable federal regulations for land use.

3.8.2.2 State

The Washington State Growth Management Act (GMA), adopted by the State Legislature in 1990, requires urban counties and the cities within them to develop comprehensive land use plans addressing 14 planning goals relevant to managing growth. The City has adopted a comprehensive plan consistent with GMA.

There are no other state land use planning plans or regulations that are applicable to the Planned Action Study Area. For example, no shorelines governed by the Shoreline Management Act are found within this area.

3.8.2.3 Local

King County Countywide Planning Policies

GMA requires counties and cities to work together to develop framework policies to guide comprehensive plan development. These Countywide Planning Policies, most recently amended in May 2010, establish a vision for the future of King County and its cities. King County's Countywide Planning Policies encourages development and redevelopment to occur in urban areas where infrastructure is in place or can be made available to support development.

City of Renton Comprehensive Plan

The City's GMA-compliant comprehensive plan addresses the state-required elements, including land use, transportation, capital facilities, utilities, and housing, among others. A summary of

[1] A 1.7-acre parcel abutting Edmonds Avenue NE is also part of the Edmonds-Glenwood project; however, this parcel is zoned CV.

relevant goals of the City Comprehensive Plan are included below. A more detailed listing of relevant objectives and policies is found in Appendix E.

Land Use Element

The City's Land Use Element addresses residential and commercial land uses and centers. The most relevant goals and policies are those relating to centers, due to the predominant CV land use designation in the Planned Action Study Area. The City's Centers goal is to develop well-balanced attractive, convenient, robust commercial, office, and residential development within designated Centers serving the city and the region, with specific goals and policies addressing the CV in particular (Objective LU-XX and related policies). The Land Use Element also includes residential goals of promoting new development in the city that are walkable places, developed at densities sufficient to support public transit and that make efficient use of urban services. The Land Use Element's commercial goal is to support existing businesses and provide an energetic business environment for new commercial activity providing a range of service, office, commercial, and mixed-use residential uses that enhance the City's employment and tax base along arterial boulevards and in designated development areas.

Housing Element

Among the City's relevant Housing Element goals are those that call for ensuring sufficient land capacity to accommodate the existing and future housing needs of the community, including Renton's share of forecasted regional growth; ensuring that housing exists for all economic segments of Renton's population; and ensuring that housing opportunities are available for people with special needs.

Transportation Element

The City's Transportation Element includes the goal of contributing to a balanced multimodal transportation system through arterial improvements that enhance transit operations and support adopted land use plans. Transportation goals also include maximizing the use of transit to serve demand generated by Renton residents and businesses; increasing the person-carrying capacity of the Renton's arterial system; and enhancing and increasing pedestrian and bicycle travel for commuting and other purposes. The Transportation Element also calls for encouraging reduction in single-occupant vehicle commutes. See Section 3. 14, Transportation, for more information on this subject.

Capital Facilities Element

The City's Capital Facilities Element calls for development and implementation of a capital facilities plan, in which public infrastructure and services provided by the City are provided concurrent to new development. See Sections 3.14, Transportation, 3.16, Public Services, and 3.17, Utilities, for more information on this subject.

Economic Development Element

The City's Economic Development goal is to create and maintain a broad and stable economic base to sustain a high quality of life for the Renton community.

Renton Municipal Code

The City's land use goals and policies are implemented through Title 4 of the Renton Municipal Code, which includes the zoning described above, as well as development standards regulating land uses within the city.

3.9 Socioeconomics

3.9.1 Environmental Context

This section discusses the existing conditions related to socioeconomics in the Planned Action Study Area. Socioeconomics provides information on the demographics, household characteristics, and economics including employment and tax base.

3.9.1.1 Planned Action Study Area

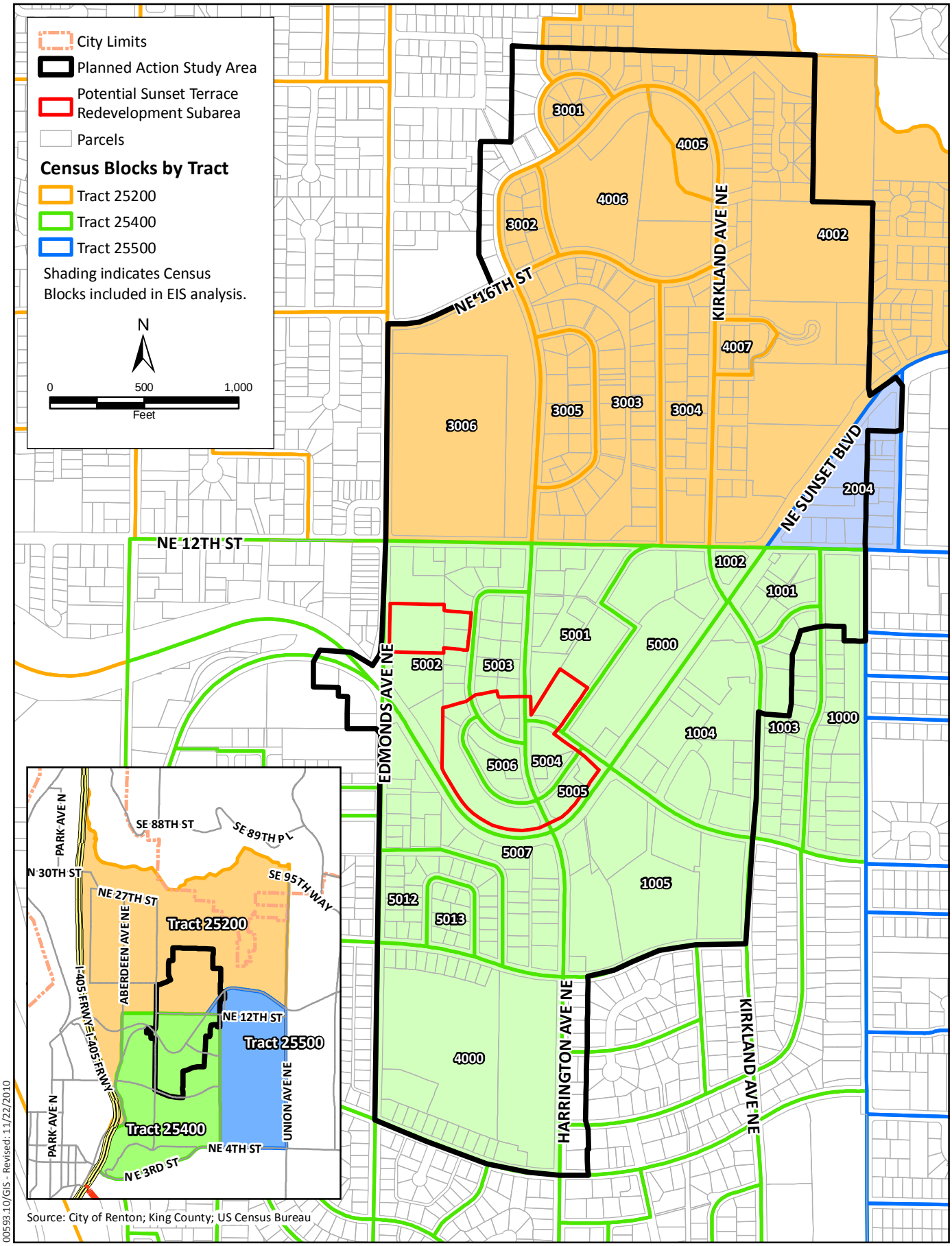
The socioeconomic information was collected from the census tract block groups and blocks that are located within or the majority of the area is located within the Planned Action Study Area (Figure 3.9-1). For employment estimates and forecast information for population and households, data were collected from the Puget Sound Regional Council (PSRC) for the forecast analysis zone (FAZ) that corresponds with the Planned Action Study Area. FAZ data are composed of census tracts; FAZ 4120 includes the three census tracts that encompass the Planned Action Study Area (census tracts 252, 254, and 255). Additional information from King County was used for housing information.

The Planned Action Study Area is located in the Renton Highlands neighborhood in the city of Renton in King County, Washington. It is located east of Renton's central business district and the Boeing Company's manufacturing site. The Planned Action Study Area is primarily residential with smaller businesses and services that are supported by those in the surrounding neighborhood. Housing is characterized by a mixture of older single-family and multifamily residences. Social, religious, and educational facilities located in the Planned Action Study Area include the Highlands Library; the Highlands Neighborhood Center and Park; the North Highlands Neighborhood Center and Park; three churches; and an elementary school, middle school, and an early childhood center. In addition, a number of agencies located in the Planned Action Study Area provide services to those in need or with lower incomes, including a food bank, a service providing free weekly hot meals, Goodwill, St. Vincent De Paul, and the Renton Housing Authority. (See also Section 3.16 for a description of social services.)

The majority of local businesses in the Planned Action Study Area are centered on NE Sunset Boulevard (SR 900), a major link between Renton and Issaquah, and include typical retail and services (e.g., restaurants, grocery stores, dentist offices). The Planned Action Study Area is served by four King County Metro bus routes that provide daily service. Many of the roadways contain sidewalks.

Population and Household Growth

The following section provides information on the population and housing characteristics of the Planned Action Study Area in relation to the larger areas of Renton and King County.



Source: City of Renton; King County; US Census Bureau

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ICF INTERNATIONAL

Figure 3.9-1
Census Blocks Located Within or Bisecting the Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Population Characteristics

Table 3.9-1 provides information on the demographics in the Planned Action Study Area. Based on 2000 U.S. Census block information, the study area had a population of 2,996. Compared to Renton and King County as a whole, the study area contained a higher percentage of the population over 65, a greater percentage of the population with a disability, lower median household income, greater percentage of individuals below poverty, and a smaller household size.

Table 3.9-1. Population Characteristics

Characteristic	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Renton	King County
Total population	2,996[a]	601[a]	50,052	1,737,034
Median age	37.7[a]	25.7[a]	34.0	35.7
Population under 18 (%)	24.1[a]	35.4[a]	22.7	23.7
Population over 65 (%)	18.1[a]	12.1[a]	10.2	10.5
Population 5 years and over with a disability (%)	42.8[b]	27.1[b]	20.6	26.6
Median household income (average across blocks)	$40,715[b]	$33,285[b]	$45,820	$53,157
Average household size	1.93[a]	2.93[a]	2.29	2.39
Foreign born (%)	22.7[b]	29.7[b]	19.2	15.4
Individuals below poverty (%)	13.7[b]	19.4[b]	9.7	8.4

Source: U.S. Census Bureau 2000

[a] Information is based on U.S. Census Block data

[b] Information is based on U.S. Census Block Group data

Table 3.9-2 provides information on the ethnicity of the Planned Action Study Area compared to the larger geographic areas of Renton and King County. The majority of the study area population is White at 65% with minority population at about 35%. The study area has a similar diversity to Renton as a whole and is more diverse than King County as a whole.

Table 3.9-2. Race/Ethnic Characteristics

Race/Ethnicity	Planned Action Study Area[a]	Potential Sunset Terrace Redevelopment Subarea[a]	Renton	King County
White (%)	64.8	47.9	65.4	73.4
African American (%)	8.7	21.0	8.3	5.3
Asian (%)	10.8	18.1	13.7	11.2
American Indian/Alaska Native (%)	0.8	0.5	0.6	0.8
Native Hawaiian/Pacific Islander (%)	0.3	0.1	0.4	0.3
Hispanic or Latino (%)	9.8	5.7	7.6	5.5
Some other/two or more races (%)	3.7	6.7	4.0	3.5

Source: U.S. Census Bureau 2000

[a] Information is based on U.S. Census Block data.

Population Growth

Table 3.9-3 provides information on population growth using FAZ data. Since the 2000 Census, the study area population has grown by a similar rate as the Renton population; however, from 2010 the study area is forecasted to grow by another 11.3%, while Renton and King County are forecasted to grow by over 15% each. Using information from the King County Assessor's Office (King County 2010a), based on dwelling counts within the Planned Action Study Area (estimated at 1,289), and an average household size of 2.31, based on an average of household sizes in Census Tracts 252 and 254, results in an existing (2010) population estimate of 2,978, similar to the 2000 Census.

Table 3.9-3. Population Forecast

Area	2000 Census	2010 (Estimate)	Change from 2000 (%)	2030	Change from 2010 (%)
Planned Action Study Area[a]	16,829	17,832	6.0	19,842	11.3
Renton[b]	57,455	61,215	6.5	70,608	15.3
King County	1,737,034	1,892,999	9.0	2,234,775	18.1

Source: Puget Sound Regional Council 2010

[a] Based on Forecast Analysis Zone 4120

[b] Based on forecast analysis zone data, which include areas that are outside of the city limits.

Housing Characteristics

Table 3.9-4 provides information on the housing tenure and age characteristics located in the Planned Action Study Area compared to Renton and King County. The majority were constructed prior to 1980 that contain one- or two-person households and are renter occupied (71%). See Section 3.10, Housing, for additional housing information.

Table 3.9-4. Housing Characteristics

Housing Characteristic	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea	Renton	King County
Total housing units	1,478[a]	204[a]	21,708	710,916
Household size: (%)[a]				
1 person	47.7	26.4	33.9	30.5
2 person	25.1	25.9	33.1	33.8
3 person	11.5	20.9	15.2	15.0
4 person	8.1	14.9	10.6	12.6
5 person	4.4	5.5	4.4	5.0
6 person	1.9	4.0	1.6	1.8
7 person	1.4	2.5	1.2	1.2
Owner/renter occupied (%)[a]	29/71	3/97	50/50	60/40
Year built[b]				
1990 to March 2000	14.7	3.2	21.3	16.7
1980 to 1989	14.2	23.2	21.5	17.3
Older than 1980	71.1	73.6	57.2	66.0

Source: U.S. Census Bureau 2000

[a] Based on census block data for the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea.

[b] Based on census block group data.

Economics

Employment

Table 3.9-5 provides employment estimates for the Planned Action Study Area by FAZ. The employment estimates include full-time, part-time, and temporary positions. The two largest industries in the Planned Action Study Area—services and education—account for 70% of the jobs. Additionally, based on the square footage of commercial space located within the Planned Action Study Area (approximately 800,000 square feet), between approximately 2,000 and 3,200 employees[1] work in the Planned Action Study Area.

Table 3.9-5. 2009 Employment Estimates by Industry

Industry Sector	Planned Action Study Area	Renton	King County
Construction/Resources	68	1,944	59,795
FIRE	28	1,754	69,684
Manufacturing	*	16,801	104,236
Retail	332	5,322	103,921
Services	883	16,143	538,717
WTCU	*	5,583	102,691
Government	81	6,052	86,366
Education	837	1,848	70,194
Total	2,413	55,446	1,135,604

Source: Puget Sound Regional Council 2010

FIRE = finance, insurance, real estate, and services; WTCU = wholesale trade, transportation services, communication, and utilities

* Puget Sound Regional Council protects confidential employer information through data suppression. Data from individual employers is not shared; where aggregate employment values represent fewer than three reporting firms, or when a single employer accounts for more than 80 percent of jobs, the value is withheld. Additionally, since grand totals are included in the table, an additional suppression is made in any industrial category or geography with a single suppressed value, to prevent disclosure through subtraction.

[1] Based on a lower commercial employment rate of 400 square feet per employee and a higher commercial rate of 250 square feet per employee.

Table 3.9-6 provides information on the employment projections by industry for 2010 and 2030 for the Planned Action Study Area, Renton, and King County. In all areas, employment is expected to grow in the 20-year period, except for manufacturing in Renton and King County. In the Planned Action Study Area, all industries are expected to increase, with the largest numbers of employees being added in the retail and government/education sectors.

Table 3.9-6. Employment Projections by Industry

Industry Sector	Planned Action Study Area[a]		Renton[b]		King County	
	2010	2030	2010	2030	2010	2030
FIRES	873	1,066	16,927	34,179	593,592	860,399
Manufacturing	15	23	20,517	17,612	129,394	112,435
Retail	818	1,158	12,685	16,438	227,295	278,761
WTCU	15	28	7,692	11,870	179,524	211,856
GovEd	1,338	1,700	4,291	5,034	181,381	201,329
Total	3,059	3,975	62,112	85,133	1,311,186	1,644,780

Source: Puget Sound Regional Council 2010
FIRES = finance, insurance, real estate, and services;
WTCU = wholesale trade, transportation services, communication, and utilities; and
GovEd = government/education
[a] Based on Forecast Analysis Zone 4120.
[b] Based on forecast analysis zone data, which include areas that are outside of the city limits.

Unemployment

Based on the latest information from the U.S. Bureau of Labor Statistics (2010), the unemployment rate for Renton and King County, as of July 2010, was 8.2% for both areas. Starting in 2005, the unemployment rate was decreasing and reached a low of 3.9% and 3.8% percent in Renton and King County, respectively, in 2007. Since 2007, the unemployment rate increased from 2008 to 2009 by 3.7% in Renton and 3.5% in King County, to reach a level of 8.4% and 8.1%, respectively. This increase has been a result of the economic downturn that has affected the entire United States.

3.9.1.2 Potential Sunset Terrace Redevelopment Subarea

Data for census blocks entirely or mostly within the subarea boundary were used to define population and household characteristics in the Potential Sunset Terrace Redevelopment Subarea to compare the information to the Planned Action Study Area, the Renton, and King County.

Table 3.9-2 provides information on the population characteristics in this subarea, which is broader than the Sunset Terrace housing complex and, therefore, reflects a greater number of units. Compared to the Planned Action Study Area as a whole, the 214 households in the subarea have a higher average household size (2.93), a lower median age (25.7), a higher percentage of population under 18 (35.4), and a more diverse population (over 50%) considered minority, with the largest concentrations being African American (21%) and Asian (18.1%). The subarea population has a lower median household income and a higher percentage of poverty (approximately 20% below the poverty line).

In addition to the 2000 U.S. Census data, more recent demographic information from the Renton Housing Authority for the Sunset Terrace housing community was also reviewed (Renton Housing Authority 2010). When comparing the more recent data with the Census information for a larger

area, there are still similarities in the demographics. Based on the September 2010 data, 98 of the 100 housing units were occupied and the total population was 279 with approximately 70% considered minority, with the African American and Asian population each accounting for approximately 30% of the total population. The percentage of those under 18 is approximately 40% and the average household size is 2.85.

According to Table 3.9-4, the subarea is almost entirely composed of renters and has a higher percentage of three- to seven-person households compared to the other areas. Additionally, most of the residences, approximately 97%, were constructed prior to 1990, based on the U.S. Census information.

3.9.2 Regulatory Context

No federal regulations apply specifically to socioeconomics. State and local regulations related to socioeconomics are described below.

3.9.2.1 State

Washington State GMA

Adopted in 1990, the GMA is a comprehensive framework for managing growth and development and coordinating land use planning. The planning goals outlined in the GMA guide development of local comprehensive plans and development regulations, such as directing growth to urban areas and reducing sprawl. The development of comprehensive plans is a requirement of the GMA for all the largest and rapidly growing cities and counties, and the plans must include land use, housing, transportation, public facilities, parks and recreation, economic development, and utilities elements. Additional elements also can be added by the cities and counties. The comprehensive plans are also prepared to accommodate population growth, determined by regional agencies and the local jurisdiction, typically within an urban growth area.

3.9.2.2 Local

King County Countywide Planning Policies

King County's Countywide Planning Policies (CPPs) (King County 2010b) serve as the vision and framework for the comprehensive plans of King County and its cities. King County and its cities developed these planning policies to meet GMA requirements and to coordinate planning among all of the jurisdictions. The CPPs establish an urban growth area in the western one-third of King County, where most growth and development is projected to occur. The CPPs address reducing urban sprawl; protecting rural areas; and providing more efficient roads, parks, and other services. The CPPs also include information on target levels for housing and employment to accommodate the 20-year population and projection and employment forecast. King County and the cities determined the allocations through a collaborative process. The numbers were updated in 2010 to ensure consistency with PSRC's *Vision 2040* (2009) and to reflect the county-level forecasts that were produced by the Washington State Office of Financial Management (2010). Based on the adopted policies in the May 2010 CPPs, the City needs to plan for 14,835 new dwelling units and 29,000 new jobs by 2031. These numbers do not reflect targets for Potential Annexation Area. The City will have until 2014 to address the recently amended allocations.

City of Renton Comprehensive Plan

The *City of Renton Comprehensive Plan* was adopted in November 2004 and most recently updated in November 2009 (City of Renton 2009). The City Comprehensive Plan provides information to guide growth and development within Renton. Although it does not specifically identify the Sunset Area Community, many of the goals and objectives in the Economic Development, Housing, and Land Use elements directly relate to socioeconomics. Goals relevant to socioeconomics are summarized below.

Economic Development Element. The related goal of this element is to create and maintain a broad and stable economic base to sustain a high quality of life for the Renton community.

Housing Element. Related goals of this element include ensuring housing in Renton can accommodate the forecasted regional growth; ensuring housing opportunities for all populations including low-income, seniors, people with disabilities, and the homeless; and maintaining, protecting, and enhancing the quality of life of Renton's residents.

Land Use Element. Related goals of this element include planning for future growth based on forecasts, growth targets, and land capacity determined through the implementation of the GMA; promoting new development and neighborhoods in Renton; developing designated centers with commercial and residential development that serve Renton and the surrounding region; supporting existing businesses; and providing for new commercial activity that offers a range of services and residential development that enhances Renton's employment and tax base along boulevards (i.e., NE Sunset Boulevard) and in designated development areas.

3.10 Housing

This section discusses the existing conditions related to housing in the Planned Action Study Area. It focuses on housing units and affordability, whereas Section 3.9, Socioeconomics, addresses household characteristics.

3.10.1 Environmental Context

3.10.1.1 Planned Action Study Area

Housing Stock

There are currently approximately 1,289[1] dwellings units in the Planned Action Study Area, predominantly multifamily in character as shown in Table 3.10-1.

Table 3.10-1. Current Dwelling Units

	Housing Type			
Subarea	Single-Family	Multiplex (2–4 dwelling units)	Flats (5+ dwelling units)	Subarea Total
North	53	261	218	532
Central	0	54	178	232
Sunset Mixed Use	5	20	232	257
Potential Sunset Terrace Redevelopment	0	10	100	110
South	59	44	55	158
Planned Action Study Area Total	117	389	783	1,289

Source: King County Assessor 2010

The North Subarea contains most of the dwelling units and contains 67% of the multiplex units as well as nearly 28% of the flats. The Central, Sunset Mixed Use, and Potential Sunset Terrace Redevelopment subareas predominantly contain flats. The South Subarea has a nearly even split of the dwelling types.

About half of the flats are in public ownership by RHA as shown in Table 3.10-2. Single-family and multiplex units tend to be privately owned, though a few are owned by RHA.

[1] Another 217 have recently been constructed as part of the Harrington Square development and are leasing (these are considered in the future growth numbers).

Table 3.10-2. Current Renton Housing Authority Public and Affordable Housing in Planned Action Study Area

Property	Housing Type	Number of Units	Date Built
Golden Pines, 2901 NE 10th Street	Senior-based: must be over the age of 62 to be eligible	53	1976
Sunset Terrace, 970 Harrington Avenue NE	Family Public Housing	100	1959
Hillcrest Terrace, 1442 Hillcrest Lane NE	Elderly Public Housing: must be over the age of 62 or disabled to be eligible	60	1962-63
Evergreen Terrace, 3027 NE 15th Street	Elderly Public Housing: must be over the age of 62 or disabled to be eligible	50	1968
Houser Terrace, 3151 NE 16th Street	Senior Local Program: Over age of 62 or 55 and disabled eligibility	104	1993
Highland House, 2825 NE 12th Street (15 units), and 3000 NE 15th Street (4-plex)	Family Local Program	19	Varies
Total		386	

Source: Renton Housing Authority 2010a

Based on 2000 Census block information, approximately 4.6% of the total dwellings in the Planned Action Study Area were vacant. At the 2000 Census tract level, the estimate was approximately 4.1%, now estimated at 6.5% in 2009 (Puget Sound Regional Council 2010). There are about 8.3 acres of vacant land in the Planned Action Study Area.

Household Sizes

Household sizes are generally between 2 and 2.5 persons per unit (numbers rounded), as shown in Table 3.10-3. At the block and block group scale, household size in the study area is lower than at the Census tract scale. Citywide, household size has increased from 2.29 to 2.47 between 2000 and 2008. New information at smaller geographies is not available.

Table 3.10-3. Household Size

Geography	Household Size
Census Blocks[a]: 2000	
Average	1.93
Median	2.18
Census Block Groups[a] (Average): 2000	2.21
Census Tracts 252 and 254 (Average): 2000	2.31
Census Tracts 252 and 254 (Average): 2009	2.35
City (Average)	
2000	2.29
2006–2008	2.47

Source: U.S. Census Bureau 2000; Puget Sound Regional Council 2002a; American Community Survey 2009
[a] Census blocks and block groups are listed in Section 3.11, Environmental Justice.

Household Income, Rents, and Home Values

Household income and home values were generally higher in Census Tract 252 than south of NE 12th Street in Census Tract 254 and than in the city as a whole as of 2000. Conversely, median contract rent was higher in Census Tract 254 than in 252, though both tracts were lower than the median contract rent in the city as a whole. See Table 3.10-4. More recent information, though for larger geographies, shows a higher income, home value, and contract rent in the last decade.

Table 3.10-4. Household Income, Home Values and Contract Rent

Geography	Median Household Income	Median Home Value	Median Contract Rent[1]
Census Tract 252: 2000	$53,676	$196,100	$579
Census Tract 254: 2000	$39,029	$150,200	$629
1-mile radius (intersection NE Sunset Blvd & NE 10th St): 2009	$65,757	$295,247	Not available
Renton: 2000	$45,820	$183,800	$723
Renton: 2006–2008	$57,607	$339,800	$935

Source: U.S. Census Bureau 2000; Puget Sound Regional Council 2002b; American Community Survey 2009; City of Renton 2010

[1] The monthly rent agreed to or contracted for, regardless of any furnishings, utilities, fees, meals, or services that may be included. For vacant units, it is the monthly rent asked for the rental unit at the time of interview.

Housing is considered affordable when households pay no more than 30% of their gross income for housing costs including rent or mortgage and utilities. Housing that requires more than 30% of gross income is considered unaffordable. Current income, home values, and contract rents are not available at the scale of the Planned Action Study Area, but information is available at the city and county level and is described below.

Table 3.10-5 provides affordability information based on the median income for King County in 2008 ($70,193). Based on the information for those households that earn 40% of the King County median income and assuming a maximum of 30% for housing, the monthly rent should not exceed $703 and a monthly housing payment should not exceed $585 (approximately $108,000 home price). In 2009, the median price for a single-family home in King County was $399,950, a condominium was $269,950; the median prices for Renton were $333,710 and $200,000, respectively. For both areas the prices for homes and condos have declined since 2008. In Renton the price of a single-family home decreased by over 15% and a condo by over 8%. Even with the decline, the prices still exceed the affordable home price for those earning the King County median income.

Table 3.10-5. Affordable Housing by Income Category

Income Category	Annual Household Income	Affordable Monthly Rent	Affordable Monthly Housing Payment	Affordable Home Price
40% median income	$28,100	$703	$585	$107,900
50% median income	$35,100	$878	$731	$134,800
60% median income	$42,100	$1,053	$877	$161,700
70% median income	$49,100	$1,228	$1,023	$188,600
80% median income	$56,200	$1,405	$1,171	$215,800
Median income	$70,193	$1,755	$1,462	$269,600

Source: King County 2010

Table 3.10-6 provides information on the number of market-rate rental units in Renton and King County and what percentage of the units are affordable to those households with 80%, 50%, or 40% of the median income. For those households where the median income is 40% of the King County median, only 9.3% (1,742 units) of the total rental units would be considered affordable in Renton. The numbers are lower for King County. In addition to the information from King County, HUD (2010a) data for the Seattle-Bellevue area indicate that fair-market rents should range from $720 for a studio unit to $1,704 for a four-bedroom unit. It should be noted that the affordable housing may not be secured with a guarantee to remain affordable to households at 30% of their income.

Table 3.10-6. Rental Information*

Area	Median Rent	Market-Rate Rental Units	Percent Affordable by Income Category		
			<80%	<50%	<40%
Renton	$940	18,732	92.1	41.9	9.3
King County	$975	339,328	86.5	35.8	8.7

Source: King County 2010
* Numbers do not include subsidized housing in King County.

3.10.1.2 Potential Sunset Terrace Redevelopment Subarea

Within the Potential Sunset Terrace Redevelopment Subarea, there are 100 public housing units in two-story, flat-style buildings and 10 duplex units. One duplex is owned by RHA and the others are privately owned. Two RHA properties are currently vacant with no structures. As seen on Figure 2-5, the duplexes were constructed in the 1940s and the Sunset Terrace complex was built in 1959-1960.

The Sunset Terrace public housing units range in size as follows:

- 20 one-bedroom units,
- 36 two-bedroom units,
- 36 three-bedroom units, and
- 8 four-bedroom units.

As described in Chapter 2, the units are antiquated and dilapidated.

Within the Sunset Terrace complex, the current household size is 2.85. As of September 22, 2010, two units were vacant; however, vacant units are typically painted and rented again within 2 weeks. (Renton Housing Authority 2010a)

Public housing may admit applicants earning up to 80% of the county median income. One-third of Sunset Terrace residents earns wages; about 45% are on fixed incomes due to their age or disability. Only 11% receive welfare. The remaining 11% have other sources of income, including unemployment. (Renton Housing Authority 2010b)

3.10.2 Regulatory Context

3.10.2.1 Federal

Nearly all federal public housing programs are based on the Housing Act of 1937. HUD administers programs in accordance with this act. The goal of HUD assistance is to provide safe, decent, and sanitary housing.

HUD administers federal aid to local housing agencies such as the RHA. RHA, like others, manages public housing for low-income residents. Below is a summary of public housing programs within HUD's Office of Public and Indian Housing (2010b):

- **Capital Fund.** The Capital Fund provides funds to housing authorities to modernize public housing developments. This fund is currently being used by RHA for the purposes of the environmental review related to the Potential Sunset Terrace Redevelopment Subarea and a demolition/disposition application described below.
- **Demolition/Disposition.** This program was created in an effort to help eliminate old, run-down public housing.
- **Homeownership.** This program allows a public housing authority to sell all, or a portion of, a public housing development to eligible residents or resident organizations, for purposes of homeownership, provided that a homeownership plan has been submitted to and been approved by HUD.
- **HOPE VI.** HOPE VI allows for the revitalization of distressed public housing developments by providing grants and flexibility to address the housing and social service needs of residents.
- **Choice Neighborhoods.** The Choice Neighborhoods initiative is intended to transform distressed neighborhoods and public and assisted projects into viable and sustainable mixed-income neighborhoods by linking housing improvements with appropriate services, schools, public assets, transportation, and access to jobs. In 2010, Congress authorized HUD to use up to $65 million of the HOPE VI appropriations for a Choice Neighborhoods demonstration. (U.S. Department of Housing and Urban Development 2010c.)
- **Housing Choice Vouchers (Formerly Section 8).** These vouchers allow very low-income families to choose and lease or purchase safe, decent, and affordable privately owned rental housing.
- **Moving to Work Demonstration.** This program allows housing authorities to design and test ways to give incentives to families to become economically self-sufficient, achieve programmatic efficiencies, reduce costs, and increase housing choice for low-income households.
- **Public Housing Operating Fund.** This fund provides operating subsidies to housing authorities to assist in funding the operating and maintenance expenses of their own dwellings, in accordance

with Section 9 of the U.S. Housing Act of 1937, as amended. The subsidies are required to help maintain services and provide minimum operating reserves.

- **Rental Housing Integrity Improvement Project.** This project develops and implements plans that address HUD's high-risk rental housing subsidy programs.
- **Resident Opportunities and Self Sufficiency (ROSS) and Neighborhood Networks (NN).** These programs link services to public housing residents by providing grants for supportive services, resident empowerment activities, and activities to assist residents in becoming economically self-sufficient.

The Federal Low Income Housing Tax Credit Program is found in Section 42 of the Internal Revenue Code and was enacted by Congress in 1986 to provide the private market with an incentive to invest in affordable rental housing. As described by HUD, the incentive works as follows (U.S. Department of Housing and Urban Development 2010d):

> Federal housing tax credits are awarded to developers of qualified projects. Developers then sell these credits to investors to raise capital (or equity) for their projects, which reduces the debt that the developer would otherwise have to borrow. Because the debt is lower, a tax credit property can in turn offer lower, more affordable rents. Provided the property maintains compliance with the program requirements, investors receive a dollar-for-dollar credit against their Federal tax liability each year over a period of 10 years. The amount of the annual credit is based on the amount invested in the affordable housing.

Other federal programs seek to create affordable housing and provide flexibility to communities through block grants.

- The Community Development Block Grant program is a flexible program that provides communities with resources to address a wide range of unique community development needs (U.S. Department of Housing and Urban Development 2010e).
- HOME is a federal program described as "the largest Federal block grant to State and local governments designed exclusively to create affordable housing for low-income households" (U.S. Department of Housing and Urban Development 2010f).

These programs are implemented through state and local governments. Participating jurisdictions may be states or units of general local government, including consortia and urban counties. Locally, funds are allocated through the King County Consortium, which includes most of the suburban cities in the county including Renton, as well as the unincorporated areas of the county.

3.10.2.2 State

The Washington State GMA (RCW 36.70A) requires that local governments prepare a housing element as part of their comprehensive plan. The act's housing goal is to: "Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock" (RCW 36.70A.020(4)).

See the above federal description for federal programs that are implemented through state governments. In addition, Washington State implements the following programs.

- **Housing Trust Fund.** Established by the Legislature in 1987 at RCW 43.185A, the Washington State Housing Trust Fund is intended to develop and coordinate public and private resources targeted to meet the affordable housing needs of low-income households in the State of Washington. Organizations that may receive assistance are local governments, local housing

authorities, nonprofit community or neighborhood-based organizations, federally recognized Indian tribes in the State of Washington, and regional or statewide nonprofit housing assistance organizations. The Housing Trust Fund provides funds to:

- support the construction, acquisition, or rehabilitation of 4,500+ units every 2 years,
- create rental and homeownership opportunities in every region of the state for people with incomes below 80% of the average median income, and
- support special-needs housing for clients of the Department of Social and Health Services and the Department of Health programs and services.

- **Washington Works.** Washington Works is a bond-financing program for multifamily dwellings developed by nonprofits. It is administered by the Washington State Housing Finance Commission. The commission acts as a financial conduit, which can issue nonrecourse revenue bonds and participate in federal, state, and local housing programs, thereby making additional funds available at affordable rates to help provide housing throughout the state.

3.10.2.3 Local

The *City of Renton Comprehensive Plan* Housing Element provides goals and policies and is implemented by development regulations such as zoning (City of Renton 2009). The overall element goals are to:

1. Ensure sufficient land capacity to accommodate the existing and future housing needs of the community, including Renton's share of forecasted regional growth.
2. Ensure that housing exists for all economic segments of Renton's population.
3. Ensure that there are housing opportunities for people with special needs, such as seniors, people with disabilities, and the homeless.
4. Maintain, protect, and enhance the quality of life of Renton's residents.

Based on a collaborative process between King County and its cities, the King County Countywide Planning Policies allocated to Renton a housing target of 6,198 housing units between 2001 and 2022. The year 2006–2031 growth allocations were recently ratified, and the City has until 2014 to address the newer allocation of 14,835 new dwelling units. (King County 2010.)

See the above federal description for federal programs that are implemented through local agencies and governments such as the City and RHA. In addition, the City has implemented the following programs or incentives.

- **Housing Opportunity Fund.** In 2008, the City created a Housing Opportunity Fund to assist public and private housing projects serving low- and/or moderate-income households and/or special-needs populations within the city limits. Requests for funding require City Council approval. In 2009, the City awarded a $100,000 grant to the Edmonds-Glenwood housing proposal that is within the Potential Sunset Terrace Redevelopment Subarea.
- **Multifamily Tax Exemption.** Based on allowances in state law at RCW 84.14, the City has adopted incentives (RMC 4-1-220) that provide exemptions, for a period of 8 to 12 years, from ad valorem property taxation for qualified new multifamily housing located in designated residential targeted areas including the Center Village designation in the Planned Action Study Area.

3.11 Environmental Justice

This section discusses the existing conditions related to environmental justice in the Planned Action Study Area.

3.11.1 Environmental Context

NEPA requires that an environmental justice analysis be addressed and documented for all projects that receive federal funds. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," issued by President Clinton in 1994, provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations." According to this order, there are three fundamental environmental justice concepts:

(1) to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;

(2) to ensure the full and fair participation by all potentially affected communities in the decision-making process; and

(3) to prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and/or low-income populations.

The U.S. Environmental Protection Agency defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

The follow definitions used in this analysis are from the Council of Environmental Quality's (1997).

Minority individuals are persons, as reported by the 2000 U.S. Census, who are members of any of the following population groups: Black or African American; Asian; Native Hawaiian or Other Pacific Islander; American Indian or Alaska Native; Multiracial (and at least one race which is a minority race under the 1997 CEQ guidance), not of Hispanic origin; or Hispanic or Latino (regardless of race).

Minority population is the total number of minority individuals residing within a potentially affected area.

Low-income individuals are persons, as reported by the 2000 U.S. Census, whose self-reported income is below the poverty threshold.

Low-income population is the total number of low-income individuals residing within a potentially affected area.

Disproportionately high and adverse human health effects are those that are significant (per NEPA, 40 CFR 1508.27) or above generally accepted norms, and for which the risk of adverse effects to minority populations or low-income populations appreciably exceeds the risk to the general population.

Disproportionately high and adverse environmental effects are those that are significant (per NEPA, 40 CFR 1508.27), and that would adversely impact minority populations or low-income populations appreciably more than the general population.

For this analysis, U.S. Census Bureau data from the 2000 Census were used to determine the presence of minority populations and low-income populations. Since these data are more than 10 years old, elementary school data from the Renton School District, for those elementary schools with

attendance boundaries in the Planned Action Study Area, were also used to look for changes in population characteristics. Additional information regarding population characteristics in the Planned Action Study Area are provided in Chapter 3.9, Socioeconomics.

As part of the EIS process and to ensure full and fair participation in the decision-making process, a scoping meeting was held in the Planned Action Study Area. The meeting was held at the Highlands Neighborhood Center and the public was invited to attend. The public was informed of the meeting via the distribution of postcards, posters, publication in a local newspaper, and notices sent to the residents of the Sunset Terrace complex. Meeting materials were provided in English and Spanish, and a Spanish translator was at the meeting to provide any assistance. Those who attended were asked to comment on the Sunset Area Community Planned Action. The City of Renton is maintaining a web site on the project that will provide updates, inform the public of any upcoming public meetings, and allow residents to provide comments. In addition, those who sign up on a mailing list or contact the City will also receive notices on upcoming meetings.

3.11.1.1 Planned Action Study Area

For this analysis the Planned Action Study Area was defined as the Census Blocks that are located within or bisect the Planned Action Study Area (Table 3.11-1 and Figure 3.9-1).

Table 3.11-1. Census Tracts and Block Groups in the Planned Action Study Area

Census Tract	Block Group	Blocks
252	3 and 4	3001, 3002, 3003, 3004, 3005, 3006, 4002, 4005, 4006, 4007
254	1, 4, and 5	1000, 1001, 1002, 1003, 1004, 1005, 4000, 5000, 5001, 5002, 5003, 5004, 5005, 5006, 5007, 5012, 5013
255	2	2004

Table 3.11-2 provides information on the minority and low-income populations in the Planned Action Study Area compared to in the city of Renton and King County. In the Planned Action Study Area, the minority population concentration is lower than in the city and higher than in the county; the low-income population concentration is higher than in both the city and county.

Table 3.11-2. Minority and Low-Income Population

Area	Total Population	Minority Population (%)	Population for whom Poverty Determined	Income Below Poverty Level (%)
Planned Action Study Area	2,996[a]	35.2[a]	6,524[b]	13.7[b]
Potential Sunset Terrace Redevelopment Subarea	601	52.1	1,610[b]	19.4[b]
Renton	50,052	34.6	49,397	9.7
King County	1,737,034	26.7	1,706,305	8.4

Source: U.S. Census Bureau 2000

[a] Census blocks provide partial Census information at a scale more similar to the Planned Action Study Area.

[b] Census Block Groups are much larger than the Planned Action Study Area but have more complete data.

Three elementary schools have attendance boundaries that cross the Planned Action Study Area. Another school is within a census tract that bisects the Planned Action Study Area (Hillcrest Early Childhood Center); however, because students from all over Renton can attend the school, it was not including the analysis. Table 3.11-3 provides information on the 1,746 students who attended these

schools as of October 1, 2008. Of the students approximately 65% are minority and 47% participated in the free/reduced-price lunch programs. Of the minority students approximately 30% are Hispanic and 23% are Asian.

Table 3.11-3. Public Elementary Schools in the Planned Action Study Area

Elementary School	Students	American Indian/ Alaskan	Asian	African American	Hispanic	White	Free/Reduced Price Lunch Eligible
Highlands	559	3	96	65	274	121	284/101
Sierra Heights	614	1	142	60	174	237	189/51
Kennydale	573	9	160	74	70	260	150/46
Total	1,746	14	398	199	518	618	623/198
Percent		1.0%	22.7%	11.4%	29.6%	35.3%	47.0%

Source: Renton School District 2010a, 2010b

3.11.1.2 Potential Sunset Terrace Redevelopment Subarea

Table 3.11-4 provides information on the minority population and low-income population located in the Potential Sunset Terrace Redevelopment Subarea, based on 2000 census data. Even though the smallest census area was used to determine minority information for the subarea, the census data include other areas outside of the subarea. Table 3.11-4 also provides more recent 2010 RHA data for the Sunset Terrace complex. The subarea contains greater concentrations of minority populations and low-income populations than the other larger geographic areas in Table 3.11-1. Since 2000, the minority concentration has increased, and it is likely that all of the tenants of the Sunset Terrace complex would have incomes that are lower than the median income level for King County, and, therefore, some residents would be considered low-income.

Table 3.11-4. Potential Sunset Terrace Redevelopment Subarea Minority and Low-Income Population

Source	Total Population	Minority Population (%)	Income Below Poverty Level (%)
2000 Census Data	601	64.1	19.4%[a]
Renton Housing Authority	314[b]	69.3[b]	N/A

Source: U.S. Census Bureau 2000; Renton Housing Authority 2010

[a] Information is based upon Census Block Group data because income information is not available at the Census Block level.

[b] Based on Renton Housing Authority demographic information for the Sunset Terrace Public Housing Community, dated September 22, 2010; population is estimated for 5 duplexes (dwellings multiplied by the average household size of Sunset Terrace at 2.85), other minority and poverty data for these ten dwellings is not available.

Kennydale Elementary is the primary elementary school that serves the subarea and as shown in Table 3.11-3 of the 573 students who attend the school the approximately 55% are minority with the majority being Asian and approximately 34% participated in the free/reduced-price lunch program.

3.11.2 Regulatory Context

3.11.2.1 Federal

Title VI of the Civil Rights Act

Title VI of the Civil Rights Act (United States Code (USC) Title 42, Section 2000(d) et seq.) prohibits discrimination on the basis of race, color, national origin, age, sex, or disability in programs and activities receiving federal financial assistance.

Executive Order 12898

Executive Order 12898, known as the Federal Environmental Justice Policy, requires federal agencies to address, to the greatest extent practicable and permitted by law, the disproportionately high adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations in the United States. Federal agency responsibilities under this order also apply to Native American programs.

Americans with Disabilities Act

The Americans with Disabilities Act (42 USC 12101–12213) prohibits discrimination based on disability.

Uniform Relocation Assistance and Real Property Acquisition Policies Act

The purpose of the Relocation Assistance Program (42 USC 61) is to ensure that persons displaced as a result of a federal action or an undertaking involving federal funds are treated fairly, consistently, and equitably, so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

3.11.2.2 State

No state regulations apply to environmental justice.

3.11.2.3 Local

No local regulations apply to environmental justice.

3.12 Aesthetics

3.12.1 Environmental Context

This section discusses the existing conditions related to aesthetics in the Planned Action Study Area.

3.12.1.1 Planned Action Study Area

This section generally describes existing conditions related to aesthetics in the Planned Action Study Area, with the exception of the Sunset Terrace Redevelopment Subarea, which is described separately in Section 3.12.1.2 below. Descriptions are provided by subarea.

North Subarea

The North Subarea, which is the largest subarea, consists of a diverse mixture of residential properties, recreational uses, and public facilities. The western and northern edges of the subarea are dominated by the campuses of McKnight Middle School and Hillcrest Early Childhood Center. The elementary school is bordered on the east by North Highlands Park. Together, these facilities provide a sense of openness and greenery. The medium-density residential development in the interior of the subarea is a mixture of ages and styles, although it consists primarily of single-family homes and duplexes. Examples of older housing stock remain, particularly along Harrington Avenue NE east of McKnight Middle School and north of Hillcrest Elementary, as well as along Jefferson Avenue NE. As seen farther south, many of these properties are in need of repair, some lack landscaping or street trees, and sidewalk location and quality is inconsistent. Figure 3.12-1 illustrates existing conditions in the North Subarea. Territorial views to the west are available in open areas, such as the McKnight Middle School playfield.

Heights in the subarea are generally two stories and lower. As a result, visual bulk is low, particularly in locations with a large amount of trees, such as near the schools, at North Highlands Park, along Index Avenue and Jefferson Avenue, and in the northeastern corner of the subarea, which is bordered by the Honey Creek Greenbelt. The presence of trees and vegetation breaks up the visual pattern of residential development. Because development in this subarea is primarily residential, levels of ambient light and glare are low and are generated mostly by exterior home lighting and residential vehicular traffic.

Figure 3.12-1
Existing Aesthetic Conditions in the North Subarea
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Central Subarea

Located immediately north of the Potential Sunset Terrace Redevelopment Subarea, the Central Subarea is focused on Glenwood Avenue NE, Harrington Avenue NE, and NE 12th Street, and is highly residential in character. Housing stock in this subarea consists largely of duplexes and single-family residences in a mix of ages. A large amount of the housing stock in this subarea was originally constructed as workforce housing in the 1940s (City of Renton 2008), and many of these homes are showing signs of age and are in need of repair. Most of the structures are a single story, though some newer, two-story homes have been constructed along Harrington Avenue NE. In general, the homes in the eastern half of the Central Subarea are newer, larger, and in better condition than in the western half. Many of these newer homes also have a larger amount of landscaping and more street trees; however, architectural styles and materials remain similar to their older counterparts. Figure 3.12-2 illustrates existing conditions in the Central Subarea. Territorial views to the west are available from the upper floors of multistory buildings at the western edge of the subarea, such as the apartment complex at the corner of NE 12th Street and Edmonds Avenue NE.

Overall, heights in the Central Subarea are one or two stories, resulting in low visual bulk. However, the northwestern corner of the subarea features several three-story apartment buildings, located along Edmonds Avenue NE, which differ in form and materials from the rest of the subarea. Because development in this subarea is primarily residential, levels of ambient light and glare are low and are generated mostly by exterior home lighting and residential vehicular traffic.

Sunset Mixed Use Subarea

The Sunset Mixed Use Subarea consists of the primarily commercial development that fronts on NE Sunset Boulevard as it passes through the Planned Action Study Area, as well as development along several cross streets, including Harrington Avenue NE, NE 10th Street, Kirkland Avenue, and NE 12th Street. Development along NE Sunset Boulevard is characterized in the western end of the subarea by auto-centric uses and large surface parking lots. Sidewalks are narrow and unprotected from traffic. Buildings are set far back from the street or physically separated from it by differences in grade. Moving east, the visual character of the corridor gradually changes, as the hillside on which the road sits prevents direct access from adjacent buildings. This portion of the corridor is characterized by a greater amount of trees and vegetation used to screen development and the presence of territorial views to the southwest. The intersection of NE Sunset Boulevard and Harrington Avenue NE is characterized by a mix of commercial and residential development,.

East of the intersection of NE Sunset Boulevard and Harrington Avenue NE, NE Sunset Boulevard takes on the character of a tree-lined urban boulevard. The street is wide and fronted by large areas of surface parking and auto-oriented commercial development, but each side of the road is lined with mature trees, screening businesses from the road. Sidewalks are provided and are separated from traffic in some areas by planting strips, but few other pedestrian amenities are available. Landscaping and tree screening are well provided along most of NE Sunset Boulevard east of Harrington Avenue NE, but there are several gaps, most notably immediately south of NE 12th Street, where the character reverts to an auto-oriented commercial corridor with few concessions to pedestrians. Figure 3.12-3 illustrates existing conditions in the Sunset Mixed Use Subarea.

Figure 3.12-2
Existing Aesthetic Conditions in the Central Subarea
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Source: King County Assessor 2010

Figure 3.12-3
Existing Aesthetic Conditions in the Sunset Mixed Use Subarea
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Territorial views are available to both the south and west within the Sunset Mixed Use Subarea, though only along NE Sunset Boulevard west of Harrington Avenue NE and in the southeastern portion of the subarea along Kirkland Avenue NE and NE 9th Street. The presence of intervening buildings and vegetation limits these views primarily to the upper floors of multistory buildings,

Properties within the subarea that do not front directly on Sunset Boulevard consist of smaller-scale, lower-intensity commercial developments and residential properties, both single-family and multifamily. Most buildings are one to two stories, though multifamily residential buildings reach three stories. The recently completed Harrington Square Apartments, located on Harrington Avenue NE south of NE Sunset Boulevard, consists of two five-story buildings. Due to the presence of commercial development along NE Sunset Boulevard, levels of ambient light and glare in this subarea are slightly higher than in the surrounding residential areas. Major light sources are concentrated along NE Sunset Boulevard in the form of illumination for commercial buildings and parking, as well as vehicular traffic.

South Subarea

The South Subarea consists primarily of a diverse collection of housing south of NE Sunset Boulevard, as well as Highlands Park and Highlands Elementary School south of NE 9th Street. Residences in this subarea consist of a mix of single-family, duplexes, and apartments of a variety of ages. Many of the properties here are part of Renton's older housing stock, and some are in need of maintenance and repair. Compared to more northerly portions of the Planned Action Study Area, the South Subarea contains a greater amount of mature trees, and the presence of the school and park greatly increase the sense of openness. Sidewalks and planting strips, while provided, are inconsistent in availability and condition. Figure 3.12-4 illustrates existing conditions in the South Subarea. Territorial views are generally not available in the South Subarea, due to the presence of intervening development and vegetation.

Building heights are generally limited to a single story in most of the subarea. A small number of multifamily residential buildings along Harrington Avenue NE, across from Highlands Elementary School, as well as along NE 9th Place, north of Highlands Park, reach two or three stories. All together, visual bulk is quite low in the South Subarea. Because development in this subarea is primarily residential, levels of ambient light and glare are low and are generated mostly by exterior home lighting and residential vehicular traffic. The presence of mature trees in this subarea also provides effective screening of light sources.

3.12.1.2 Potential Sunset Terrace Redevelopment Subarea

The Potential Sunset Terrace Redevelopment Subarea consists of the Sunset Terrace public housing development at the intersection of NE Sunset Boulevard and Harrington Avenue NE, the Edmonds-Glenwood site northwest of Sunset Terrace public housing complex, and a currently vacant RHA-owned parcel on the north side of NE 10th Street known as the Piha site (Figure 2-9). The interior of the subarea is characterized primarily by two-story residential buildings owned by the Renton Housing Authority. The edges of the subarea contain a mix of one- and two-story structures in the same style. These structures were built in the late 1950s and constructed using a similar layout, architectural style, and palette of building materials, imparting a sense of homogeneity to the subarea. Figure 3.12-5 illustrates existing conditions in the Potential Sunset Terrace Redevelopment Subarea. Territorial views are available to the south and west along NE Sunset Boulevard, though they are occasionally blocked by the presence of mature street trees.

Source: King County Assessor 2010

Figure 3.12-4
Existing Aesthetic Conditions in the South Subarea
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Source: King County Assessor 2010

Figure 3.12-5
Existing Aesthetic Conditions in the Potential Sunset Terrace Redevelopment Subarea
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Because structures in the subarea are two stories or shorter, and most buildings have moderate to large setbacks from the street, visual bulk in the subarea is low. While these low heights and lack of visual mass create a scale of development that does not overwhelm viewers, buildings generally lack connectivity to the street. While sidewalks are present throughout the Sunset Terrace housing site, other pedestrian amenities, such as street trees or street furniture, are rare. Residential buildings are connected by shared pathways, but these shared spaces do not contain landscaping or furniture, and they provide little opportunity for facilitating social interaction or gathering of residents. While the Potential Sunset Terrace Redevelopment Subarea consists of residential development, the ambient light and glare levels at this location are slightly higher than in other nearby residential areas due to the proximity of commercial areas and vehicular traffic along NE Sunset Boulevard, as well as the lack of vegetative screening within the subarea. Internal sources of light and glare consist of residential vehicular traffic and exterior building illumination, such as floodlights.

3.12.2 Regulatory Context

3.12.2.1 Federal

While individual federal agencies are subject to guidelines and policies regarding aesthetic and visual resource issues, such as the Federal Highway Administration's Context Sensitive Solutions program, the federal government does not promulgate laws and regulations relating specifically to aesthetic character.

3.12.2.2 State

The GMA (Revised Code of Washington, Chapter 36.70A) governs the preparation of comprehensive plans by local jurisdictions and requires that particular elements be included. Aesthetics is not listed in the act as a mandatory element, and local jurisdictions are allowed to address this topic in their comprehensive plans at their discretion.

3.12.2.3 Local

City regulations regarding aesthetics are contained in the City's Comprehensive Plan and RMC.

City of Renton Comprehensive Plan

The Community Design Element of the City's Comprehensive Plan establishes the following goals pertaining to the aesthetic environment in Renton (City of Renton 2009).

1. To raise the aesthetic quality of the City.
2. To strengthen the economy through high quality development.
3. To ensure that a high quality of life is maintained as Renton evolves.

To implement the above goals, the Community Design Element contains a list of objectives and associated policies that pertain to more specific community design topics. A list of relevant objectives is included below. A list of these objectives and their associated policies is contained in Appendix E.

- **Objective CD-C:** Promote reinvestment in and upgrade of existing residential neighborhoods through redevelopment of small, underutilized parcels with infill development, modification and alteration of older housing stock, and improvements to streets and sidewalks to increase property values.

- **Objective CD-E:** New development and infill patterns should be consistent with a high quality urban form.
- **Objective CD-I:** Protect and enhance public views of distinctive features from public streets and other focal points within the City and the surrounding area.
- **Objective CD-J:** Architecture should be distinctive and contribute to the community aesthetic.
- **Objective CD-L:** New commercial and industrial buildings should be architecturally compatible with their surroundings in terms of their bulk and scale, exterior materials, and color when existing development is consistent with the adopted land use vision and Purpose Statements for each Commercial, Center Designation, and Employment Area in the Comprehensive Plan Land Use Element, Center and Commercial Policies.
- **Objective CD-O:** Promote development of attractive, walkable neighborhoods and shopping areas by ensuring that streets are safe, convenient, and pleasant for pedestrians.
- **Objective CD-P:** Develop a system of residential streets, sidewalks, and alleys that serve both vehicles and pedestrians.
- **Objective CD-R:** Lighting systems in public rights-of-way should be provided to improve safety, aid in direction finding, and provide information for commercial and other business purposes. Excess lighting beyond what is necessary should be avoided.

City of Renton Development Regulations

Title IV of the RMC contains development regulations that implement the goals and policies of the City's Comprehensive Plan. In particular, urban design regulations are contained in RMC 4-3-100, and Residential Design and Open Space Standards are contained in RMC 4-2-115.

Urban Design Regulations

Renton's Urban Design Regulations are contained in RMC 4-3-100 and address the following topics:

- site design and building location;
- parking and vehicular access;
- pedestrian environment;
- recreation areas and common open space;
- building architectural design;
- signage; and
- lighting.

Compliance with design standards under RMC 4-3-100 is required within several design districts established throughout the city. The Planned Action Study Area lies partially within Urban Design Districts B and D. Within each design district, some or all of the regulations regarding the above topics apply, per the tables in RMC 4-3-100B3e.

Residential Design and Open Space Standards

In 2009, the City adopted Residential Design and Open Space standards, codified in RMC 4-2-115. These standards apply to all new dwelling units in the Resource Conservation (RC) zone and Residential zones R-1, R-4, R-8, R-10, and R-14. The standards seek to enhance quality of life by promoting high-quality residential design. The standards regulate the following topics:

- site design,
- open space, and
- residential design.

The Residential Design and Open Space Standards would apply to approximately half of the Planned Action Study Area.

Lighting Standards

RMC 4-4-075 contains standards for exterior illumination, which are intended to provide "ample but not excessive" levels of illumination, thereby promoting public safety and accenting building design features. Citywide standards are established for exterior building illumination as well as parking lot and display lights. Additional requirements covering street lighting, lighting for residential access, alley lights, and sidewalk and pathway illumination apply to development in the R-10 and R-14 zones.

3.13 Historic/Cultural Resources

3.13.1 Affected Environment

The study area for cultural resources is defined as the geographic area or areas within which the proposed action may directly or indirectly cause change of character or use of archaeological and/or historic resources. The definition of the study area is influenced by the scale and nature of the proposed action. For purposes of this analysis, the study area for cultural resources is considered identical to the Planned Action Study Area defined in Chapter 2 (Figure 2-1).

3.13.1.1 Environmental Setting

The Planned Action Study Area is located within the Puget Lowland, a structural and topographic basin that lies between the Cascade Range and Olympic Mountains. The modern topography of the Puget Lowland is primarily the result of surface scouring and moraine formation caused by the most recent glacial advance, known as the Vashon stade of the Fraser glaciation, which took place between 14,000 and 20,000 years before present (BP) (Booth et al. 2009; Easterbrook 2003). As a result of this glacial activity, the study area is characterized as a moderately glacial drift upland, composed of glacial till (Mullineaux 1965). In the modern era, the surface of the Planned Action Study Area has been modified to accommodate development. For example, geotechnical borings, excavated along NE Sunset Boulevard within the Planned Action Study Area reveal 4 to 7 feet of fill along the roadway (Golder Associates 1996). It is not known whether fill to this depth extends away from the roadway. Likewise, geotechnical excavations at the northern portion of the study area, on 1442 Hillcrest Lane NE, revealed a thin layer of topsoil underlain by unweathered glacial till, indicating that sediments had been removed from the ground surface in the recent past (Soil & Environmental Engineers, Inc. 2010).

3.13.1.2 Cultural Setting

Precontact

Cultural developments in the Puget Sound area have been summarized by a number of reviewers (Kidd 1964; Greengo and Houston 1970; Nelson 1990; Larson and Lewarch 1995; Ames and Maschner 1999; Blukis Onat et al. 2001; Forsman and Lewarch 2001), most recently by Kopperl (2004). The archaeological record and cultural histories of the prehistory of Puget Sound and surrounding areas generally divide the prehistoric cultural sequence into multiple phases or periods from about 13,000 BP to AD 1700. These phases are academic in nature and do not necessarily reflect tribal viewpoints. A summary of the phases is provided below, based on the periods proposed by Kopperl (2004):

- **Paleo-Indian Period (11,000 to 8,000 BP).** Generalized resource development in a post-glacial environment. Site contents consist of large lithic bifaces and bone technology.
- **Early Period (8,000 to 5,000 BP).** Inland sites with lithic artifacts, rarely found with associated plant or animal remains, or hearth structures.
- **Middle Period (5,000 BP to 2,500 BP).** Increase socioeconomic complexity, exploitation of a wider range of environments, and utilization of marine resources.

- **Late Period (2,500 BP to European contact).** The establishment of large semi-sedentary populations, increased diversity of hunting, fishing, plant processing, and woodworking tools, followed by European contact.

Ethnographic and Ethnohistoric Context

Ethnographic information recorded during the early part of the twentieth century indicates that the Planned Action Study Area is located within the territory of a Native American group traditionally known as the Duwamish. The Duwamish people traditonally spoke the Southern Lushootseed language, which is one of two Coast Salish languages spoken in the Puget Sound (Suttles and Lane 1990:486). They inhabited areas that encompassed Salmon Bay, Lake Union, Portage Bay, Union Bay, Lake Washington, and their tributary streams (Blukis Onat and Kiers 2007:6).

The Duwamish people hunted deer, elk, bear, ducks, geese, and other game animals and waterfowl, when available. Inland of the Puget Sound, they fished for salmon when available (Duwamish Tribe 2010). Plant foods such as sprouts, roots, bulbs, berries, and nuts were collected as well (Suttles and Lane 1990:489) Although ethnographic village locations and place names are documented south of the Planned Action Study Area along the Cedar River, no ethnographically documented villages or place names are known to exist within the the study area (Hilbert et al. 2001)

European American settlement of the Puget Sound area in the 1850s severely disrupted the Duwamish way of life. Early contact between the Duwamish and European Americans was cordial, and the Duwamish were essential to the survival of many early settlers. As the city of Seattle and the surrounding towns grew, natural resources on which the Duwamish relied became increasingly scarce and other traditional areas became inaccessible as a result of development. Further urban expansion, combined with the banning of native urban residence in 1865, resulted in many of the Duwamish people moving away from, or being forced out of, the Seattle area. Many of the Duwamish people went to reservations where they had relatives, including the Muckleshoot, Suquamish, Tulalip, Lummi, or Snoqualmie reservations (Blukis Onat et al. 2005). Today, some of the descendents of the Duwamish people are now members of several federally recognized tribes in including the Muckleshoot Indian Tribe, Suquamish, Tulalip Tribe of Indians, and Snoqualmie Tribe, while others remain enrolled with the Duwamish tribe, although it is not a federally recognized tribe (Duwamish Tribe 2010).

Historic Context

The first European American settler in the Renton area was Henry Tobin, who arrived in 1853 and established a 320-acre claim on the Black River, along with his family. Tobin, together with three partners, subsequently established the Duwamish Coal Company and built the area's first sawmill (Buerge 1989:22). After the signing of the Treaty of Point Elliott and the forced removal of the native Duwamish, an increasing number of settlers entered the area (Buerge 1989:23). In 1856, Erasmus M. Smithers acquired Tobin's earlier claim and purchased an additional 160 acres (Buerge 1989:24; City of Renton 1989:4; Slauson 2006:2). Smithers' substantial land holdings eventually became the center of a burgeoning community that would eventually form the city of Renton.

Rich deposits of coal found in the mountains surrounding the small community in the 1860s and 1870s furthered its prosperity. Wealthy entrepreneurs, such as Captain William Renton, who had built an enormous and prosperous sawmill on Bainbridge Island, invested heavily in the area's coal and transportation industries, allowing the fledgling community's economy to boom (Buerge 1989:24–27; Slauson 2006:6). In 1875, Smithers and two partners filed the town plat for the new

community and named it Renton in honor of the investor's financial backing (Boeing Company et al. 2001:5; Buerge 1989:27; City of Renton 1989:4; Slauson 2006:7). The coal-mining and logging industries continued to draw new residents to the area (Buerge 1989:30–32; City of Renton 1989:4–5). In 1875, less than 50 people lived in Renton, but by 1900, 1,176 people called it home (City of Renton 1989:4). Renton was fully incorporated on September 6, 1901 (Boeing Company et al. 2001:5; Buerge 1989:37).

At the turn of the twentieth century, the area's coal-mining industry began to decline in importance, soon to be replaced by a new set of industries. The discovery of superior quality clay deposits at the south end of Lake Washington led to the establishment of the Renton Clay Works in 1902. By 1917, this company was the largest brick manufacturing plant in the world (Boeing Company et al. 2001:5; City of Renton 1989:5). Addressing the growing needs of the railroad, logging, and later military, during the two World Wars, the Pacific Car & Foundry was first established during this period, supplying steel, pig iron, and other equipment for the production of railroad boxcars, tanks, and later, wing spans for aircraft. The company acquired Kenworth Motor Trucks in 1945 and Peterbilt Motors in 1958, merging them into one company called PACCAR in 1972 (City of Renton 1989:5).

One of the greatest influences on the development of Renton occurred during World War II with the establishment of the Boeing Company aircraft manufacturing plant at the south end of Lake Washington (City of Renton 1989:6). Built in 1940, the Renton Boeing plant manufactured B-29 Superfortress bombers; the plant exponentially increased in size through the course of the war (Boeing Company et al. 2001:12). At its height in 1942, the plant employed 44,754 people and produced approximately 90 planes each month, with a total of 6,981 planes completed before the war's end (Slauson 2006:126).

Development in Renton boomed with the flood of jobs and new residents brought by Boeing and other manufacturers. After the war, Boeing continued to employ as many as 35,000 workers and PACCAR was the city's second largest employer (Buerge 1989:82). Dubbed the "Hub City of Enterprise," Renton was one of the most important manufacturing centers in the state at this time (Buerge 1989:82). In the postwar era, new housing, retail shops, schools, churches, and civic services were established to provide for the new masses, and the federal government provided nearly $4 million in funds for the construction of new housing alone (Buerge 1989:75–79).

Boeing continued to play a prominent role in Renton's economy through the rest of the twentieth century, producing commercial airplanes locally including the 727, 737, and 757 and employing as many 25,000 (City of Renton 1989:6). Today, Renton's economy is shifting towards a greater economic diversification with technology firms, microbreweries, and the Wizards of the Coast, a game and card company (Boeing Company et al. 2001:19; Buerge 1989:88).

Planned Action Study Area

Despite Renton's rapid growth in the early twentieth century, the area encompassed by the Planned Action Study Area remained largely undeveloped until the 1940s. The area was logged starting in 1883 (Slauson 2006:42) and Primary State Highway 2 (PSH 2), later known as the Sunset Highway or SR 900 and referred to in this Draft EIS as NE Sunset Boulevard, was established through the southern portion of the study area from 1909 through 1910. The route was first paved in 1920, becoming the principal highway between Seattle and Snoqualmie Pass prior to the construction of the Lake Washington Floating Bridge in 1940 (Buerge 1989:67; *Morning Olympian* 1909:3).

Although development in Renton's downtown grew with the arrival of the highway, the study area remained primarily rural. With the arrival of the Renton Boeing plant and its tens of thousands of workers in the 1940s, housing development exploded within the study area with many of its existing residential neighborhoods first established during the war. In order to accommodate the enormous work force, the federal government embarked on a series of housing projects in the study area (Buerge 1989:75). Known as the "Highlands" south of the highway and as the "North Highlands" north of the highway, the development of these two neighborhoods relied heavily on federally loans, grants, and other programs (City of Renton 1989:34). During this early development, the Highlands emerged as the center of housing project development while the North Highlands evolved with the construction of mixed commercial and multi-use family housing along the highway (City of Renton 1989:34–35).

Overnight, retail and social services emerged to serve the bustling new community. The Highlands area received its own post office and fire station in the fall of 1943 (Slauson 2006:45, 85), and a large recreational complex complete with tennis courts, ball fields, and a small gymnasium was completed in 1949 (Slauson 2006:81). Later improvements included the move of a prominent Methodist church from downtown Renton to the Highlands area in 1958 and construction of a new branch of the library in 1979 (Slauson 2006:62, 97). By 1975, the area was almost fully developed (City of Renton 1989:34–35; Renton History Museum 1975).

Potential Sunset Terrace Redevelopment Subarea

Federal funding in the study area during the postwar period included significant investment in public housing. Central to this effort was construction of the Sunset Terrace public housing complex along the north side of Primary State Highway 2 (NE Sunset Boulevard) in 1958-1959, comprising most of the Potential Sunset Terrace Redevelopment Subarea. Authorized on June 28, 1958, and completed in 1959, Sunset Terrace is a complex of 100 low-income housing units consisting of both one- and two-story structures arranged along curvilinear streets in a style that has commonly become known as Garden Style Apartments (Associated Press 1958:1; King County Department of Assessments 2010; *Seattle Times* 1959:44). Sunset Terrace was constructed by Seattle-based Dahlgren Construction Company, and designed by architect George W. Stoddard-Huggard & Associates (*Seattle Times* 1959:44). George W. Stoddard, principal of the firm, was a prominent Seattle architect, credited with construction of many public, private, and civic structures in the region. Stoddard retired in 1960 and the Sunset Terrace project is believed to have been one of his last commissions (Elenga 2007:48, 230; Ochsner 1998:208, 352; *Seattle Times* 1967:16).

3.13.2 Regulatory Environment

This section presents the federal, state, and local codes and regulations that are applicable to the protection of cultural resources in the study area.

3.13.2.1 Federal

National Environmental Policy Act

NEPA requires the federal government to carry out its plans and programs in such a way as to preserve important historic, cultural, and natural aspects of our national heritage by considering, among other things, unique characteristics of the geographic area such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3)) and the degree to which the action may adversely affect

districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) (40 CFR 1508.27(b)(8)). Although NEPA does not define standards specific to cultural resource impact analyses, the implementing regulations of NEPA (40 CFR 1502.25) state that, to the fullest extent possible, "agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by…the National Historic Preservation Act of 1966 (16 USC 470 et seq.)."

Although NEPA statutes and implementing regulations do not contain detailed information concerning cultural resource impact analyses, Section 106 of the National Historic Preservation Act of 1966 (NHPA), with which NEPA must be coordinated, details standards and processes for such analyses. The implementing regulations of Section 106 state: "Agency officials should ensure that preparation of an environmental assessment and finding of no significant impact (FONSI) or an EIS and record of decision (ROD) includes appropriate scoping, identification of historic properties, assessment of effects upon them, and consultation leading to resolution of any adverse effects" (36 CFR 800.8[a][3]). Section 106, therefore, typically forms the crux of federal agencies' NEPA cultural resources impact analyses and the identification, consultation, evaluation, affects assessment, and mitigation required for both NEPA and Section 106 compliance should be coordinated and completed simultaneously. This practice is followed in the present analysis.

Section 106 of the National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to consider the effects of funded or approved undertakings that have the potential to impact any district, site, building, structure, or object that is listed in or eligible for listing in the NRHP, and to provide the State Historic Preservation Officer, affected tribes, and other stakeholders an opportunity to comment. Although compliance with Section 106 is the responsibility of the lead federal agency, others can undertake the work necessary to comply. Pursuant to the HUD's regulations at 24 CFR Part 58, the City is authorized to assume responsibility for environmental review, decision-making, and action that would otherwise apply to HUD under NEPA, which includes NEPA lead agency responsibility.

National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the NRHP was established by the NHPA as "an authoritative guide to be used by federal, state, and local governments; private groups; and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, state, and local levels. According to NRHP guidelines, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that meet any of the following criteria:

Criterion A. A property is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B. A property is associated with the lives of persons significant in our past.

Criterion C. A property embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that

represent a significant and distinguishable entity whose components may lack individual distinction.

Criterion D. A property yields, or may be likely to yield, information important in prehistory or history.

Ordinarily, birthplaces, cemeteries, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years are not considered eligible for the NRHP, unless they satisfy certain conditions.

The NRHP requires that a resource not only meet one of these criteria, but must also possess integrity. Integrity is the ability of a property to convey historical significance. The evaluation of a resource's integrity must be grounded in an understanding of that resource's physical characteristics and how those characteristics relate to its significance. The NRHP recognizes seven aspects or qualities that, in various combinations, define the integrity of a property, including: location, design, setting, materials, workmanship, feeling, and association.

An adverse effect on a historic property is found when an activity may alter, directly or indirectly, any of the characteristics of the historic property that render it eligible for inclusion in the NRHP. The alteration of characteristics is considered an adverse effect if it may diminish the integrity of the historic property's location, design, setting, materials, workmanship, feeling, or association. The assessment of effects on historic properties is conducted in accordance with the guidelines set forth in 36 CFR 800.5.

3.13.2.2 State

Washington State Environmental Policy Act

SEPA requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies be planned so that environmental considerations—such as impacts on cultural resources—are considered when state-agency-enabled projects affect properties of historical, archaeological, scientific, or cultural importance (WAC 197-11-960). These regulations closely resemble NEPA.

Under SEPA, the Washington State Department of Archaeology and Historic Preservation (DAHP) is the specified agency with the technical expertise to consider the effects of a proposed action on cultural resources and to provide formal recommendations to local governments and other state agencies for appropriate treatments or actions.

For the purposes of this analysis, the degree to which the alternatives adversely affect districts, sites, buildings, structures, and objects listed or eligible for listing in the NRHP is the primary criterion for determining significant impacts under SEPA. Secondary criteria include whether an alternative has the potential to affect districts, sites, buildings, structures, and objects listed in or eligible for listing in the Washington Heritage Register (WHR), the state equivalent of the NRHP.

Washington Heritage Register

The WHR is an official listing of historically significant sites and properties found throughout the state. The list is maintained by DAHP and includes districts, sites, buildings, structures, and objects

that have been identified and documented as being significant in local or state history, architecture, archaeology, engineering or culture. To qualify for placement on the WHR, the resource must meet the following criteria.

- A building, site, structure or object must be at least 50 years old. If newer, the resource should have documented exceptional significance.
- The resource should have a high to medium level of integrity (i.e., it should retain important character-defining features from its historic period of construction).
- The resource should have documented historical significance at the local, state, or federal level.

Sites listed on the NRHP are automatically added to the WHR and hence a separate nomination form does not need to be completed.

Washington State Governor's Executive Order 05-05

Washington State Executive Order 05-05, which requires state agencies with capital improvement projects to integrate DAHP, the Governor's Office of Indian Affairs, and concerned tribes into their capital project planning process, was signed into action by Governor Chris Gregoire in November 2005. All state agency capital construction projects or land acquisitions, not otherwise reviewed under federal law, must comply with this executive order, if the projects or acquisitions have the potential to affect cultural resources. Agencies with projects or acquisitions subject to review under the executive order must consult with DAHP and concerned tribes and invite their participation in project planning. If cultural resources are present, then reasonable steps to avoid, minimize, or mitigate potential effects must be taken.

3.13.2.3 Local

The City currently does not have a local historic preservation ordinance.

3.14 Transportation

3.14.1 Environmental Context

3.14.1.1 Planned Action Study Area

Traffic Study Area

The Planned Action Study Area includes roadways that are within the jurisdictions of the City and the Washington State Department of Transportation (WSDOT). The traffic study area (Figure 3.14-1) is a smaller area selected to represent existing traffic conditions in the core center of the Planned Action Study Area where traffic could be affected in the future. All study intersections (Table 3.14-1 and Figure 3.14-1) are within the City's jurisdiction. The traffic study area is bordered by NE 12th Street to the north, NE Sunset Boulevard to the south, Monroe Avenue NE to the east, and Edmonds Avenue NE to the west.

Figure 3.14-1. Traffic Study Area and Study Intersections

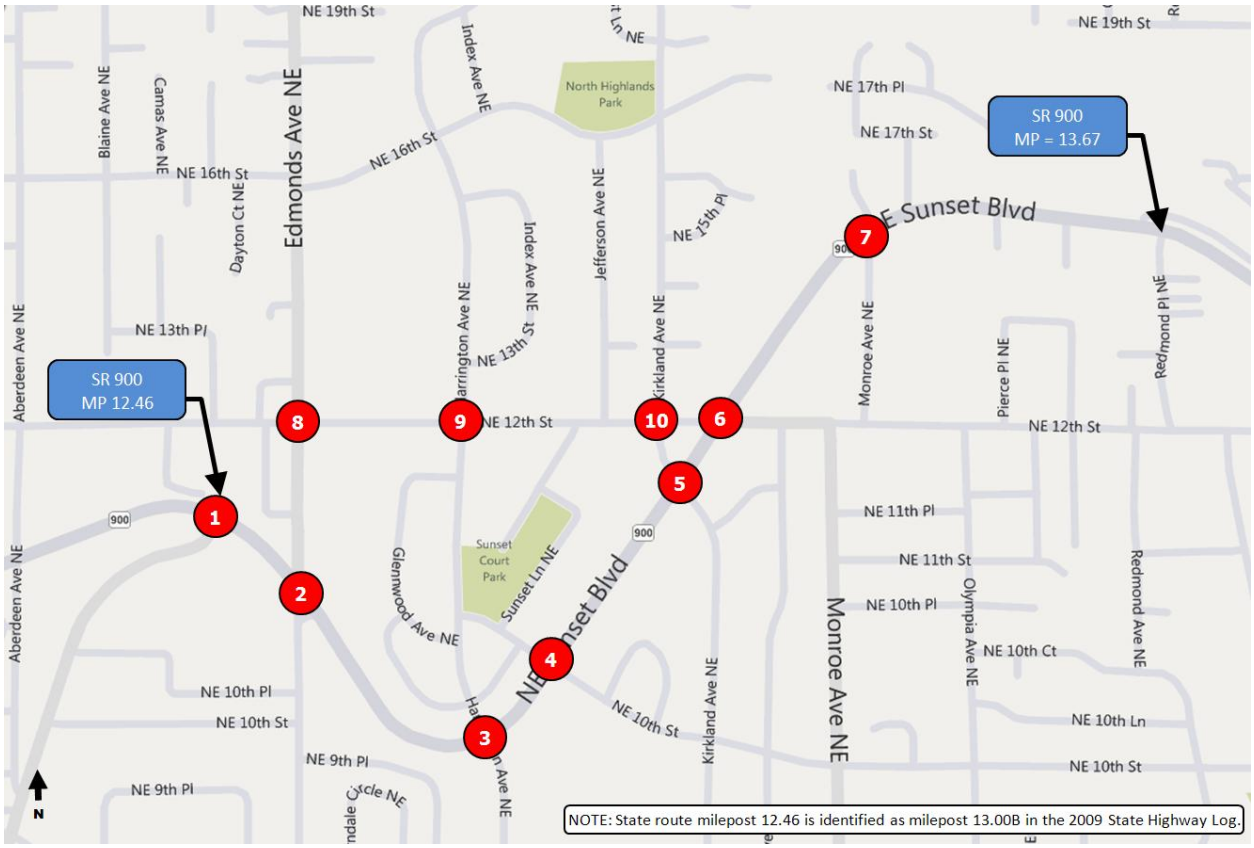

Table 3.14-1. Study Intersections

Intersection #	Intersection	Jurisdiction	Control
1	NE Sunset Blvd & NE Park Dr	WSDOT	Signalized
2	NE Sunset Blvd & Edmonds Ave NE	WSDOT	Signalized
3	NE Sunset Blvd & Harrington Ave NE	WSDOT	Signalized
4	NE Sunset Blvd & NE 10th St	WSDOT	Signalized
5	NE Sunset Blvd & Kirkland Ave NE	WSDOT	OWSC
6	NE Sunset Blvd & NE 12th St	WSDOT	Signalized
7	NE Sunset Blvd & Monroe Ave NE	WSDOT	OWSC
8	Edmonds Ave NE & NE 12th St	City	AWSC
9	Harrington Ave NE & NE 12th St	City	AWSC
10	Kirkland Ave NE & NE 12th St	City	AWSC

OWSC = one-way stop control; AWSC = all-way stop control

Roadways

State roadway classification systems prioritize roads in terms of mobility, access, and function. Higher functioning roadways, such as interstate freeways, typically carry higher traffic volumes, have limited access, and serve longer trips; whereas lower functioning roadways, such as arterials and collector streets, typically carry regional or local traffic and provide many opportunities for property access.

Roadways in the traffic study area include arterials and local collector access roads, and are described below.

State Route (SR) 900 is a winding east-west state highway that connects Interstate (I) 5 in Renton to I-90 in Issaquah. Within the Planned Action Study Area, SR 900 is known as NE Sunset Boulevard, and it connects I-405 with Renton Highlands. This roadway is owned and maintained by WSDOT, and in the vicinity of the study area it is classified as an urban principal arterial (Washington State Department of Transportation 2009a). It is also classified as a highway of regional significance.

NE Sunset Boulevard generally operates with two through lanes in each direction with left-turn pockets at the signalized study intersections. Directional traffic is divided by a center two-way left-turn lane that begins at Harrington Avenue NE and extends to east of Monroe Avenue NE. This center turn lane allows generally unrestricted access to businesses and adjacent land uses along NE Sunset Boulevard by providing a refuge for left turns into and out of driveways. The posted speed limit along NE Sunset Boulevard is 35 miles per hour (mph) in both directions.

Local roadways in the study area include Edmonds Avenue NE, Harrington Avenue NE, and Kirkland Avenue NE. These north-south roadways intersect with NE Sunset Boulevard to provide connections with residential areas, and are generally two-lane (one lane in each direction) streets with sidewalks and parallel parking. The posted speed limit is 25 mph on these local roads, except on Edmonds Avenue NE where the posted speed is 30 mph. Monroe Avenue NE is a north-south local roadway on the east end of the study area that provides access to residential areas, but does not have sidewalks or parallel parking.

NE 10th Street extends east from Harrington Avenue NE, connects with NE Sunset Boulevard at a signalized intersection, and continues east into residential areas of Renton Highlands. Sidewalks are provided in the vicinity of NE Sunset Boulevard, and parallel parking is allowed on both sides of the

street. NE 12th Street is an east-west local study roadway that intersects with Edmonds Avenue NE, Harrington Avenue NE, and Kirkland Avenue NE at stop-controlled locations. It also intersects with NE Sunset Boulevard at a traffic signal. NE 12th Street is a two-lane (one lane in each direction) street that provides sidewalks and parallel parking in both directions. The posted speed limit along NE 12th Street is 25 mph in both directions. No designated bicycle lanes are provided on either NE 10th Street or NE 12th Street.

Transit

Four King County Metro bus routes serve the Planned Action Study Area. King County Metro provides fixed-route transit service connecting the study area to Seattle and Bellevue. Table 3.14-2 outlines these routes.

Table 3.14-2. King County Metro Transit Service

Route #	Route Name	Operation Days	Operation Times	Headway[a]
105	Renton Highlands–Downtown Renton	Weekday	4:30 a.m. to 11:00 p.m.	30 minutes
		Saturday	6:30 a.m. to 11:00 p.m.	30 minutes
		Sunday	7:30 a.m. to 11:00 p.m.	1 hour
111	Downtown Seattle–Lake Kathleen	Weekday	5:20 a.m. to 7:30 a.m.	15 minutes
			3:30 p.m. to 6:00 p.m.	15 minutes
240	Bellevue–Renton Transit Center	Weekday	5:00 a.m. to 11:30 p.m.	30 minutes
		Saturday	7:00 a.m. to 11:30 p.m.	30 minutes
		Sunday	8:00 a.m. to 11:30 p.m.	1 hour
909	Renton Highlands–Downtown Renton	Weekday	5:45 a.m. to 7:15 p.m.	1 hour
		Saturday	6:15 a.m. to 6:45 p.m.	1 hour

Source: King County 2010.

[a] Headway is defined at the time between successive busses as they pass a common point on the roadway.

Metro Route 105 is a local route that travels between downtown Renton and Renton Highlands, terminating at Harrington Avenue NE and NE 16th Street. From the north, the route travels along NE 12th Street and NE 10th Street through the study area before heading south on Union Avenue NE to NE 4th Street and downtown Renton. Metro Route 111 provides weekday directional peak-period service between downtown Seattle and the Renton Highlands. In the morning, the route travels through the study area along NE 10th Street, NE Sunset Boulevard, and Kirkland Avenue NE before heading west along NE 16th Street towards Interstate 405 and its final destination in downtown Seattle. In the afternoon, reverse peak-period service comes from Seattle and travels through the study area towards Renton Highlands.

Metro Route 240 provides daily service between the Renton Transit Center and the community of Clyde Hill (Bellevue). Within the study area, the route travels along NE Sunset Boulevard from NE Park Drive to Duvall Avenue NE. At Duvall Avenue NE, the route turns northbound and travels through the Newcastle Transit Center to Bellevue. Metro Route 909 is part of King County Metro's Dial-a-Ride-Transit (DART) program. The route provides weekday and Saturday service between Kennydale and downtown Renton, and passes through the study area along Kirkland Avenue NE, NE Sunset Boulevard, and Harrington Avenue NE.

Nonmotorized Facilities

Within the traffic study area, continuous sidewalks are provided on both sides of NE Sunset Boulevard, and marked crosswalks are available at each of the signalized study intersections. No designated bicycle lanes are provided on NE Sunset Boulevard, although ample paved shoulders are provided and can likely accommodate bicycles.

Edmonds Avenue NE, Harrington Avenue NE, and Kirkland Avenue NE have sidewalks on both sides of the street within the study area. These sidewalks connect to sidewalks along NE Sunset Boulevard to provide continuous pedestrian access. Sidewalks are also provided on both sides of NE 10th Street and NE 12th Street in the vicinity of NE Sunset Boulevard. Monroe Avenue NE is the only local study roadway that does not have sidewalks. No designated bicycle lanes are provided on local streets within the study area.

Accident Data

Accidents are typically computed as rates based on the traffic volume of the roads in question. This is done to better measure the risk to drivers on roadways with different traffic volumes. Accident rates for road segments were calculated as the number of accidents per million vehicle miles of travel.

This section provides an assessment of vehicular accident history in the study area for the most recent 3 years of available data (between 2007 and 2009). The WSDOT Collision and Analysis Branch provided accident history statistics for this period (Washington State Department of Transportation 2009b). These data were analyzed to identify the average accident rate on NE Sunset Boulevard between NE Park Drive and Redmond Place NE, as well as on the local study roadways. These rates were then compared with statewide average rates for similar roadway classifications.

Table 3.14-3 includes accident rate summaries. On the 1.21-mile stretch of NE Sunset Boulevard (both directions), 112 accidents occurred between January 1, 2007, and December 31, 2009. No fatalities were reported. Of the accidents, 47 involved personal injury and 65 involved property damage only. The most common type of accident involved collisions between vehicles turning into or out of driveways (34%). The second most common type of accident involved vehicles rear-ending another vehicle (26%).

The accident rate for this segment of the roadway is 3.93 accidents per million vehicle miles, higher than the most recently published average statewide accident rate for similar roadways (2.05 accidents per million vehicle miles on urban principal arterials in 2009). The accident rate on NE Sunset Boulevard is likely higher than the statewide average because of the high number of driveways on both sides of the street, and the center two-way turn lane that allows access into and out of these driveways in both directions of travel.

Accident rates at each of the study intersections were calculated from incidents reported to the City between May 1, 2007, and April 30, 2010. Over this 3-year period, each intersection experienced less than one accident per million entering vehicles, and fewer than five accidents on average per year at each location. Average daily entering traffic volumes at study intersections were calculated from existing peak-hour entering traffic volumes. The peak-hour traffic volumes are assumed to be 10% of the average daily volume.

The most common type of accident that occurred at the study locations involved rear-end collisions or vehicles colliding at angles. Due to the number of vehicles that must slow down or stop as they

approach the intersections, and the number of turning movements allowed at all study locations, a high occurrence of these types of crashes could be reasonable.

Table 3.14-3. Accident Rates

Roadway	From	To	Length (Miles)	2010 ADT[a]	Number of Accidents	Accident Rate[b]
NE Sunset Blvd	MP 12.46[c]	MP 13.67	1.21	21,500	112	3.93
Intersection	**2010 ADT[d]**	**Property Damage Only**	**Injury**	**Fatality**	**Total Number of Accidents**	**Accident Rate[e]**
NE Sunset Blvd & NE Park Dr	26,250	5	4	0	9	0.31
NE Sunset Blvd & Edmonds Ave NE	24,690	10	4	0	14	0.52
NE Sunset Blvd & Harrington Ave NE	23,260	9	6	0	15	0.59
NE Sunset Boulevard & NE 10th St	23,500	8	3	0	11	0.43
NE Sunset Boulevard & Kirkland Ave NE	19,130	4	4	0	8	0.38
NE Sunset Boulevard & NE 12th St	23,680	10	2	0	12	0.46
NE Sunset Boulevard & Monroe Ave NE	19,630	0	2	0	2	0.09
Edmonds Ave NE & NE 12th St	9,680	5	5	0	10	0.94
Harrington Ave NE & NE 12th St	7,410	1	0	0	1	0.12
Kirkland Ave NE & NE 12th St	6,960	2	2	0	4	0.52

MP = state route milepost; ADT = average daily traffic

[a] Volumes were averaged between count locations. Source: Washington State Department of Transportation 2009c.

[b] 2007–2009 multiyear accident rate. Rate is in accidents per million vehicle miles.

[c] This location is identified in the 2009 State Highway Log as milepost 13.00B. The "B" designates whether the milepost value is the "back" duplicate of a milepost value "ahead" on the route. A back duplicate occurs as a result of a realignment that shortens or lengthens a section of a state route (other than at the end of the route). SR 900 was likely realigned from its original path within the study area. Rather than renumbering mileposts to account for this realignment, WSDOT uses a "B" indicator to identify where a "duplicate" milepost occurs. This indicator allows the mileposts on either side (upstream or downstream) of where the realignment took place to remain the same. Source: Washington State Department of Transportation 2009a.

[d] Volumes were summed from each intersection approach. Peak-hour volumes are assumed to be 10% of existing average daily entering traffic volumes.

[e] 2007–2009 multiyear accident rate. Rate is in accidents per million entering vehicle.

Traffic Volumes

Average daily traffic volumes on NE Sunset Boulevard within the study area have remained fairly constant over the past 3 years. The average daily traffic volumes reported by WSDOT are shown in Table 3.14-4 below.

Existing year (2010) peak-hour turning movement counts were collected at four of the study intersections between 4:00 p.m. and 6:00 p.m. on Tuesday, September 29, 2010. These four intersections include NE Sunset Boulevard at Monroe Avenue NE and at Kirkland Avenue NE, and NE 12th Street at Harrington Avenue NE and at Kirkland Avenue NE.

Weekday PM peak-hour counts at the remaining study intersections were provided by the City. Counts provided by the City are assumed to represent existing year conditions. Existing turning-movement volumes at study intersections are presented in Figure 3.14-2.

Table 3.14-4. Average Daily Traffic Volumes

Roadway	Location	2006	2007	2008	2009
NE Sunset Blvd	MP 12.50	24,000	24,000	23,000	25,000
NE Sunset Blvd	MP 14.31	19,000	20,000	19,000	18,000

MP = state route milepost
Source: Washington State Department of Transportation 2009c.

Traffic Operations Analysis

Existing traffic conditions were analyzed in a Synchro, version 7, traffic model. Synchro is a tool commonly used to analyze traffic operations that is based on methodologies in the *2000 Highway Capacity Manual* (HCM) (Transportation Research Board 2005). It is capable of analyzing both signalized and stop-controlled intersections. Output from the Synchro model, including average vehicle delay and associated level of service (LOS), can be compared with applicable mobility standards to determine whether the intersection performs acceptably or if congestion and capacity issues could be expected.

A portion of the model (NE Sunset Boulevard, including signalized locations), was provided by the City. Additional study intersections along NE 12th Street and at stop-controlled locations were added to the network based on field observations. Peak-hour factors and truck percentages used in the model were provided by the City, or were based on field collected traffic turning movement counts.

Results from the operational analysis (Table 3.14-5) indicate that all study intersections for the weekday PM peak period operate at LOS C or better. The worst LOS at any study intersection is LOS C, which occurs on NE 12th Street at Edmonds Avenue NE and at Harrington Avenue NE. LOS C suggests the existing roadways still have adequate capacity. Table 3.14-5 and Figure 3.14-2 show the results of the existing conditions intersection operational analysis. Appendix F provides the detailed HCM-generated Synchro reports for each study intersection.

Table 3.14-5. Intersection Operations

			Existing (2010) PM Peak	
Intersection #	Intersection	Control	LOS	Delay(s)
1	NE Sunset Blvd& NE Park Dr	Signalized	A	7.6
2	NE Sunset Blvd& Edmonds Ave NE	Signalized	B	10.7
3	NE Sunset Blvd& Harrington Ave NE	Signalized	A	6.5
4	NE Sunset Blvd& NE 10th St	Signalized	B	11.0
5	NE Sunset Blvd& Kirkland Ave NE	OWSC	C	19.5
6	NE Sunset Blvd& NE 12th St	Signalized	B	18.2
7	NE Sunset Blvd& Monroe Ave NE	OWSC	B	14.5
8	Edmonds Ave NE & NE 12th St	AWSC	C	23.1
9	Harrington Ave NE & NE 12th St	AWSC	C	17.8
10	Kirkland Ave NE & NE 12th St	AWSC	B	11.1

OWSC = one-way stop control; AWSC = all-way stop control; LOS = level of service
Delay is measured in average seconds per vehicle

3.14.1.2 Potential Sunset Terrace Redevelopment Subarea

Roadways

The Potential Sunset Terrace Redevelopment Subarea is roughly bordered by NE Sunset Boulevard, NE 10th Street, and Glenwood Avenue NE. The subarea includes properties along Sunset Lane NE, Harrington Avenue NE, Glenwood Avenue NE, and NE 10th Street. These roadways are within the City's jurisdiction and serve mainly residential traffic with direct access from NE Sunset Boulevard via signalized intersections at NE 10th Street and Harrington Avenue NE. Driveway access to existing retail is provided from NE 10th Street.

Sidewalks and parallel parking are provided on both sides of each street within the subarea, and marked crosswalks at their intersections provide continuous pedestrian paths. Roadways in the subarea are all two-lane, undivided streets with posted speeds of 35 mph or lower.

Transit

Transit service in the subarea is similar to that provided in the Planned Action Study Area. Regular stops for Metro routes 240 and 909 are located at NE 10th Street, Harrington Avenue NE and Edmonds Avenue NE along NE Sunset Boulevard. These stops are within walking distance of the subarea (500 feet or less). Route 111 has regular stops within walking distance of the subarea on NE 10th Street at NE Sunset Boulevard and at Index Avenue NE (one block east of NE Sunset Boulevard). Metro route 105 does not immediately serve the subarea.

Accident Data

Within the subarea, a single crash was reported between May 1, 2007, and April 30, 2010. This crash occurred at the intersection of Glenwood Avenue NE and Sunset Lane NE, and involved a vehicle-bicycle injury collision.

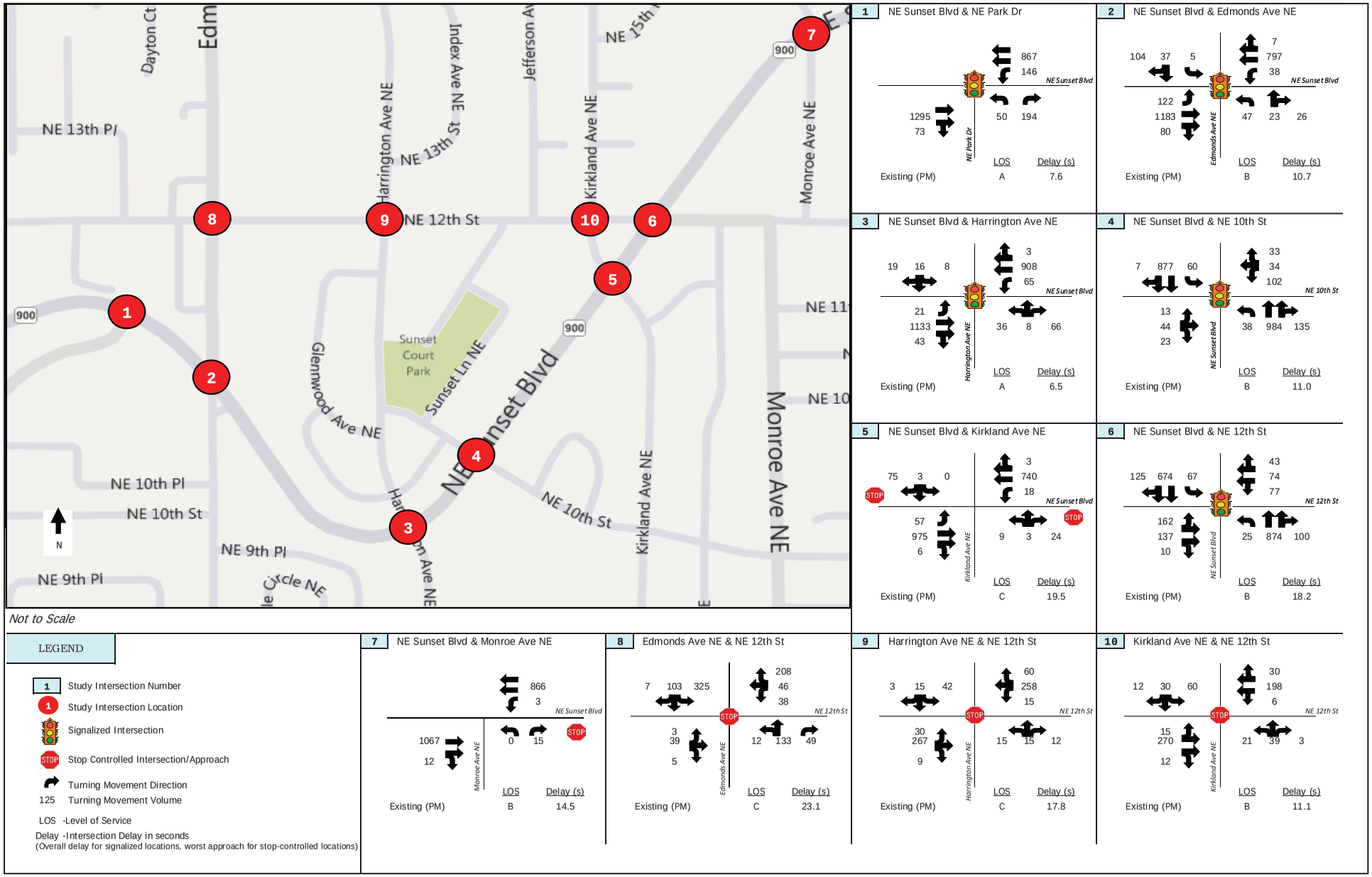

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Figure 3.14-2
Existing (2010) Weekday PM Peak-Hour Traffic
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Traffic Operations Analysis

Traffic volumes collected for NE Sunset Boulevard, which serves as the southern border of Potential Sunset Terrace Redevelopment Subarea, are shown in Table 3.14-4. Traffic volumes were not collected at residential intersections in the subarea. Turning volumes at these residential intersections are expected to be lower than volumes at any of the study intersections, due to the smaller area being served and the limited variation of land use (residential only). Therefore, existing operations at the stop-controlled intersections along Harrington Avenue NE at NE 10th Street, Glenwood Avenue NE, and Sunset Lane NE are likely operating at LOS C or better. The intersection at Glenwood Avenue NE and Sunset Lane NE is also likely to be at LOS C or better. Congestion is not expected at any of these stop-controlled approaches.

3.14.2 Regulatory Context

3.14.2.1 Federal

No federal regulations apply to the study area intersections because they are within state or City jurisdiction.

3.14.2.2 State

Mobility Standards

The existing condition of study intersections is evaluated based on LOS definitions. LOS is a qualitative measurement of intersection operation based on control delay reported as letter grades that range from LOS A (low delay per vehicle, favorable traffic progression) through LOS F (extremely high delay per vehicle, could involve long queues).

The current mobility standard for study intersections along NE Sunset Boulevard is LOS E (with mitigation). This standard is set by the Puget Sound Regional Council for regionally significant state highways within an urban area (Puget Sound Regional Council 2010).

3.14.2.3 Local

Mobility Standards

The City does not apply a letter-grade LOS threshold standard to individual intersection operations. Instead, the City uses a complex travel-time index system to assess traffic operations. This travel-time system measures the distance (in miles) that various modes can travel in 30 minutes within and through the city. Travel distances for single-occupant vehicles, high-occupancy vehicles, and transit are summed when developing the travel-time index. Transit distances are given double weighting to recognize the passenger-capacity advantages.

This index is then compared to a travel-distance standard, or goal, that takes into account the preferred number of miles each travel mode can achieve in 30 minutes at a horizon year. In the most recent version of the City's Comprehensive Plan, the 30-minute travel-time standard for the horizon year (2022) is 42 miles. This standard was calculated assuming that single-occupant vehicles would be able to travel 15 miles, high-occupancy vehicles would be able to travel 17 miles, and transit

would be able to travel 5 miles in 30 minutes. Corridors or routes not expected to meet this travel-distance index could then be considered for mitigation or improvement.

Travel routes between study intersections are short (less than 1 mile), and would not produce travel times that could be compared with the City's current LOS methodology.

Therefore, a mobility standard for local study intersections (that are not located on NE Sunset Boulevard) was developed through discussions with the City for the purposes of this Draft EIS. For urban core areas, where congestion or long delays are common, an LOS E threshold is appropriate. Because the traffic study area is typically represented by lower volumes and less congestion than an urban core, an LOS D threshold is appropriate.

Other Goals and Policies

The City has adopted a Transportation Element of its Comprehensive Plan (City of Renton 2009) that addresses a variety of topics including transportation system conditions, planned improvements, mobility, and others. Below are relevant goals for the Planned Action Study Area.

1. Contribute to a balanced multi-modal transportation system through reasonable, planned, economically feasible arterial improvements that enhance HOV and transit operations, support adopted land use plans, protect or improve business access, and protect Renton's neighborhoods.
2. Maximize the use of transit in Renton by providing step-by-step transit improvements to produce regionally linked and locally oriented transit services and facilities needed to serve travel demand generated by Renton residents and businesses.
4. Maintain, enhance, and increase pedestrian and bicycle travel by providing both safe and convenient routes and storage for the commuting and recreating public.
9. Develop a transportation system that contributes to the attainment and maintenance of regional air and water quality standards within the City of Renton, and complies with regional, state, and Federal air water quality standards, and preserves/protects natural resources.

3.15 Parks and Recreation

3.15.1 Environmental Context

The City park and recreation facilities include 29 city-maintained public parks, over 13 miles of trails, and over 800 acres of public open space. Additionally, the City's recreation and community facilities include public beaches, a golf course, swimming pools, and a number of community/neighborhood centers.

This section discusses existing conditions relative to parks and recreation facilities in the Planned Action Study Area and Sunset Terrace Redevelopment Area.

3.15.1.1 Planned Action Study Area

As listed in Table 3.15-1 and illustrated in Figure 3.15-1, two neighborhood recreation/park facilities (the North Highlands and Highlands neighborhood centers) are located in the Planned Action Study Area. Both neighborhood centers provide recreation buildings, multi-use fields, playgrounds, and tennis courts. The Highlands Park facility also provides paved multi-use courts, a paved roller-blading rink, and a paved- and soft-surface trail system. Both centers are available for use by people ages 6 and up. These centers offer a variety of activities including art clubs, gym games, kids' activities, basketball, and soccer.

In addition to the two neighborhood centers, Sunset Court Park is also located in the Planned Action Study Area. This 0.5-acre centrally located park provides a playground, picnic tables, and a basketball court.

Three schools are located in the study area: McKnight Middle School, Highlands Elementary School, and the Hillcrest Early Childhood Center. Each school has a multi-use sports fields and baseball fields. The Highlands and Hillcrest schools have playgrounds. The McKnight school has tennis courts. Currently, the City does not categorize school facilities as parks and recreation facilities; however, for the purposes of this EIS, school facilities are discussed, because they are facilities that could be considered in LOS evaluations as a future policy choice or could be combined with existing/new parks and recreation facilities in the study area. This is discussed further in Section 4.15, the environmental impacts section for this resource.

Directly adjacent to the north-eastern corner of the Planned Action Study Area are the May Creek and Honey Creek open space and trail systems. Other facilities within 0.5 mile or less of the study area include the Kiwanis Park, Windsor Hills Park, and Kennydale Lions Park. Walkability barriers preclude these parks from serving the Planned Action Study Area. If these parks' service areas were to be mapped without considering the walkability barriers, there would be a service area radii overlap with Sunset Court, North Highlands, or Highlands park service areas, and the area of overlap is most likely served by Sunset Court, North Highlands, or Highlands Park service areas. The population within this area of overlap, however, is most likely served by Sunset Court, North Highlands, or Highlands Park. For example, the northern portion of Windsor Hills Park's service area overlaps with the Highlands Neighborhood Center service area; due to distance and recreation amenities, the Highlands Neighborhood Center better serves this overlap service area. As a result, the Kiwanis, Windsor Hills, and Kennydale Lions parks are not included in this analysis.

Gene Coulon Park, a regional park as defined by City standards, is located less than 1 mile west of the study area on the shores of Lake Washington.

Table 3.15-1. Existing Parks and Recreation Facilities in and Adjacent to Planned Action Study Area

Map ID	Facility Name	Park/Recreation Facility Type[a]	Size	Amenities[b]
Facilities in Planned Action Study Area				
1	North Highlands Park and Neighborhood Center	Neighborhood park	2.64-acre park 4,430-square-foot recreation building	Multi-use paved court (half basketball court) Multi-use field Picnic area Tennis court Playground Recreation building
2	Highlands Park and Neighborhood Center	Community park	10.4-acre park 11,906-square-foot recreation building	Softball field Multi-use paved court Paved roller-blading rink Tennis courts Multi-use field[f] Paved and soft-surface trail system Picnic areas Playground Recreation building
3	Sunset Court Park	Neighborhood park	0.5-acre park	Playground Picnic tables Basketball court
4	McKnight Middle School[c]	School	11.5 acres[d] of recreation facilities	Baseball fields Soccer fields Tennis courts Basketball courts Track & field facilities
5	Hillcrest Early Childhood Center[c]	School	3.4 acres[d] of recreation facilities	Baseball field Soccer field Playground
6	Highlands Elementary School[c]	School	2.9 acres[d] of recreation facilities	Sports field/baseball field Playground

Map ID	Facility Name	Park/Recreation Facility Type[a]	Size	Amenities[b]
Facilities Adjacent to Planned Action Study Area[e]				
7	Honey Creek and May Creek Open Space and Trails	Open space	Over 300 acres[d]	Trails
N/A	Kiwanis Park	Neighborhood Park	9 acres	Activity building Ballfields[f] Basketball court Multi-use field[g] Picnic facilities Playground Tennis courts
N/A	Windsor Hills Park	Neighborhood Park	4.5 acres	Picnic facilities Ballfield Basketball court Playground
N/A	Kennydale Lions Park	Neighborhood Park	6 acres	Activity building Ballfield[g] Basketball court Multi-use field[g] Picnic facilities Playground
N/A	Gene Coulon Memorial Park	Regional Park (less than 1 mile from study area)	57 acres	Boat launches Picnic facilities Playground Tennis courts Volleyball courts Food concessions Swimming area Walking trails

Source: City of Renton 2009 and 2010a, b, c

[a] Type (not including school facilities) is from the adopted standards of the *City of Renton Parks Implementation Plan*.

[b] Does not include amenities such as parking and restrooms.

[c] The City does not categorize school property as parks and recreation facilities.

[d] Land is owned by King County and the Cities of Renton and Newcastle. Approximate area calculated using GIS/aerial imagery.

[e] Located 0.5 mile or less outside study area. Does not include school facilities.

[f] This (park) field is classified as a multi-use field but could likely accommodate soccer. It is unknown whether the dimensions would satisfy football field standards.

[g] Multi-use field space overlaps softball outfield area. Softball cannot be played concurrently with another field sport.

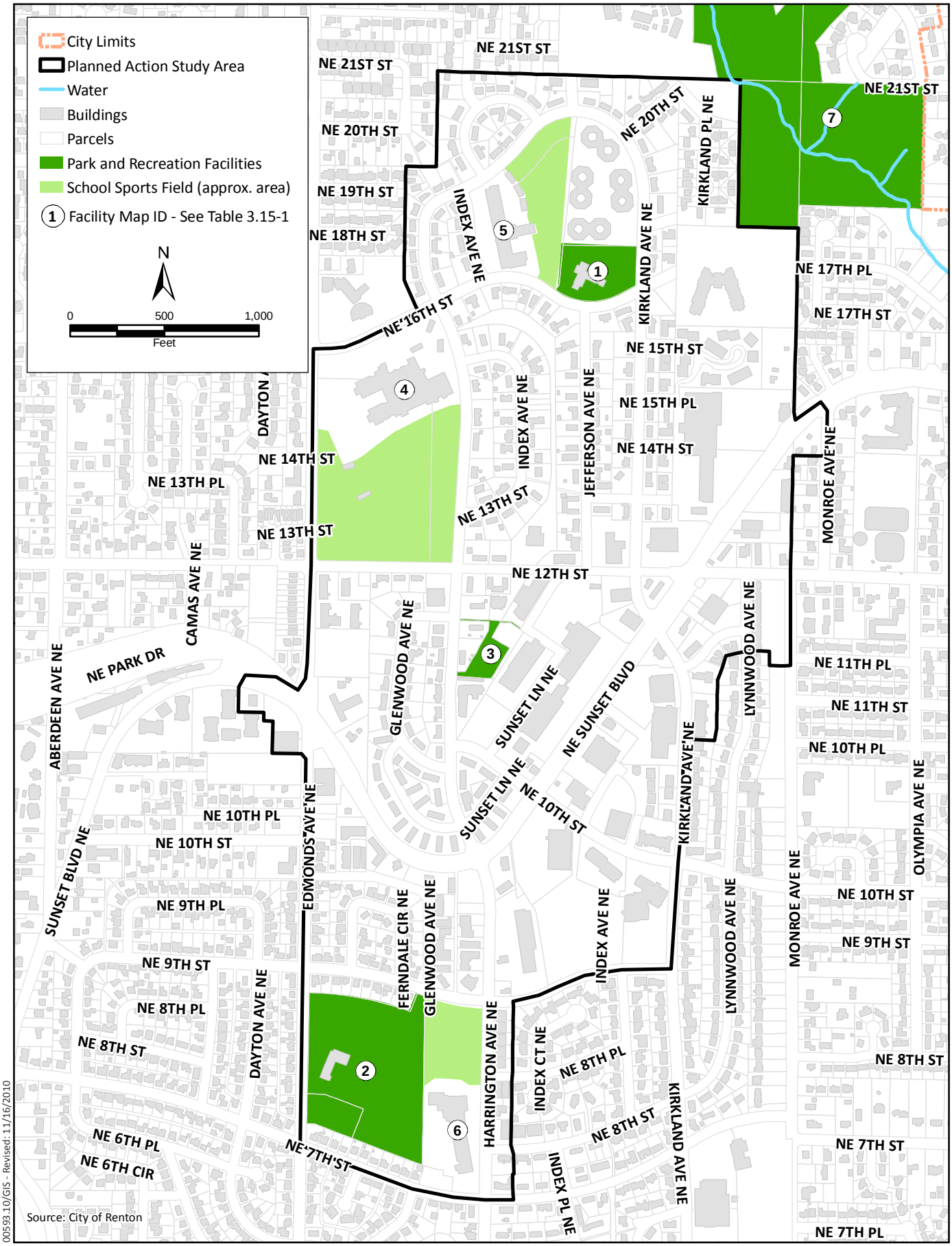

Figure 3.15-1
Parks and Recreation Facilities
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Table 3.15-2 summarizes the facility usage and activities at the North Highlands and Highlands neighborhood centers.

Table 3.15-2. North Highlands and Highlands Neighborhood Center Activities and Usage Summary

Map ID	Facility Name	Facility Hours	Members	Programs/Activities
1	North Highlands Park and Neighborhood Center	Monday–Friday, mid-afternoon to evening Average 22.5 hours per week (fall, winter, spring) Average 30 hours per week (summer)	Open to all ages Primarily serves preschool and youth	Drop-in programs: gym, game room, art and crafts, tennis courts, open space Fee-based programs: Junior Leader program, Club North Highlands, rentals, day camps, workshops, athletics
2	Highlands Park and Neighborhood Center	Monday–Friday, mid-afternoon to evening, Saturday late morning to evening Average 36 hours per week (fall, winter, spring) Average 72 hours per week (summer)	Open to all ages Primarily serves preschool, youth, teens	Drop-in programs: gym, game room, art and crafts, tennis courts, ball field, open space Fee-based programs: Junior Leader Program, Club Highlands, rentals, leisure classes, day camps, workshops

Source: Betlach pers. comm.

The City has adopted standards, as part of its Parks Implementation Plan (Betlach pers. comm.), for determining the LOS for parks and recreation facilities in the city. These standards were applied to determine if the existing facilities adequately serve the existing population in the Planned Action Study Area or if there are deficiencies. Table 3.15-3 provides an overview of these LOS standards and the current deficiencies and surpluses in neighborhood and community park properties in the service areas and study area.

For existing parks LOS calculations, two area measures were used: 1) within the park service area (0.5 mile for neighborhood park and 1 mile for community park) and 2) area of the Planned Action Study area within each park service area. To calculate park LOS deficiencies and surpluses, existing population within these areas was applied to the City's LOS standards (1.2 acres/1,000 persons for neighborhood park and 2.5 acres/1,000 persons for community park).

For recreation facilities LOS, two measures were calculated: 1) with school facilities and 2) without school facilities. (The City currently does not categorize school property as parks and recreation facilities; however, in future conditions, as discussed in Section 4.15, combining park facilities with school facilities as joint-use may be considered). To calculate recreation facilities LOS deficiencies and surpluses, the existing study area population was applied to the City's LOS standards for each facility type (refer to Table 3.15-3 for facility LOS).

Refer to Appendix G for the detailed calculations for parks and recreation LOS.

Within the Planned Action Study Area, the North Highlands Park and Neighborhood Center and the Highlands Park and Neighborhood Center meet the City's adopted criteria to be considered neighborhood park and community park, respectively. Both are close to the minimum standards.

The number of people living within the 0.5-mile service area for North Highlands Park and the 1-mile service area for Highlands Park is more than permitted by the City's park area LOS

population served standard. Sunset Court Park would need to be 3 to 5 acres larger to serve the population living within its service area based on current adopted City standards.

As specified by the City's park LOS standards, walking distances within a neighborhood park's service area should be safe and present no disconnectivity between neighborhoods and park facilities. The pedestrian route must not cross geographic or human-made barriers. Physical barriers such as topography and major roadways (e.g., NE Sunset Boulevard) represent an obstacle to safe pedestrian access between residential areas and a park.

Using Sunset Court Park as an example, about 4,500 persons reside within its 0.5-mile service area radius. Over half of these people are located south of NE Sunset Boulevard. This means that over half of the population within the park's service area does not have safe pedestrian access, as required by the City's standards.

Within the services areas for Highlands and North Highlands Neighborhood Centers, geographic barriers such as NE Sunset Boulevard also prevent safe pedestrian access between residential areas and the facilities.

As shown in Table 3.15-3, of the existing City recreation facilities (not including school district facilities) within the Planned Action Study Area, the football/soccer fields meet the City's adopted standards, and the tennis courts exceed the City's adopted standards. However, the field space available at the park location for football/soccer field may not meet adopted standards for football league play. There is a deficiency of baseball/softball fields and walking/hiking trails.

School recreation facilities, under existing conditions, are not combined as joint-use with City-owned park and recreation facilities. If school facilities were combined as joint-use with City recreation facilities, there would be a surplus of fields and courts, but a deficiency of walking/hiking trails would remain. Table 3.15-3 shows the option of a joint-use of school and park facilities as a measure of comparison for future plans as discussed in Section 4.15.

Table 3.15-3. Existing (2010) Parks and Recreation Facilities in the Planned Action Study Area—Level of Service

Map ID	Facility Name	Park/Recreation Facility Typea (Level of Service Standard)	Area/ Number of Facilities	Estimated Service Area Population[b]		Level of Service (Deficiency/Surplus)	
				Service Area	Study Area	Service Area	Study Area
Parks in the Planned Action Study Area							
1	North Highlands Park and Neighborhood Center	Neighborhood park (1.2 acres/1,000 persons; service area: 0.5 mile of residences)	2.64 acres	4,493 [a] persons	2,124 [a] persons	5.39 acres (2.75-acre deficiency)	2.55 acres (0.09-acre surplus)
2	Highlands Park and Neighborhood Center	Community park (2.5 acres/1,000 persons; service area: 1–2 miles of residences)	10.4 acres	19,642[a] persons (1-mile service area)	2,978 [a] persons	49.11 acres (38.71-acre deficiency)	7.45 acres (2.96-acre surplus)
3	Sunset Court Park	Neighborhood park (1.2 acres/1,000 persons; service area: 0.5 mile of residences)	0.5 acre	5,629 [a] persons	2,828 [a] persons	6.75 acres (6.25-acre deficiency)	3.39 acres (2.89-acre deficiency)
Recreation Facilities in the Planned Action Study Area [a]							
N/A	Multiple facilities	Baseball/softball fields (1 field/2,250 persons)	6 fields[c]	—	2,978 persons	—	1.32 fields (4.68-field surplus)
			1 field[d]	—	2,978 persons	—	1.32 fields (0.32-field deficiency)
N/A	Multiple facilities	Football/soccer fields (1 field/3,000 persons)	4 fields[c]	—	2,978 persons	—	1 field (3-field surplus)
			1 fields[d, g]	—	2,978 persons	—	1 field (no deficiency or surplus)
N/A	Multiple facilities	Tennis courts (1 court/2,500 persons)	6 courts[c]	—	2,978 persons	—	1.2 courts (4.8-court surplus)
			3 courts[d]	—	2,978 persons	—	1.2 courts (1.8-court surplus)

Map ID	Facility Name	Park/Recreation Facility Typea (Level of Service Standard)	Area/ Number of Facilities	Estimated Service Area Population[b]		Level of Service (Deficiency/Surplus)	
				Service Area	Study Area	Service Area	Study Area
N/A	Multiple facilities	Walking/hiking trails (0.2 mile/1,000 persons)	0.35 mile[c, f] (approx.)	—	2,978 persons	—	0.6 mile (0.25-mile deficiency)
			0.35 mile[d] (approx.)	—	2,978 persons	—	0.6 mile (0.25-mile deficiency with trails in parks) (0.6-mile deficiency without trails in parks)

Source: Betlach pers. comm., City of Renton 2010a and b, U.S. Census Bureau 2000

Note: School sports fields/recreation facilities were not included in park acreage calculations as City does not categorize school property as parks and recreation facilities

[a] Estimated population for parks' service areas calculated using 2006 Transportation Analysis Zone household data multiplied by an average 2.31 persons per household (an average of year 2000 Census Tracts 252 and 254). Estimated population for Study Area based on 2010 King County Assessor dwelling unit data multiplied by the same average 2.31 persons per household.

[b] Calculation does not account for population density.

[c] Total includes school facilities.

[d] Total does not include school facilities.

[e] Trails shown in this table include the Highland Park and Neighborhood Center paved and soft-surface trails. Approximate length calculated using GIS/aerial imagery.

[f] Total includes trails located in park facilities. Within the Planned Action Study Area, there are no trails located in school facilities.

[g] Field currently classified as a multi-use field but could likely satisfy soccer use. It has not been determined whether dimensions meet football standards.

3.15.1.2 Potential Sunset Terrace Redevelopment Subarea

There are no existing park or recreation facilities located in the Sunset Terrace Redevelopment Subarea. As documented in Table 3.15-3, the population in this subarea is underserved at the same level as the larger Planned Action Study Area due to a deficiency in neighborhood parks, community parks, fields, courts, and walking/hiking trails. Residents of this subarea could use the parks in the Planned Action Study Area and surrounding areas, but many of the adopted parks LOS would still not be met.

3.15.2 Regulatory Context

3.15.2.1 Federal

Although no federally owned or managed park and recreation facilities are located in the Planned Action Study Area, federal regulations related to the Americans with Disabilities Act (ADA), for example, apply to parks and recreation facilities in the study area.

3.15.2.2 State

No state parks and recreation facilities are located in the Planned Action Study Area; therefore, state regulations do not apply.

3.15.2.3 Local

The City has adopted standards, as part of its Parks Implementation Plan (Betlach pers. comm.), for determining the LOS of parks and recreation facilities in the city. Parks (neighborhood, community, regional, linear, special use, and open space) are classified based on their acreage per person served, service area, and size. The LOS and the need for recreation facilities (baseball/softball fields, football/soccer fields, tennis courts, swimming pools, and walking/hiking trails) is determined based on number of facilities per persons served. See Table 3.15-3 for applicable standards.

The City is considering amendments to its development codes that would provide for payment of a fee-in-lieu for required common open space that may be otherwise required. As proposed, the fee-in-lieu option could be executed when development sites are located within 0.25 mile of a public park and when that park can be safely accessed by pedestrians. (City of Renton 2010d.)

3.16 Public Services

3.16.1 Environmental Context

3.16.1.1 Planned Action Study Area

This section discusses the existing conditions related to public services in the Planned Action Study Area. Figure 3.16-1 shows the location of fire, schools, social services, and library facilities in and adjacent to the study area. Figure 3.16-2 shows the location of police, health care, and social service facilities serving the study area that are located in Renton outside of the study area.

Public Safety

Police

The City Police Department is a full-service law enforcement agency serving the city of Renton in six divisions with a total of 173 personnel, including 123 sworn officers and 50 non-sworn personnel (City of Renton Police Department 2010:5). In 2009, the department's Patrol Operations Division responded to 60,174 calls for service in the city; this translates to approximately 1,074 calls for service for each of the 56 officers assigned to the division in 2009 (City of Renton Police Department 2010:23).[1] The Planned Action Study Area is located within the department's North Patrol Sector, which encompasses the city limits north of S 3rd Street and north of the Maple Valley Highway.

The Patrol Operations Division has a response-time goal for Priority 1 or emergency calls for service of an average of 3.5 minutes or less. The actual average response time for Priority 1 calls in 2009 was 2.74 minutes (City of Renton Police Department 2010:24).

Although an LOS standard for the department is not included in the City's Comprehensive Plan Capital Facilities Element, the City uses a standard of 1.6 officers per 1,000 population for estimating its police LOS standard for future population growth and annexations (Marsalisi pers. comm.). The department provides police service citywide from the Renton City Hall facility at 1055 S Grady Way, which is outside the study area.

Fire and Emergency Medical Services

The Renton Fire & Emergency Services Department provides fire protection and emergency medical services (EMS) to the city from six locations. The Planned Action Study Area is primarily served from Fire Station 12 located at 1209 Kirkland Avenue NE (Figure 3.16-1). Station 12 is staffed by five personnel and is equipped with one engine company and one aid unit. In 2009, Station 12 responded to 2,326 aid calls (Aid 12 unit) and 1,293 fire calls (Engine 12 unit) (City of Renton Fire & Emergency Services 2010). Other fire stations that provide back-up response to the Planned Action Study Area include Station 16 and Station 11[2] (Flora pers. comm.).

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[1] This statistic does not account for 911 calls for service that required more than one officer to respond, or for the 18,097 traffic-related vehicle stops initiated by patrol officers.

[2] Station No. 16 staffed with four personnel (156th Ave NE near NE 4th Street); and Station No. 11 staffed with three personnel (211 Mill Avenue S in Downtown Renton) to ensure adequate personnel coverage. As of January 2011, Station No. 11 will increase staffing to six personnel.

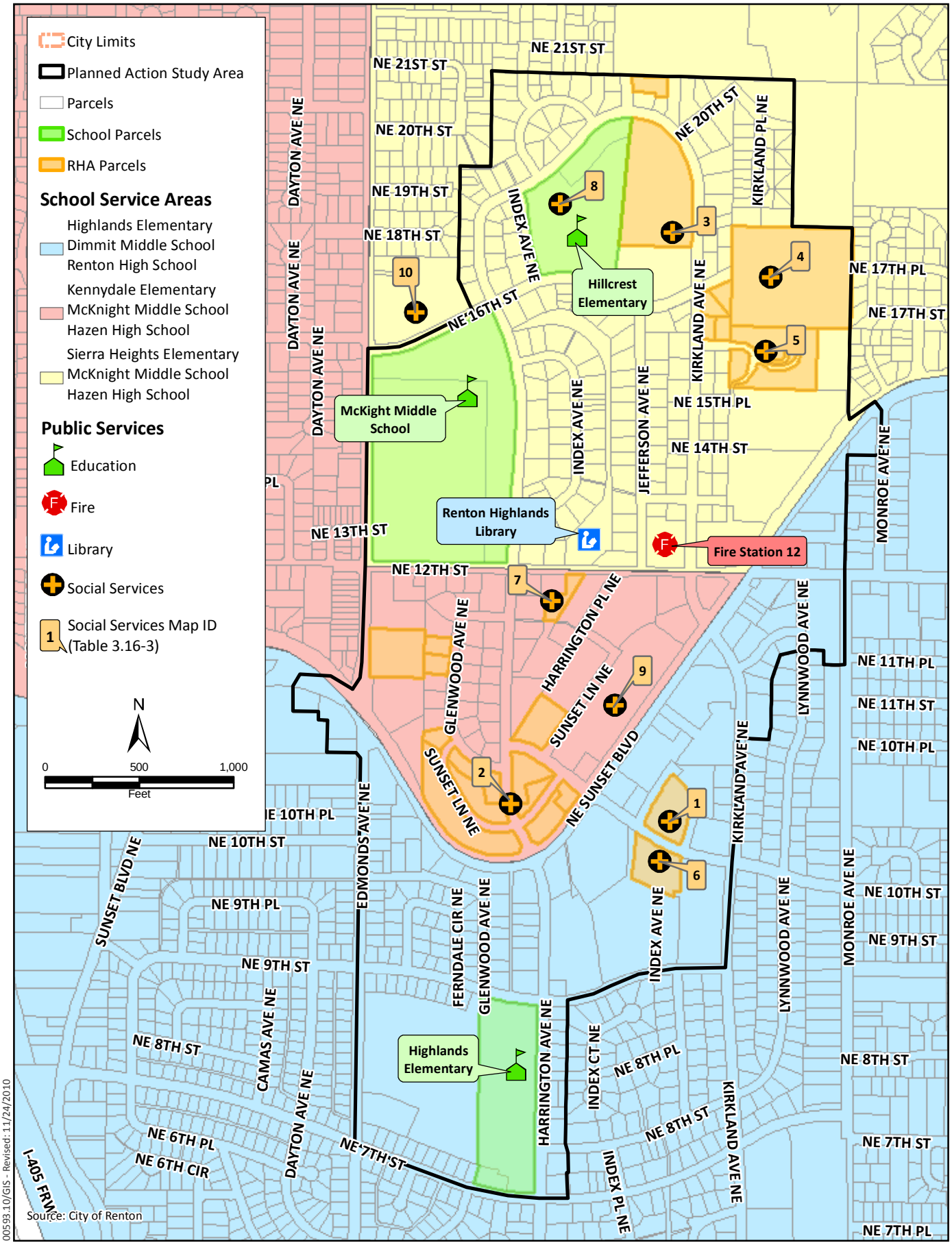

Figure 3.16-1
Public Services in Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

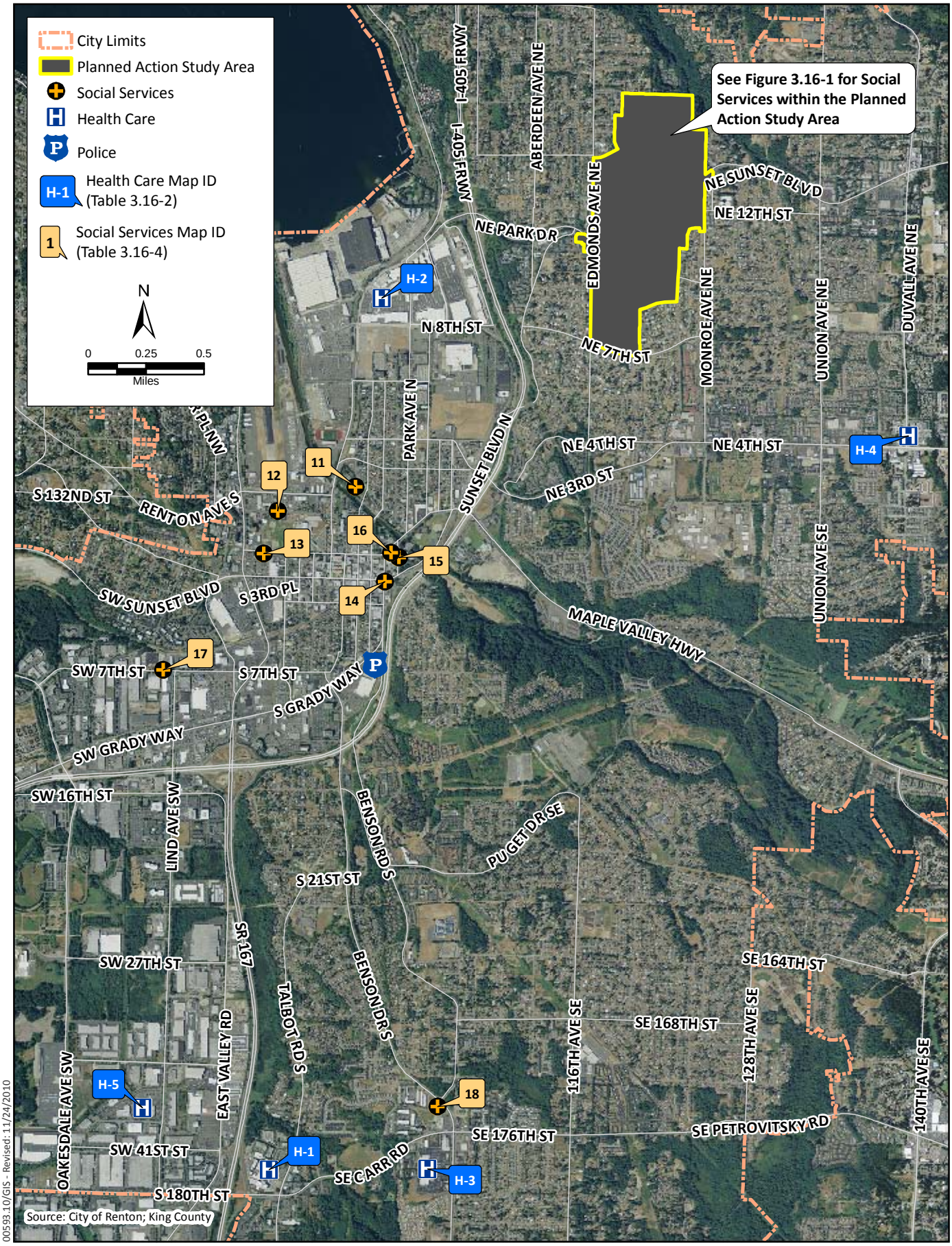

Figure 3.16-2
Police, Health Care, and Social Services Outside the Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

The department's LOS standards are based on response time, fire flow, and personnel (City of Renton 2009:III-45–III-46), as follows.

1. Acceptable response time, from the time that a call is received until the firefighting force arrives at the scene is 7 minutes 30 seconds for 90% of incidents (Flora pers. comm.).
2. Acceptable fire flow is defined as having water available to all parts of the city in sufficient quantity and pressure to extinguish the worst-case fire in an existing or projected land use.
3. Acceptable staffing is defined as having four firefighters on each piece of firefighting apparatus.

The City strives to comply with national standards related to the staffing of fire apparatus, because the placement of personnel at the incident location is the basis for the success of the fire and EMS delivery system (City of Renton 2009:III-45–46).

The department currently meets its response time goals 100% of the time. Water infrastructure improvements in the Planned Action Study Area in recent years have ensured that fire flows are adequate in the study area. Fire Station 12, located in the Planned Action Study Area, is staffed by five firefighting personnel, providing adequate staffing to the study area. In 2010, the City maintains a staffing ratio of one firefighter for every 4,400 residents. This ratio is an unofficial measure, but has steadily increased over the years as the city's population has grown (Flora pers. comm.).

Education

The Renton School District encompasses 32.5 square miles, including the city and smaller portions of nearby communities. The district serves an estimated population of 107,186 with 13 elementary, three middle schools, and four high schools, as well as several additional early childhood education, special-education and support facilities.

The district has a current capacity to serve approximately 14,500 students in grades K through 12[3] (Renton School District and Greene Gasaway Architects 2008:29). The district obtains funding from a school impact fee to help develop capital facilities needed to meet increases in student population.

Three Renton School District facilities are located in the Planned Action Study Area:

- Highlands Elementary (capacity of 564 students), 2727 NE 9th Street,
- McKnight Middle School (capacity of 985 students), 2600 NE 12th Street, and
- Hillcrest Early Childhood Center (capacity of 450 students), 1800 Index Avenue NE. This facility, located in the North Subarea, provides early education services, including pre-kindergarten, for low-income families within the Renton School District. Its enrollment area corresponds to the school district's boundaries (Matheson pers. comm.).

The Planned Action Study Area is currently served by three elementary schools, two middle schools, and two high schools. Current attendance boundaries within the Planned Action Study Area are shown in Figure 3.16-1. The following elementary schools serve the Planned Action Study Area (Renton School District 2010a).

- Highlands Elementary serves the South Subarea and the portion of Sunset Mixed Use Subarea south of NE Sunset Boulevard.

[3] Current capacity excludes special-education facilities and capacity provided by portable classrooms.

- Kennydale Elementary serves the Potential Sunset Terrace Redevelopment subarea and portions of the Sunset Mixed Use and Central subareas south of NE 12th Street and north/west of NE Sunset Boulevard.
- Sierra Heights Elementary serves the North Subarea and portions of the Sunset Mixed Use and Central subareas north and west of the intersection of NE 12th Street and NE Sunset Boulevard.

Each of the three elementary schools offers English Language Learners programs for students learning English as a second language. Forty-two percent of students attending Highlands Elementary and 26% of students attending Sierra Heights are in English Language Learners programs (Renton School District 2010b). Kennydale Elementary and the middle and high schools have smaller percentages of students in English Language Learner/English proficiency programs, but the school district is experiencing an increase in students needing this program districtwide. The school district anticipates that additional programs to address these needs will reduce capacity at all grade levels (Renton School District 2008).

Each of these schools is currently over its permanent capacity. The district has opened a portion of the Honey Dew Elementary campus to kindergarten-only for the 2010-2011 school year to partially alleviate overcrowding. Opening Honey Dew Elementary in fall 2011 will add permanent capacity for 500 elementary students and shift elementary attendance boundaries in the general area around the Planned Action Study Area (Matheson pers. comm.).

Students located north of NE Sunset Boulevard attend McKnight Middle School and Hazen High School, whereas those located south of NE Sunset Boulevard attend Dimmitt Middle School and Renton High School. The district does not expect changes to middle or high school boundaries (Matheson pers. comm.).

The school district has continued to see an increase in student population of approximately 100 students per year (Matheson pers. comm.), and projections included in the *Renton School District Six-Year Capital Facilities Plan, 2009–2015,* indicate that this trend will continue (Renton School District and Greene Gasaway Architects 2008:26–28). The district's impact-fee calculation includes a student-generation factor that is applied to single-family and multifamily development as a means of helping to project future student population (Table 3.16-1).

Table 3.16-1. Renton School District Student Generation Factors

	Students per Dwelling Unit by Development Type	
School Type	Single-Family	Multifamily
Elementary School	0.329	0.112
Middle School	0.184	0.042
High School	0.227	0.070

Source: Renton School District and Greene Gasaway Architects 2008:37–38.

The school district's Capital Facilities Plan projects a school permanent facility capacity deficit of 1,107 students by 2015, with deficits in both elementary and middle school facilities. By 2029, the district projects a permanent facility capacity deficit of 5,916 students. (Renton School District and Greene Gasaway Architects 2008:29.)

The school district passed a bond measure in 2008 that addresses much of the capacity deficit through 2015. Among projects contained in the 2008 bond measure are reopening an elementary school (fall 2011) and constructing a middle school in the latter part of the school district's 6-year planning period. Reopening Honey Dew Elementary, which located southeast of the Planned Action Study Area at the northeast corner of Union Ave NE and NE 8th Street, would increase elementary capacity by approximately 500 students. Constructing a new middle school on a district-owned site in Kennydale would increase middle school capacity by approximately 750 students. The 2008 bond also includes money for a new early childhood center (Matheson pers. comm.).

Health Care

Renton is within the Valley Medical Center (also known as King County Public Hospital District No. 1) district boundaries. Valley Medical Center is a non-profit medical center governed by a five-member, publicly elected Board of Commissioners serving a district population of 400,000 (Blakely pers. comm.). Its hospital campus is located at 400 South 43rd Street in Renton. Valley Medical Center provides service to Renton, Kent, two-thirds of Tukwila, and parts of Auburn, Black Diamond, Covington, Federal Way, Maple Valley, Newcastle, and Seattle with a 303-bed acute care hospital, eight primary care clinics, four urgent care clinics, and 23 medical specialties. In 2009, Valley Medical Center had 508,700 outpatient visits, 16,539 inpatient discharges, 70,179 emergency visits, and 10,753 inpatient and outpatient surgeries (Valley Medical Center 2010:3). Although not a formally adopted LOS standard, Valley Medical Center currently provides service to its district with a hospital bed-to-population ratio of 0.76 beds per 1,000 population.

Valley Medical Center has no facilities in the Planned Action Study Area. However, the Highlands Primary Care facility, at 451 Duvall Avenue NE, and the Renton Landing Urgent Care facility, at 1205 North 10th Street, both provide medical services proximate to the Planned Action Study Area. The urgent care facility provides walk-in, extended-hour access for non-emergency, acute illness, and injury care that is either beyond the scope or availability of a primary care practice. Valley Medical Center facilities located in Renton are identified in Table 3.16-2 and Figure 3.16-2.

Table 3.16-2. Valley Medical Center Health Care Facilities in City of Renton

ID #	Facility Name	Location
H-1	Valley Medical Center[a]	400 South 43rd Street
H-2	Renton Landing Urgent Care	1205 N 10th Street
H-3	North Benson Urgent Care	10555 SE Carr Road, Building M
H-4	Highlands (Renton) Primary Care	451 Duvall Avenue NE
H-5	Occupational Health Services and Sports Medicine	3600 Lind Avenue SW

Source: Valley Medical Center 2010

[a] Valley Medical Center hospital site also co-locates the following Valley Medical Center services both on the campus and adjacent and nearby office buildings on S 43rd Street and Talbot Road: Valley Family Medicine, Cancer Services, Eye Center, Joint Center, Midwives at VMC, Nephrology Health Services, Neuroscience Institute, Psychiatry and Counseling Center, Sleep Center, Valley Ear, Nose, & Throat Specialists, Valley General Surgery, Valley Radiologists, Valley Surgical Specialists, Vascular and Endovascular Surgery, and Wound Care Clinic.

Although not within the Planned Action Study Area, the Seattle/King County Public Health Clinic is located just south of its boundary at 3001 NE 4th Street, and the Seattle/King County Public Health Dental Clinic is located at 10700 SE 174th Street in Renton.

Social Services

The socioeconomic analysis contained in Section 3.9 informs the social service demands within the Planned Action Study Area. As described in Section 3.9, the population within the Planned Action Study Area contains a higher percentage of population over 65, a greater population with a disability, higher percentage of foreign born, lower median household income, and greater percentage of individuals below poverty when compared to the city as a whole and to King County. Social services meeting the needs of these populations are particularly relevant to the Planned Action Study Area and are addressed in this section.

RHA's main office is located in the Planned Action Study Area at 2900 NE 10th Street. RHA also owns several properties in the Planned Action Study Area that meet social service needs of affordable and public housing for many of the population groups described, including seniors and disabled (Table 3.16-3).

In addition to RHA affordable and public housing services, the Planned Action Study Area is home to a weekly feeding program called the Friendly Kitchen and a drug/alcohol rehabilitation clinic with a primary focus on substance abuse treatment, including detoxification and methadone maintenance and detoxification. Another weekly feeding program is located immediately adjacent to the Planned Action Study Area's northwest boundary and is operated out of St. Matthews Church. Table 3.16.-2 presents an inventory of social services found within and immediately adjacent to the Planned Action Study Area.

Table 3.16-3. Inventory of Social Services within and Adjacent to the Planned Action Study Area

ID #	Name	Address	Description
1	Renton Housing Authority	2900 NE 10th Street	RHA Administrative Office
2	Sunset Terrace	970 Harrington NE	RHA property—100 units for families
3	Hillcrest Terrace	1442 Hillcrest Lane NE	RHA property—60 units for seniors and individuals with disabilities
4	Houser Terrace	3151 NE 16th Street,	RHA property—104 units for seniors and those 55 and older living with disabilities
5	Evergreen Terrace	3021 NE 15th Street	RHA property—50 units for seniors and individuals with disabilities
6	Golden Pines	2091 NE 10th Street	RHA property—53 units for seniors
7	Highlands House	2825 NE 12th Street	RHA property—16 units for families
8	The Friendly Kitchen	1800 Index Avenue NE	Weekly meal service
9	Renton Clinic (also known as Health Group, Inc.)	2838 NE Sunset Boulevard	Drug/alcohol rehabilitation with focus on substance abuse treatment.
10	The Emergency Feeding Program	1700 Edmonds Avenue NE (St. Matthews Lutheran Church)	Weekly meal service

Source: City of Renton 2010; Renton Housing Authority 2010

Social services are found within other parts of Renton that meet some of the needs of the Planned Action Study Area population are inventoried in Table 3.16-4.

Table 3.16-4. Inventory of Social Services in Renton Outside of the Planned Action Study Area

ID #	Name	Address	Description
11	Renton Senior Center	211 Burnett Avenue N	Services for senior population
12	Salvation Army Renton Rotary Food Bank	206 S Tobin	Food bank
12	Rotacare	206 S Tobin	Free medical care, co-located at Salvation Army Food Bank
13	HealthPoint	200 S 2nd Street	Community Health Center—low-income health
14	Renton Clothes Bank	1025 S 3rd Street	Free clothes with referral of need for low-income, families
14	Renton Area Youth and Family Services	1025 S 3rd Street	Services for youth and families (see Sunset Terrace demographics)
15	Burst for Prosperity	200 Mill Avenue S	Poverty reduction program—low-income, children
16	YWCA	1010 S 2nd Street	Anti-poverty and discrimination programs for women and children
17	DSHS/Renton Community Services Office	500 SW 7th Street	Variety of services for low-income, families, unemployed, and other demographics
17	Emergency Feeding Program	500 SW 7th Street	Weekly meal service
17	King County Veterans Office	500 SW 7th Street	Veterans, seniors, disabled
17	WorkSource Renton	500 SW 7th Street	Services for unemployment, education
18	Seattle/King County Public Health Dental Clinic	10700 SE 174th Street	Low-income dental care

Source: City of Renton 2010

Each social service provider located within Renton but outside of the Planned Action Study Area is connected to the study area by King County Metro Transit service. Route 240 connects the study area with the Downtown Transit Center, where connections can be made to reach social service organizations located in other parts of Renton through a single transfer.

Solid Waste

The *2006 King County Solid Waste Transfer and Waste Management Plan* is being updated with the latest draft dated October 2009. All of King County, except for the cities of Seattle and Milton, is covered by this plan and its update including Renton. The draft 2009 plan accounts for the waste management needs of approximately 1.3 million residents and more than 600,000 jobs (King County 2009). There is one landfill (Cedar Hills) in the King County Solid Waste system, located southeast of Renton near Maple Valley. The King County system relies on a network of recycling and transfer stations to help the County and participating cities, including the City, to transfer, sort, and divert recyclables from the waste stream. One such transfer station is located approximately 1.8 miles south of the Planned Action Study Area in the Renton Highlands.

The *Draft 2009 Comprehensive Solid Waste Management Plan* includes forecasting for future waste disposal as well as estimates for the amount of materials expected to be diverted from the waste stream through city waste prevention and recycling programs. The plan estimates that in 2009, more than 1.5 million tons of solid waste were generated and disposed of or recycled in King

County. The forecast assumes that King County will achieve a goal of 55% recycling in 2015 and 70% recycling in 2020. By 2030, the horizon year of the plan, more than 2 million tons of solid waste will be generated and disposed of or recycled in King County.

The plan does not provide solid waste generation estimates for individual jurisdictions participating in the plan. However, the plan estimates that 24 pounds of waste per capita are generated each week in King County (King County 2009:3-3). This estimate is used for solid waste generation in the Planned Action Study Area, resulting in an estimate of 71,472 pounds of waste generated each week within the study area under existing conditions.

Waste Management, a private company, provides solid waste collection services in Renton (City of Renton 2010).

Public Library

In early 2010, the City annexed to the King County Library System. The Renton Highlands Branch is located within the study area at 2902 NE 12th Street. The current facility is approximately 6,592 square feet in size and provides 59 hours of service per week to the community (King County Library System 2010).

The *Renton Public Library Master Plan Study 2008–2013* describes the Renton Highlands Library as outdated and undersized for the population it is intended to serve. The building does not have separate spaces or meetings, programs, or expanded technology, and there are few quiet areas for personal reading and studying. There is inadequate space for a collection of materials to meet the basic needs of the community or to accommodate various media formats, and infrastructure of the existing building is inadequate to accommodate needed technology. (City of Renton 2008.)

The King County Library System clusters its libraries by geographic area for administrative purposes. The current King County Library System cluster that includes the Renton Highlands Library also includes Downtown Renton (22,237 square feet) and Fairwood libraries (15,000 square feet) (King County Library System 2010).

The *Draft 2010 Library Service Area Analysis for the Greater Renton Area* provides a study of future library services in the Greater Renton area resulting from Renton's annexation to the King County Library System (King County Library System 2010). The draft study provides an analysis of population served by geographic clusters using Forecast Analysis Zones (FAZ). For purposes of the King County Library System, the Downtown Renton, Renton Highlands, and Skyway libraries were combined in one FAZ analysis area. The 2010 population using FAZs in the cluster is 61,215. The combined library square footage in the library cluster under existing conditions is 35,142 square feet. Using the FAZ cluster's 2010 population estimate of 61,215, this would provide an existing standard of library service in the overall area of 574 square feet of library facility per 1,000 population (King County Library System 2010).

The King County Library System recommends including the Renton Highlands Library in a cluster with the Newcastle Library to the north. The *Draft 2010 Library Service Area Analysis for the Greater Renton Area* incorporates the library system's planned capital improvements from its 2004 Capital Improvement Program. These include construction of a 10,000 square foot branch of the library system in Newcastle, north of the Planned Action Study Area, as well as other replacement and expansion projects for libraries in the Greater Renton area. With these changes in place, and considering the demographic and library usage characteristics of all the libraries in the Greater

Renton area, the *Draft 2010 Library Service Area Analysis for the Greater Renton Area* includes the following recommendations relevant to the Planned Action Study Area.

- The Renton Highlands Library should be a 15,000-square-foot facility with adequate meeting space.
- The Renton Highlands Library should relocate to the east and south of its current location to attract population that is not using the current Highlands Library and may not use the future Newcastle Library.
- The Renton Highlands Library should be oriented primarily towards users who drive to the facility and be designed with a focus on serving the needs of families, schools, and students in the area.

In addition, if the *Draft 2010 Library Service Area Analysis for the Greater Renton Area* is adopted by the King County Library Board, then the Renton Highlands Library would be included in an administrative cluster with the future Newcastle Library and that library cluster would have a service standard of 359 square feet of library facility per 1,000 population.

The City Comprehensive Plan includes objectives and policies relating to libraries. Policies relating to libraries direct that the Downtown Library remain the City's main library facility (LU-97), that as branch libraries are developed, they be located to provide convenient access to a majority of their users (LU-98), and that future branch libraries can be included in mixed-use development to serve concentration of users in those areas (LU-99).

3.16.1.2 Potential Sunset Terrace Redevelopment Subarea

Police and Fire and Emergency Services

Police, fire, and EMS provided to the Potential Sunset Terrace Redevelopment Subarea are the same as described above for the Planned Action Study Area.

Education

Students living in this subarea currently attend Kennydale Elementary, McKnight Middle School, and Hazen High School.

Health Care

Health care services in this subarea are the same as described above for the Planned Action Study Area.

Social Services

The socioeconomic characteristics of this subarea indicate that its population has a larger household size, lower median age, and a higher percentage of population under 18 than the Planned Action Study Area as a whole, showing a need to serve youth and families in this subarea. In addition, the subarea has a more diverse population, a higher percentage of foreign born residents, a lower median household income, and a higher percentage of poverty than the Planned Action Study Area as a whole, showing a need for social services that meet the needs of low-income and diverse ethnic population needing English as a Second Language assistance.

Sunset Terrace is an RHA public housing community that provides 100 units for families (Renton Housing Authority 2010).

Sunset Terrace has a community room that is available for residents to use. During the summers, this community room hosts on-site summer activity programs for children during their school break. This program is sponsored by the Renton Black Parents Association, and it provides daily brown bag lunches and activities for children participating in the program. In addition, RHA provides $250 vouchers per child that can be used for other summer activities, such as aquatics programs or drivers education. During the school year, the community room is open to other uses, such as for hosting a local Cub Scout organization (Groper pers. comm.).

No other on-site social services are currently provided. However, social services found within and near the Planned Action Study Area (Table 3.16-3) and within Renton (Table 3.16-4), described above, would also be conveniently located for residents of the subarea, and services available to the wider community are accessible by King County Metro transit, as described above, 7 days per week. In particular, based upon demographics of the subarea, social services that provide service to low-income and youth and family demographics, such as the Renton Area Youth and Family Services noted in Table 3.16-4, would be relevant to the population living in the subarea.

Solid Waste

Solid waste and recycling collection in this subarea is the same as described above for the Planned Action Study Area. Solid waste generation within the subarea is estimated at 7,536 pounds per week under existing conditions.

Public Library

The subarea is less than 0.25 mile from the current Renton Highlands Library site. The larger Downtown Renton Library is accessible by transit from the subarea.

3.16.2 Regulatory Context

3.16.2.1 Federal

No federal regulations apply.

3.16.2.2 State

GMA requires communities planning under it, including the City, to develop a capital facilities plan that includes an inventory, LOS standards, projected facility needs, and planned facilities to meet those needs. Jurisdictions must include a capital facilities element that includes these features as part of their comprehensive plan.

3.16.2.3 Local

Consistent with GMA, the City Comprehensive Plan includes a Capital Facilities Element. In addition, the Land Use Element of the City Comprehensive Plan contains a Public Facilities section that provides further direction on location and development of public facilities. Key goals, objectives, and policies from the Land Use and Capital Facilities elements are included in Appendix E.

3.17 Utilities

3.17.1 Environmental Context

This section discusses the existing conditions related to water, wastewater, and telecommunication utilities in the Planned Action Study Area and in the Potential Sunset Terrace Redevelopment Subarea.

3.17.1.1 Planned Action Study Area

Water

Water Supply

The City water supply system is provided through nine supply sources from three aquifers (Cedar Valley Aquifer, Maplewood Production Aquifer, recharge area for Well 5A) and one artesian spring (Springbrook Springs). The Cedar Valley Aquifer was designated as a sole source aquifer in 1998 by the EPA. The City maintains a Wellhead Protection Plan, as required by the Washington State Department of Health, which is a component of the City's Aquifer Protection Program that was initiated in 1988. In addition to the groundwater sources described above, the City has an emergency well (EW-3), and nine metered interties with Seattle Public Utilities. The City's water system has 14 pressure zones, with 12 booster pumps and 38 pressure-reducing stations that are used to move water between different zones to provide operational reliability and redundancy. The Planned Action Study Area falls within two of the City's pressure zones: Highlands 565 and Highlands 435. (City of Renton and R.W. Beck, Inc. 2005.)

The Planned Action Study Area is currently developed for residential and commercial land uses and water service is provided through a network of 4- to 16-inch-diameter pipes. The majority of pipes in the vicinity of the study area were installed in the 1940s and 1960s and are in fair condition based on the age of the pipes. Under current conditions, the Highlands 565 pressure zone has a deficit in required storage, but the City is planning a new elevated storage tank for this area that will alleviate the deficit. The City has also planned to install on-site emergency power to increase pumping capability to access storage in other pressure zones for providing required storage in the Highlands 435 pressure zone. (City of Renton and R.W. Beck, Inc. 2005.)

Water Storage

As of December 2010, the City water system has 10 water reservoirs strategically located within the Renton to provide adequate equalizing and fire-flow reserves. Four of these reservoirs are located in the Highlands area (Highlands 435 pressure zone and Highlands 565 pressure zone), in which the Planned Action Study Area is located.

In the 2005 *City of Renton Water System Plan*, the City identified a deficit in storage for fire flow in the Highlands 435 and Highlands 565 pressure zones. In March 2009, the City completed the construction of the 4.2-million-gallon Hazen Reservoir located in the Highlands 565 pressure zone (City of Renton and R.W. Beck, Inc. 2005). The City reevaluates storage requirements every 6 years as part of the update of the water system plan.

Water Transmission and Distribution

The City water system contains over 305 miles of water mains. Over 65% of the pipe is ductile iron pipe; other pipe materials include asbestos cement, cast iron, plastic, and steel. The Planned Action Study Area is currently developed for residential, multifamily, and commercial land uses.

Water service is provided through a distribution network of about 13 miles of pipes, ranging in diameter from 4 to 16 inches, constructed in the 1940s to 1960s. A 16-inch-diameter low-pressure transmission water main is located in Edmonds Avenue NE. Existing pipes have reduced flow capacity due to buildup and corrosion inside the pipes.

It is the City's water supply policy to provide the minimum water pressure requirement established by Washington State Department of Health at 30 pounds per square inch (psi) at the service meter during maximum day demand and during peak-hour demand conditions. The City's goal is to provide a minimum of 40 psi at the highest domestic water plumbing fixture except during emergency conditions. The City's goal is also to provide a maximum of 110 psi at the service meter to prevent over pressurization of water uses fixtures and appliances. Current building codes require the installation of an individual pressure-reducing valve beyond the water meter where system pressures exceed 80 psi.

Within the Planned Action Study Area, water pressure from the pipes in the Highlands 435 pressure zone varies from 35 psi to 72 psi and water pressure from the pipes in the Highlands 565 pressure zone varies from 75 psi to 92 psi. Some areas in the Planned Action Study Area would not meet the minimum goal of 40 psi at upper floors of multistory buildings.

In 2009, the City completed the installation on a 12-inch-diameter high-pressure water main along NE Sunset Boulevard, from Harrington Avenue NE to NE 12th Street. Funding for the project was provided through a cost-sharing agreement between the City and a private developer with cost reimbursement through a latecomer's agreement.

Fire flow in the study area may be limited for commercial fire flow in the vicinity of smaller-diameter dead-end pipes.

As noted above, the City water system uses twelve booster stations to transfer water throughout Renton. Three additional booster stations are standby stations. The Highlands 435 pressure zone portion of the Planned Action Study Area is supplied by the Houser Way and Mount Olivet booster stations. The Highlands, Monroe, and Maplewood booster stations supply the Highlands 565 pressure zone portion of the Planned Action Study Area. The City water system also uses 38 pressure-reducing valve stations to supply water from higher pressure zones to lower pressure zones. (City of Renton and R.W. Beck, Inc. 2005.)

The planning-level fire-flow requirements for the zoning categories in the Planned Action Study Area are summarized in Table 3.17-1, and the existing available fire flow in the Planned Action Study Area is shown in Figure 3.17-1.

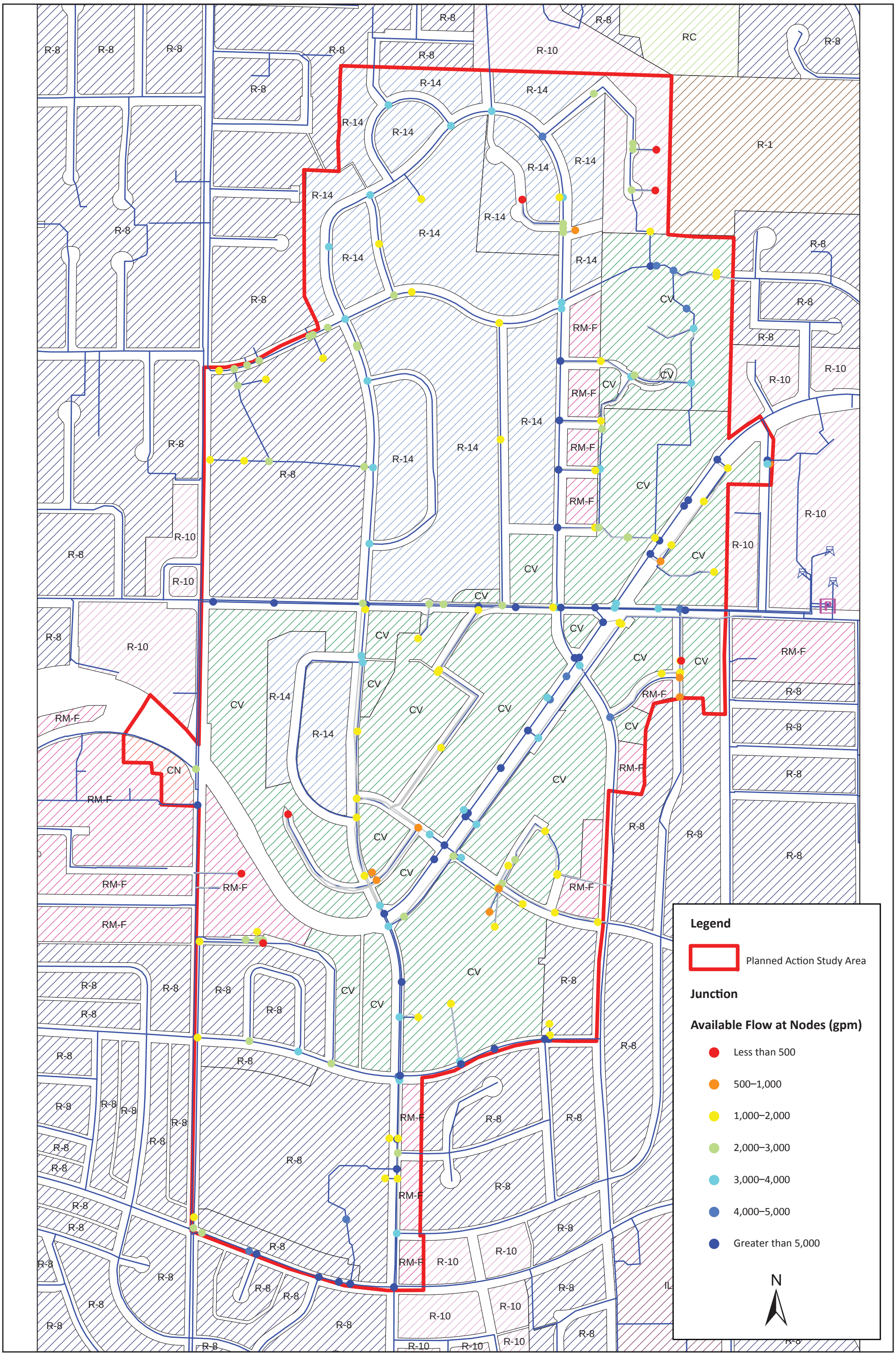

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Figure 3.17-1
Existing Available Fire Flow in the Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Table 3.17-1. Fire-Flow Requirements in the Planned Action Study Area

Land Use`	Planning-Level Required Fire Flow (gallons per minute)	Zoning
Single-family (<3,600 square feet)	1,000–1,500	R-8
Single-family (>3,600 square feet)	1,500–2,000	R-14
Multifamily	3,000–4,000	RM-F
Commercial/Industrial	4,000–5,600	CV

By comparing the planning-level fire-flow requirements for new development and redevelopment in the study area shown in Table 3.17-1 and the existing available fire flow from the City's existing hydraulic model, many areas in the Planned Action Study Area do not have the required fire flow for the proposed level of development/redevelopment.

Wastewater

The City wastewater collection system is divided into six major wastewater collection basins and consists of approximately 191 miles of gravity sewer, 23 sewage lift stations, and over 5,100 manholes. Wastewater collected in the City's system is discharged to King County facilities at 79 locations and is then conveyed to and treated at the King County South Treatment Reclamation Plant. (City of Renton 2009.)

For wastewater collection, the Planned Action Study Area falls within the East Lake Washington Basin. Wastewater from this area is collected in the City's Sunset Interceptor, transferred to the City's N 8th Street Interceptor, and then transferred to King County's East Side Interceptor.

The sewers in the Planned Action Study Area were constructed in the early 1940s and are comprised of 8-, 10-, and 12-inch-diameter concrete sewers. Surcharging has been experienced in this area, and these sewers require additional maintenance. Sewers in the Planned Action Study Area have been identified as high priority sewers for evaluation of replacement due to their age, materials, and leakage. (City of Renton 2009.)

Telecommunication

Telecommunications is available in the Planned Action Study Area through providers including Qwest. As the demand increases for telecommunications service with increased population and commercial activity, the telecommunications system can be expanded and improved to meet the increased demand.

3.17.1.2 Potential Sunset Terrace Redevelopment Subarea

Utility conditions in this subarea are similar to those described above for the Planned Action Study Area.

Water

Water Supply

The subarea is within the Highlands 435 pressure zone. The piping within the subarea ranges from 2 to 12 inches in diameter. The primary 12-inch-diameter pipe in the vicinity of subarea was installed

in 2009 to support the Harrington Development, while the majority of the remaining pipes in the subarea were installed in the 1960s.

Water Storage

The two Highlands Reservoirs (1.5 million gallons, 2.0 million gallons) provide storage for the subarea. As noted above in the Planned Action Study Area, the City reevaluates storage requirements every 6 years as part of its water system plan discussion to improve access to storage will also meet storage needs for this subarea.

Water Distribution

Water distribution in the subarea is the same as described above for the Planned Action Study Area, except that the entire subarea is supplied by the Houser Way and Mount Olivet booster stations. Fire flow in the subarea may also be limited for increased fire-flow requirements of commercial facilities. The 12-inch-diameter pipe that was recently constructed and noted above was constructed to provide additional fire flow from the Highlands 565 pressure zone.

Wastewater

The wastewater collected from the subarea is also within the East Lake Washington Basin, and the sewers in the subarea were constructed in the early 1940s and are primarily 8-inch-diamter concrete sewers. The sewers in the subarea have also been identified as high-priority sewers for evaluation of replacement due to their age, materials, and leakage.

Telecommunication

Telecommunications services are the same as described above for the Planned Action Study Area.

3.17.2 Regulatory Context

3.17.2.1 Federal

Federal regulations for drinking water are contained in the Safe Drinking Water Act and are typically promulgated through state drinking water requirements.[1] Federal regulations for wastewater collection are maintained by EPA and contained in the Clean Water Act.

3.17.2.2 State

Standards for analysis and design criteria for wastewater collection systems are presented in the *Criteria for Sewage Works Design*, prepared by Ecology. State regulations for drinking water are provided through the Washington State Department of Health and are administered under Title 246 of the Washington Administrative Code and through the *Water System Design Manual*, also provided by the Washington State Department of Health.

[1] According to §58.5 of HUD's environmental regulations (24 CFR 58), compliance with the requirements of the Sole Source Aquifer Protection Program, authorized by Section 1424(e) of the Safe Drinking Water Act and administered by the EPA, are applicable to HUD-assisted projects.

3.17.2.3 Local

The City requirements for water system design are maintained in the RMC and include supplemental requirements on system pressures and water velocity in pipelines. Fire-flow requirements through the City's service area are established by the City Fire Department and by the Insurance Services Office. Local requirements for wastewater collection are maintained through the King County Department of Natural Resources Wastewater Treatment Division, and by the City through the RMC.

Chapter 4

Environmental Consequences and Mitigation Measures

This chapter presents beneficial and adverse impacts that could occur with the implementation of the alternatives described in Chapter 2 for both the Planned Action Study Area and the Potential Sunset Terrace Redevelopment Subarea. This chapter addresses the following topics:

4.1 Earth

4.2 Air Quality

4.3 Water Resources

4.4 Plants and Animals

4.5 Energy

4.6 Noise

4.7 Environmental Health

4.8 Land Use

4.9 Socioeconomics

4.10 Housing

4.11 Environmental Justice

4.12 Aesthetics

4.13 Historic/Cultural

4.14 Transportation

4.15 Parks and Recreation

4.16 Public Services

4.17 Utilities

4.18 Irreversible and Irretrievable Commitment of Resources

4.19 Local Short-Term Uses of Environment and Long-Term Productivity

4.1 Earth

4.1.1 Impacts

Potential impacts are discussed in general terms and then a comparison of the differences in potential between the three alternatives is made. The comparison is broken down into 1) the potential programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. The specific impacts are dependent upon the details of development design and actual construction contractor performance, so the comparison is qualitative.

4.1.1.1 Impacts Common to All Alternatives

Construction Impacts

Potential earth-related construction impacts include:

- increases in erosion due to soil disturbance;
- requirements for import and export of earth materials; and
- increased risk of landsliding due to soil disturbance, changing drainage, or temporarily oversteepening slopes.

The significance of these potential impacts is judged to be relatively low under all of the alternatives for the Planned Action Study Area for the following reasons.

- A series of best management practices (BMPs) has been developed and codified over the last decade that minimizes the potential for both erosion and for eroded material to be transported to waterways where they can cause harm.
- As shown in Figures 3.1.2 and 3.1.3, a relatively small proportion of the Planned Action Study Area is considered either steep slope or erosion hazard. Much of the existing soils are also glacial outwash materials with a low erosion potential.
- With minimal planning and protection, the outwash soils in most of the Planned Action Study Area could be reused as backfill, minimizing import and export requirements. As noted in the Section 3.1, the outwash limits shown in Figure 3.1-1 are believed to be somewhat understated.
- The landslide hazard areas cover a relatively small proportion of the Planned Action Study Area. Both the glacial outwash and till soils are generally strong and of low concern regarding slope instability.

The significance of these potential impacts is even lower for the Potential Sunset Terrace Redevelopment Subarea, because it contains no geologic hazards and is underlain by glacial outwash materials, which have one of the highest potentials for structural reuse of any geologic deposit within the Puget Sound area.

Operation Impacts

The primary earth-related impact of operations is the active seismicity of the Planned Action Study Area. The active seismicity means that inhabited structures, including buildings, bridges, and water tanks, would have to be designed to withstand seismic loading.

Relative to many other areas within the Renton and King County, the Planned Action Study Area is well suited to handling the effects of an earthquake. The soils are not subject to liquefaction, which is the primary cause of damage to buried utilities and other civil infrastructure. Expensive building foundation systems to provide support against settlement or lateral spreading of liquefiable soils would not be needed. The only differential seismic impact in the Planned Action Study Area is that steeper slopes and landslide hazard areas, as identified in Figures 3.1.2 and 3.1.3, would have a slightly higher risk of movement during a seismic event than other areas.

Indirect and Cumulative Impacts

The primary indirect effect is that the major steep slope, erosion, and landslide hazard areas within the Planned Action Study Area extend beyond the boundaries (see northeast corner on Figure 3.1.2 and 3.1.3). Development on the slope above (inside) the study area boundary could increase the risk of erosion and landsliding downslope (outside) of the study area. The risk of this impact is relatively low, as current development regulations limit development in these hazard areas and their buffers.

The primary earth-related cumulative effect is associated with the same steep slope, erosion, and landslide hazard area discussed above. Intensive development around this hazard area outside of the Planned Action Study Area by other projects is not currently anticipated, but could increase the risk of erosion and landsliding. As explained above, the risk of this impact is low.

4.1.1.2 Comparison of Impacts by Alternative

As noted above, the earth-related impacts of all of the proposal alternatives are of low significance. The potential impacts within the Potential Sunset Terrace Redevelopment Subarea are of even less significance, because there are no geologic hazards within the subarea and the underlying glacial outwash soils have the highest potential for reuse within the Planned Action Study Area and the lowest potential for erosion of most soil types in the Puget Sound area. Because the potential impacts are low for all three alternatives, a comparison is not necessary and would be subject to conjecture.

4.1.2 Mitigation Measures

4.1.2.1 Planned Action Study Area

The following mitigation measures would apply to development throughout the Planned Action Study Area.

- Apply erosion-control BMPs, as described in Appendix D of the *City of Renton Amendments to the King County Surface Water Design Manual* (City of Renton 2010).
- Limit development in geologic hazard areas and their buffers, or require rigorous engineered design to reduce the hazard, as currently codified.

It is possible that the City of Renton (City) could promote earth material reuse by establishing websites or other community information exchanges to track material needs and surpluses. Vacant City-owned property could be designated as temporary stockpile sites for quality structural fill.

4.1.2.2 Potential Sunset Terrace Redevelopment Subarea

Mitigating measures for the Sunset Terrace Redevelopment Subarea would be similar to those for the Planned Action Study Area, except that there are no geologic hazard areas to avoid. Material reuse between construction zones within the subarea would be easier and more economical to control than in the larger, privately owned study area.

4.1.3 Significant Unavoidable Adverse Impacts

There are no significant earth-related unavoidable adverse earth impacts.

4.2 Air Quality

4.2.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. For each geographic level, temporary construction impacts are addressed as well as long-term operational impacts of land use activities and local traffic increases. In addition, indirect and cumulative impacts of the alternatives' contribution to regional growth, travel, and greenhouse gas (GHG) emissions are addressed.

4.2.1.1 Alternative 1: No Action

Planned Action Study Area

Under the No Action Alternative, the Planned Action Study Area would experience growth, but to a lesser extent than under Alternatives 2 and 3. Development under this alternative would still lead to increases in population and employment throughout the study area, could increase localized air pollutant emissions from construction activities and commercial activities, and could increase regional vehicle travel and tailpipe emissions.

Construction Emissions

During construction, dust from excavation and grading could cause temporary, localized increases in the ambient concentrations of fugitive dust and suspended particulate matter. Construction activity must comply with Puget Sound Clean Air Agency (PSCAA) regulations requiring reasonable precautions to minimize dust emissions (Regulation I, Section 9.15). Regardless, construction activity could cause localized fugitive dust impacts at homes and businesses near the construction site.

Construction activities would likely require the use of diesel-powered, heavy trucks and smaller equipment such as generators and compressors. These engines would emit air pollutants that could slightly degrade local air quality in the immediate vicinity of the activity. However, these emissions would be temporary and localized, and the resulting construction tailpipe emissions would likely be far outweighed by emissions from existing traffic around the study area.

Some construction activities could cause odors detectible to some people in the vicinity of the activity, especially during paving operations using tar and asphalt. Such odors would be short-term and localized. Stationary equipment used for the construction activities must comply with PSCAA regulations requiring the best available measures to control the emissions of odor-bearing air contaminants (Regulation I, Section 9.11). In addition, no slash burning would be permitted in association.

Construction equipment and material hauling could temporarily increase traffic flow on city streets adjacent to a construction area. If construction delays traffic enough to significantly reduce travel speeds in the area, general traffic-related emissions would increase.

Emissions from Commercial Operations

The study area is expected to experience commercial growth. It is likely that new commercial development would occur near either current or future residential property, particularly along NE Sunset Boulevard in the Sunset Mixed Use Subarea. Unless properly controlled, stationary equipment (such as gas stations), mechanical equipment (such as commercial boilers and heating units), and trucks at loading docks at office and retail buildings could cause air pollution issues at adjacent residential property. However, the new commercial facilities would be required to register their pollutant-emitting equipment with PSCAA (Regulation I and Regulation II). PSCAA requires all commercial facilities to use Best Available Control Technology to minimize emissions. The agency may require applicants with high emissions to conduct an air quality assessment to demonstrate that the proposed emissions would not expose off-site areas to odors or air quality concentrations exceeding regulatory limits. Therefore, it is unlikely that new commercial operations would cause significant air quality issues.

Emissions from Vehicle Travel

Tailpipe emissions from vehicles traveling on public roads would be the major source of air pollutant emissions associated with the growth in the Planned Action Study Area. Potential air quality impacts caused by increased tailpipe emissions are divided into two general categories: carbon monoxide (CO) hot spots caused by localized emissions at heavily congested intersections and regional photochemical smog caused by combined emissions throughout the Puget Sound region.

Localized Hot-Spot Air Quality Impacts

Development under this alternative would increase vehicle travel on existing public roads. However, it is unlikely that the increased traffic and congestion would cause localized air pollutant concentrations at local intersections to form a hot spot (i.e., a localized area where air pollutant concentrations exceed the national ambient air quality standards [NAAQS]). PSCAA operates ambient air pollution monitors at some of the most heavily congested intersections in the Puget Sound region, and none of those monitors have indicated exceedances over the past several years. Furthermore, ongoing U.S. Environmental Protection Agency (EPA) motor vehicle regulations have provided steady decreases in tailpipe emissions from individual vehicles, and it is possible that those continuing decreases from individual vehicles could more than offset the increase in vehicle traffic. For these reasons, it is unlikely that air quality impacts at local intersections would be significant.

Regional Air Quality Impacts

Although population and vehicle travel would increase in the study area, the increase in tailpipe emissions would be very small relative to the overall regional tailpipe emissions within the Puget Sound air basin. Photochemical smog (the regional haze produced by ozone and fine particles) is caused by regional emissions throughout the Puget Sound region, rather than localized emissions from any individual neighborhood. Photochemical smog was a serious concern in the Puget Sound region before the late 1980s, but federal tailpipe emission regulations have reduced vehicular emissions to the point that the region is currently a designated attainment area for ozone. To track the reduction of regional tailpipe emissions, Washington State Department of Ecology's (Ecology's) State Implementation Plan for ozone and CO set allowable emissions budgets for Puget Sound regional transportation emissions, with the understanding that as long as regional emissions are

below the allowable budgets then photochemical smog impacts are unlikely to resume. Regional transportation emission budgets were set for three pollutants: CO, nitrogen oxides (NOx), and volatile organic compounds (VOCs). Based on Puget Sound Regional Council (PSRC) air quality conformity analysis, forecasted regional emissions for its 2030 planning year are far below the allowable budgets:

- CO: 50% of budget (Puget Sound Regional Council 2009);
- NOx: 16% of budget (Puget Sound Regional Council 2007); and
- VOCs: 21% of budget (Puget Sound Regional Council 2007).

Population growth and daily vehicle miles traveled (VMT) can be used as indicators of future transportation-related emissions. Table 4.2-1 shows the future project population and the contribution of regional VMT from the Planned Action Study Area to Puget Sound region. Alternative 1 (No Action) would produce 146,949 VMT, less than 1% of the Puget Sound regional VMT forecast for 2030 for the CO maintenance area (Puget Sound Regional Council 2009). The forecasted VMT from the study area is only a small fraction of the Puget Sound regional totals. Additionally, forecasted regional vehicular emissions for ozone precursors (VOC and NOx) are projected to be less than 21% of the allowable emissions budgets designed to protect regional air quality. Therefore, the forecasted population growth and VMT for Alternative 1 would not appear to alter PSRC's conclusion that future Puget Sound regional emissions will be less than the allowable emissions budgets mandated by the air quality maintenance plans. The alternative would not result in a significant impact on regional air quality.

Table 4.2-1. Planned Action Study Area Contribution to Forecast 2030 Regional Vehicle Miles Travelled

	Alternative 1	Alternative 2	Alternative 3
Population	6,417	6,808	8,768
Planned Action Study Area daily VMT[1]	146,949	155,903	200,787
Puget Sound region daily VMT[2]		92,738,880	
Contribution to regional VMT	0.16%	0.17%	0.22%

VMT = vehicle miles traveled

[1] Daily VMT is calculated based on 22.9 VMT per capita, the average daily VMT in Puget Sound area. (Puget Sound Regional Council 2010).

[2] Puget Sound regional VMT totals for 2030 for the CO Maintenance Area (Puget Sound Regional Council 2009).

Mobile Source Air Toxics

The mobile source air toxics (MSATs) are compounds emitted from highway vehicles and non-road mobile equipment. Some toxic compounds are present in fuel and are emitted into the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. The EPA has identified six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene.

The EPA has issued a number of regulations that will dramatically decrease MSATs by mandating the use of cleaner fuels and cleaner engines. The MSAT regulations were issued under the authority in Section 202 of the federal Clean Air Act. In its regulations, EPA examined the impacts of existing

and newly promulgated mobile source control programs, including the reformulated gasoline program, national low-emission vehicle standards, Tier 2 motor vehicle emissions standards, gasoline sulfur-control requirements, proposed heavy-duty engine and vehicle standards, and on-highway diesel fuel sulfur-control requirements. EPA's MSAT regulations will greatly reduce per-vehicle MSAT emissions and the reductions in per-vehicle emissions will more than offset forecast increases in regional VMT. According to a Federal Highway Administration analysis, even if nationwide VMTs increase by 64%, reductions of 57% to 87% in nationwide MSAT emissions are projected from 2000 to 2020 (Federal Highway Administration 2006).

The future VMT would be higher than existing levels as population grows in the study area. However, the magnitude of the EPA-projected MSAT emissions reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future.

Air Quality Attainment Status

Renton is currently designated as a maintenance area for CO and an attainment area for all other criteria air pollutants (ozone, PM10, PM2.5, lead, SO_2, and NO_2). As described above in the "Localized Hot-Spot Air Quality Impacts" section, although vehicle traffic would increase on existing public roads under Alternative 1 (No Action), it is unlikely that the increased traffic and congestion would cause localized CO concentrations at local intersections to exceed the NAAQS limits and result in a change in CO attainment status. PSCAA operates ambient air pollution monitors at some of the most heavily congested intersections in the Puget Sound region, and none of those monitors have indicated exceedances over the past several years.

Under Alternative 1, land use density would increase in the Planned Action Study Area and population would increase. However, the increase is only a small fraction of the Puget Sound regional totals. Furthermore, this alternative would not result in land use changes that include unusual industrial developments, Therefore, development in the Planned Action Study Area under this alternative would not cause a substantial increase in air quality concentrations that would result in a change in air quality attainment status.

Greenhouse Gas Emissions

For the purposes of this analysis, the GHG emissions are expressed in terms of their increase between current conditions and future proposed land use conditions in the Planned Action Study Area. Alternative 1 (No Action) represents the future no-action scenario that is used as the basis of comparison to evaluate future GHG emissions from the action alternatives. The emissions estimate for future land use conditions accounts for GHG emissions reductions expected as a result of the transit-oriented development (TOD).

TOD is mixed-use residential or commercial development designed to maximize access to public transportation, and often incorporates features to encourage transit ridership. The benefits of TOD are the reduction of trip generation, regional VMT, regional fuel usage, and regional GHG emissions. TOD typically has a center with a transit station, surrounded by relatively high-density development with progressively lower-density development spreading outwards from the center. TOD generally is located within a 0.25- to 0.5-mile (0.4- to 0.8-kilometer) radius of a transit stop, as this is considered to be an appropriate scale for pedestrians.

Greenhouse Gas Emissions Calculation Methods

The GHG emissions spreadsheet developed by King County was used to estimate life-cycle "business as usual" emissions, not including any special project-level emissions reductions (King County 2007). The spreadsheet estimates GHG emissions to construct a building, and estimates the life-cycle emissions generated by building occupants over the presumed life of the building. It uses statewide estimates for vehicle travel, building occupancy, and space heating, so the spreadsheet is a relevant tool for providing an approximate estimate of GHG emissions anywhere in Washington State. The spreadsheet assumes the office and commercial buildings in Washington State will be occupied for between 58 to 62 years, and estimates life-cycle emissions within that time period. Three types of life-cycle emissions are estimated by the King County spreadsheet: embodied, energy, and transportation emissions.

- Embodied emissions are generated by construction of the building, including extraction, production, and eventual disposal of the building materials used to construct the structure. These do not include embodied emissions during the operating life of the facility to account for consumer productions purchased by residents and workers.
- Energy emissions are generated by space heating and electrical supply to the building during its lifespan. The spreadsheet incorporates energy intensity factors specific to Washington State.
- Transportation emissions include tailpipe emissions generated by on-road vehicles used by building occupants after the building is constructed. The transportation emissions do not account for vehicles passing through the study area, unless they are directly associated with the buildings being evaluated. These emissions account for "upstream" emissions during extraction and refining of the fossil fuel used over the lifespan of the building. The transportation emissions do not account for vehicle travel by delivery trucks carrying goods to or from buildings, nor do they account for vehicle travel by customers at retail or commercial buildings. The spreadsheet was modified to assume a future fleet-wide fuel economy of 35 miles per gallon, consistent with EPA's newly proposed Corporate Automobile Fuel Economy vehicle mileage standard.

Transit-Oriented Development

TOD is expected to reduce GHG emissions compared to traditional development by reducing vehicle trips and fuel usage. For this assessment, the percent reductions in vehicle usage and the corresponding GHG emissions reductions for new development were derived based on the Sacramento Metropolitan Air Quality Management District (2007) document *Recommended Guidance for Land Use Emission Reductions*. The district's methodology uses a scoring system to estimate GHG emissions reduction for a new development based on the TOD mixed-use density, housing density, and proximity to existing and future bus/rail transit. The methodology estimates GHG reductions only as a result of reduced vehicle trip generation, but it does not attempt to estimate GHG reductions provided by other mitigation measures such as use of recycled building materials, improved thermal insulation, reduced electricity consumption, or reduced waste generation.

Within the Planned Action Study Area, high-density mixed-use developments and high-density multifamily developments along the NE Sunset Boulevard transit corridor, in the Sunset Mixed Use and Potential Sunset Terrace Redevelopment subareas, respectively, are considered TOD. Details on the GHG reduction calculations are provided in Appendix H. The estimated percentage of emission reductions compared to future conditions without TOD (business as usual) are summarized in Table 4.2-2.

Table 4.2-2. Greenhouse Gas Emissions Reductions Associated with Transit-Oriented Development

Subarea	Percentage Reduction Compared to Business as Usual
Sunset Mixed Use	18%
Potential Sunset Terrace Redevelopment	10%

Land Use Values for Greenhouse Gas Calculations

Table 4.2-3 lists the projected study area land uses that were used for calculating GHG emissions for each alternative. The values listed under "existing" represent current land use. The values listed for each alternative represent the net increase compared to existing conditions. This analysis considered future land use growth and future emissions increases in two geographic regions: 1) within the Planned Action Study Area and 2) within the Puget Sound region outside the study area. The proposed square footage in the study area would be higher for most land use categories under Alternative 3 than under Alternative 1 (No Action) and Alternative 2. Therefore, for purposes of comparing the beneficial reductions in regional GHG emissions, it is important to balance future growth outside the study area as well as within the study area. It was assumed that the lower amount of future developed square footage in the study area under Alternative 1 and Alternative 2 would be balanced by developers constructing equal square footage elsewhere in the Puget Sound region in response to assumed market demand for housing, office, and commercial space. Thus, the total amount of future additional regional square footage was balanced to the same values for all alternatives; however, under Alternatives 2 and 3, more of the development (TOD) would be inside the study area.

Table 4.2-3. Assumed Land Use and Population Growth for Greenhouse Gas Emission Calculations–Planned Action Study Area

		Net Increase under Alternatives Compared to Existing Conditions[1]					
		Alternative 1		Alternative 2		Alternative 3	
Land Use Type	Existing	Study Area	Puget Sound Region Outside Study Area	Study Area	Puget Sound Region Outside Study Area	Study Area	Puget Sound Region Outside Study Area
Single-family housing (dwelling units)	117	11	0	10	0	10	0
Multifamily housing in large building (dwelling units)	783	1,446	723	1,549	620	2,169	0
Multifamily housing in small building (dwelling units)	389	33	295	99	228	327	0
Education (1,000 square feet)	223.6	30.6	26.4	57.0	0	57.0	0
Retail (other than mall) (1,000 square feet)	352.3	90.7	385.6	300.2	176.1	476.3	0
Service (1,000 square feet)	226.3	130.4	246.4	487.1	289.7	776.8	0
Population	2,978	3440	2,351	3,830	1960	5,790	0

1. These numbers are rounded compared to values in Chapter 2, accounting for slight differences.

Calculated Greenhouse Gas Emissions

For this analysis, Alternative 1 (No Action) represents the future no-action scenario that is used as the basis of comparison to evaluate future GHG emissions from the action alternatives. The annual GHG emissions for Alternative 1 is calculated based on the future land use listed in Table 4.2-3 and TOD reductions listed in the Table 4.2-2. Table 4.2-4 summarizes the calculated study area GHG emissions for each alternative and presents the overall emission reduction for each alternative relative to Alternative 1. GHG calculations are presented for the assumed 60-year life cycle and as annualized emissions. As listed in Table 4.2-4, expansion of TOD in study area would reduce GHG emissions.

Table 4.2-4. Comparison of GHG Emissions—Planned Action Study Area

	60-Year Life Cycle GHG Emissions Increase (metric tons CO_2-equivalent)			Average Annual GHG Emissions Increase During 60-Year Project Lifetime (metric tons CO_2-equivalent per year)		
GHG Emission Estimates	Alt 1	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3
Planned Action Study Area	1,230,712	1,753,597	2,745,967	20,512	29,227	45,766
Regional growth outside Planned Action Study Area	1,764,993	1,138,640	0	29,417	18,977	0
Total emissions increase for Planned Action Study Area plus regional growth	2,995,705	2,892,237	2,745,967	49,928	48,204	45,766
Net change in regional emissions compared to Alternative 1 (No Action)	—	-103,469	-249,738	—	-1,724	-4,162

Outdoor Air Toxics

As described in Section 3.2.1, Environmental Context, the Planned Action Study Area is in a mixed-use residential and commercial zone that does not include unusual sources of toxic air pollutants. The major arterial street through the Planned Action Study Area (NE Sunset Boulevard) does not carry an unusually high percentage of heavy-duty truck traffic. Therefore, it is concluded that Alternative 1 would not expose existing or future residents to disproportionately high concentrations of toxic air pollutants generated by local emission sources.

Potential Sunset Terrace Redevelopment Subarea

Although the subarea would result in smaller increases in population and development than the Planned Action Study Area, air quality impacts from construction activities, commercial operations, and outdoor air toxics and impacts on the air quality attainment status would be similar to those described for the Planned Action Study Area above.

Emissions from Vehicle Travel

Table 4.2-5 shows the future projected population and the contribution of regional VMT from the subarea to Puget Sound region. The forecasted VMT from the subarea is only a small fraction of the Puget Sound regional totals. Additionally, forecasted regional vehicular emissions for ozone precursors (VOC and NOx) are projected to be less than 21% of the allowable emissions budgets

designed to protect regional air quality. Therefore, future emissions from increased population and motor vehicles in the subarea would not cause significant regional air quality impacts.

Table 4.2-5. Sunset Terrace Redevelopment Subarea Contribution to Forecast 2030 Regional VMT

	Alternative 1	Alternative 2	Alternative 3
Population	658	970	1,361
Planned Action Study Area daily VMT[1]	15,068	22,213	31,167
Puget Sound Region daily VMT[2]		92,738,880	
Contribution to regional VMT	0.016%	0.024%	0.034%

VMT = vehicle miles traveled

[1] Daily VMT is calculated based on 22.9 VMT per capita, the average daily VMT in Puget Sound area. (Puget Sound Regional Council 2010)

[2] Puget Sound regional VMT totals for 2030 for the CO Maintenance Area. (Puget Sound Regional Council 2009)

Greenhouse Gas Emissions

For this analysis, Alternative 1 (No Action) represents the future no-action scenario that is used as the basis of comparison to evaluate future GHG emissions from the action alternatives. The annual GHG emissions for Alternative 1 is calculated based on the future land use listed in Table 4.2-6 and TOD reduction listed in Table 4.2-2. Table 4.2-7 summarizes the calculated subarea GHG emissions for each alternative and presents the overall emission reduction for each alternative relative to Alternative 1. As listed in Table 4.2-7, expanding the TOD within the subarea would reduce regional emissions.

Table 4.2-6. Assumed Land Use and Population Growth for Greenhouse Gas Emission Calculations—Potential Sunset Terrace Redevelopment Subarea

		Net Increase under Alternatives Compared to Existing Conditions					
		Alternative 1		Alternative 2		Alternative 3	
Land Use Type	Existing	Subarea	Puget Sound Region Outside Subarea	Subarea	Puget Sound Region Outside Subarea	Subarea	Puget Sound Region Outside Subarea
Multifamily housing in large building (dwelling units)	100	171	204	309	166	475	0
Multifamily housing in small building (dwelling units)	10	4	0	1	3	4	0
Retail (other than mall) (1,000 square feet)	0	0	31.5	13.5	18.0	31.5	0
Service (1,000 square feet)	0	19.6	7.9	38.5	-11.0	27.5	0
Population	314	344	703	656	391	1,047	0

Table 4.2-7. Comparison of Greenhouse Gas Emissions—Potential Sunset Terrace Redevelopment Subarea

	60-Year Life Cycle GHG Emissions Increase (metric tons CO_2-equivalent)			Average Annual GHG Emissions Increase During 60-Year Project Lifetime (metric tons CO_2-equivalent per year)		
GHG Emission Estimates	Alt 1	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3
Potential Sunset Terrace Redevelopment Subarea	144,696	266,333	396,724	2,412	4,439	6,612
Regional growth outside subarea	280,020	144,877	0	4,667	2,415	0
Total emissions increase for subarea plus regional growth	424,717	411,210	396,724	7,079	6,854	6,612
Net change in regional emissions compared to Alternative 1 (No Action)	—	-13,506	-27,992	—	-225	-467

Indoor Air Quality

RHA development of affordable housing on two vacant properties in the subarea would be constructed according to local building codes that require adequate insulation and ventilation. Regardless, studies have shown that residents at lower-income developments often suffer higher rates of respiratory ailments than the general public (American Public Health Association 2007; Sandel 2009). Therefore, the City and RHA will explore measures to improve indoor air quality beyond what is normally achieved by simply complying with building codes.

4.2.1.2 Alternative 2

Planned Action Study Area

Under Alternative 2, the Planned Action Study Area is expected to experience greater population and employment growth than under Alternative 1 (No Action). Development under this alternative would result in a greater increase in localized air pollutant emissions from construction activities and commercial activities and regional tailpipe emissions from vehicle travel. Regardless, air quality impacts from construction activities, commercial operations, and outdoor air toxics, and impacts on the air quality attainment status would be similar to those described under Alternative 1 above for the Planned Action Study Area.

Emissions from Vehicle Travel

As shown in Table 4.2-1, the forecasted population and VMT for Alternative 2 are slightly higher than the forecasted values for Alternative 1. The net increases in VMT forecast as a result of this alternative are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. Therefore, regional air quality impacts caused by population growth and transportation emissions in the study area would not be significant.

Mobile Source Air Toxics

The SR 900 highway improvement project is proposed in the Planned Action Study Area. When a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions could be higher, but this could be offset due to reductions in congestion (which are associated with lower MSAT emissions). Furthermore, on a regional basis, EPA's vehicle and fuel regulations (coupled with ongoing future fleet turnover) will over time cause substantial reductions that will cause region-wide MSAT levels to be significantly lower than today in most cases.

Greenhouse Gas Emissions

The annual GHG emissions for Alternative 2 is calculated based on the future land use listed in Table 4.2-3 and TOD reduction listed in Table 4.2-2. Table 4.2-4 lists the life-cycle GHG emissions increases caused by future development in the study area under each alternative. Future development increases in the study area under Alternative 2 are balanced against corresponding non-TOD regional growth outside the study area under Alternative 1.

Because Alternative 2 would provide more TOD than Alternative 1 in the Potential Sunset Terrace Redevelopment Subarea (addressed in detail below) and the Sunset Mixed Use Subarea along NE Sunset Boulevard, it would reduce regional GHG emissions compared to Alternative 1. As listed in Table 4.2-4, Alternative 2 represents a net reduction of 1,724 metric tons/year of regional GHG emissions. Compared to Alternative 1, the GHG emissions reductions would beneficially contribute to the state's goal of reducing statewide GHG emissions to 50% below 1990 levels by 2050 (Washington State Department of Ecology 2008a). Current Washington State emissions are 93 million metric tons CO_2-equivalent per year, so the state's goal is equivalent to an emissions reduction of 47 million metric tons/year. The reduction in the study area under Alternative 2 would be a relatively small fraction of the statewide reduction goal. Regardless, the reductions would incrementally assist in achieving the statewide goal. Therefore, GHG impacts caused by increased development in the study area would not be significant.

Potential Sunset Terrace Redevelopment Subarea

Under Alternative 2, the subarea is expected to experience greater population and employment growth than under Alternative 1 (No Action). Development under this alternative would result in a greater increase in localized air pollutant emissions from construction activities and commercial activities and regional tailpipe emissions from vehicle travel. Regardless, the air quality impacts under Alternative 2 for the subarea would be similar to those impacts (constriction emissions, commercial operations, outdoor air toxics, air quality attainment status) described under Alternative 1 above for the Planned Action Study Area. Impacts on indoor air quality would be similar to those described under Alternative 1 above for the subarea.

Emissions from Vehicle Travel

As shown in Table 4.2-5, the forecasted population and VMT for Alternative 2 are slightly higher than the forecasted values for Alternative 1. The net increases in VMT forecast as a result of this alternative are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. Therefore, Alternative 2 would cause a negligible impact on regional air quality.

Greenhouse Gas Emissions

The annual GHG emissions for Alternative 2 are calculated based on the future land use listed in Table 4.2-6 for the subarea and TOD reduction listed in Table 4.2-2. Table 4.2-7 lists the life-cycle GHG emissions increases caused by future development in the subarea under each alternative. Future development increases in the subarea under Alternative 2 are balanced against corresponding non-TOD regional growth outside the subarea under Alternative 1.

Because Alternative 2 would provide more TOD in the subarea, it would reduce regional GHG emissions compared to Alternative 1. As listed in Table 4.2-7, Alternative 2 represents a net reduction of 225 metric tons/year of regional GHG emissions. Compared to Alternative 1, the GHG emissions reductions would beneficially contribute to the state's goal of reducing statewide GHG emissions to 50% below 1990 levels by 2050 (Washington State Department of Ecology 2008a). Therefore, GHG impacts caused by increased development in the subarea would not be significant.

4.2.1.3 Alternative 3

Planned Action Study Area

Under Alternative 3, the Planned Action Study Area is expected to experience the greatest population and employment growth among the three alternatives. Development under this alternative would result in the greatest increase in localized air pollutant emissions from construction and commercial activities and regional tailpipe emissions from vehicle travel. Regardless, air quality impacts from construction activities, commercial operations, and outdoor air toxics, and impacts on the air quality attainment status would be similar to those described under Alternative 1 (No Action) above for the Planned Action Study Area.

Emissions from Vehicle Travel

As shown in Table 4.2-1, the forecasted population and VMT for Alternative 3 are higher than the forecasted values for Alternative 1. The net increases in VMT forecast as a result of this alternative are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. Therefore, regional air quality impacts caused by population growth and transportation emissions in the study area would not be significant.

Mobile Source Air Toxics

The potential for MSAT emissions and the likely future reductions due to reductions in congestion described for Alternative 2 also apply to Alternative 3.

Greenhouse Gas Emissions

The annual GHG emissions for Alternative 3 are calculated based on the future land use listed in Table 4.2-3 and TOD reductions listed in Table 4.2-2. Table 4.2-4 lists the life-cycle GHG emissions increases caused by future development in the study area under each alternative. Future development increases the study area under Alternative 3 are balanced against corresponding non-TOD regional growth outside the study area under Alternative 1.

Because Alternative 3 would provide the highest TOD in the Potential Sunset Terrace Redevelopment Subarea and the Sunset Mixed Use Subarea along NE Sunset Boulevard, it would provide the best regional GHG emissions reductions. As listed in Table 4.2-4, Alternative 3

represents a net reduction of 4,164 metric tons/year of regional GHG emissions. Compared to Alternative 1, the GHG emissions reductions would beneficially contribute to the state's goal of reducing statewide GHG emissions to 50% below 1990 levels by 2050 (Washington State Department of Ecology 2008a). Current Washington State emissions are 93 million metric tons CO_2-equivalent per year, so the state's goal is equivalent to an emissions reduction of 47 million metric tons/year. The reduction in the study area under Alternative 3 would be a relatively small fraction of the statewide reduction goal. Regardless, the reduction would incrementally assist in achieving the statewide goal. Therefore, GHG impacts caused by increased development in the study area would not be significant.

Potential Sunset Terrace Redevelopment Subarea

Under Alternative 3, the subarea is expected to experience the greatest population and employment growth among the three alternatives. Development under this alternative would result in the greatest increase in localized air pollutant emissions from construction and commercial activities and regional tailpipe emissions from vehicle travel. Regardless, the air quality impacts under Alternative 3 for the subarea would be the similar to those impacts (constriction emissions, commercial operations, outdoor air toxics, air quality attainment status) described under Alternative 1 above for the Planned Action Study Area. Impacts on indoor air quality would be similar to those described under Alternative 1 above for the subarea.

Emissions from Vehicle Travel

As shown in Table 4.2-5, the forecasted population and VMT for Alternative 3 are higher than the forecasted values for Alternative 1. The net increases in VMT forecast as a result of this alternative are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. Therefore, Alternative 3 would cause a negligible impact on regional air quality.

Greenhouse Gas Emissions

The annual GHG emissions for Alternative 3 are calculated based on the future land use listed in Table 4.2-6 for the subarea and TOD reduction listed in Table 4.2-2. Table 4.2-7 lists the life-cycle GHG emissions increases caused by future development in the subarea under each alternative. Future development increases in the subarea under Alternative 3 are balanced against corresponding non-TOD regional growth outside the subarea under Alternative 1.

Because Alternative 3 would provide the highest TOD in the subarea, it would provide the best reduction in regional GHG emissions. As listed in Table 4.2-7, Alternative 3 represents a net reduction of 467 metric tons/year of regional GHG emissions. Compared to Alternative 1, the GHG emissions reductions would beneficially contribute to the state's goal of reducing statewide GHG emissions to 50% below 1990 levels by 2050 (Washington State Department of Ecology 2008a). Therefore, GHG impacts caused by increased development in the subarea would not be significant.

4.2.2 Mitigation Measures

4.2.2.1 Planned Action Study Area

Construction Emission Control

The City should require all construction contractors to implement air quality control plans for construction activities in the study area. The air quality control plans should include BMPs to control fugitive dust and odors emitted by diesel construction equipment.

The following BMPs will be used to control fugitive dust.

- Use water sprays or other non-toxic dust control methods on unpaved roadways.
- Minimize vehicle speed while traveling on unpaved surfaces.
- Prevent trackout of mud onto public streets.
- Cover soil piles when practical.
- Minimize work during periods of high winds when practical.

The following mitigation measures will be used to minimize air quality and odor issues caused by tailpipe emissions.

- Maintain the engines of construction equipment according to manufacturers' specifications.
- Minimize idling of equipment while the equipment is not in use.

If there is heavy traffic during some periods of the day, scheduling haul traffic during off-peak times (e.g., between 9:00 a.m. and 4:00 p.m.) would have the least effect on traffic and would minimize indirect increases in traffic related emissions.

Burning of slash or demolition debris will not be permitted without express approval from PSCAA. No slash burning is anticipated for any construction projects in the Planned Action Study Area.

Greenhouse Gas Reduction Measures

Neither Ecology nor EPA is likely to adopt numerical GHG emissions standards, GHG reduction requirements, or numerical GHG significance thresholds in the near future. It is the City's responsibility to implement its GHG reduction requirements for new developments.

To ensure TOD measures are incorporated into new development and to offer single-purpose uses opportunities to reduce emissions, the City could require or encourage future developers to implement additional trip-reduction measures and energy conservation measures that could provide even better GHG reduction. GHG emissions reductions could be provided by using prudent building design and construction methods to use recycled construction materials, reduce space heating and electricity usage, and reduce water consumption and waste generation. Table 4.2-8 lists a variety of mitigation measures that could reduce GHG emissions caused by transportation facilities, building construction, space heating, and electricity usage (Washington State Department of Ecology 2008b). The table lists potential GHG reduction measures and indicates where the emission reductions might occur.

The City could require development applicants to consider the reduction measures shown in Table 4.2-8 for their projects, and explain why other measures found in the table are not included or are not applicable. The City can incorporate potential GHG reduction measures through its goals, policies, or regulations, including the proposed Planned Action Ordinance.

Table 4.2-8. Potential Greenhouse Gas Reduction Measures

Reduction Measures	Comments
Site Design	
Plant trees and vegetation near structures to shade buildings.	Reduces on-site fuel combustion emissions and purchased electricity, and enhances carbon sinks.
Minimize building footprint.	Reduces on-site fuel combustion emissions and purchased electricity consumption, materials used, maintenance, land disturbance, and direct construction emissions.
Design water efficient landscaping.	Minimizes water consumption, purchased energy, and upstream emissions from water management.
Minimize energy use through building orientation.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Building Design and Operations	
Construct buildings according to City of Seattle energy code.	The City of Seattle code is more stringent than the current City of Renton building code.
Apply Leadership in Energy and Environmental Design (LEED) standards (or equivalent) for design and operations.	Reduces on-site fuel combustion emissions and off-site/indirect purchased electricity, water use, waste disposal.
Purchase Energy Star equipment and appliances for public agency use.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Incorporate on-site renewable energy production, including installation of photovoltaic cells or other solar options.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Design street lights to use energy-efficient bulbs and fixtures.	Reduces purchased electricity.
Construct “green roofs” and use high-albedo roofing materials.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Install high-efficiency heating, ventilation, and air-conditioning (HVAC) systems.	Minimizes fuel combustion and purchased electricity consumption.
Eliminate or reduce use of refrigerants in HVAC systems.	Reduces fugitive emissions. Compare refrigerant usage before/after to determine GHG reduction.
Maximize interior day lighting through floor plates, increased building perimeter and use of skylights, celestories, and light wells.	Increases natural/day lighting initiatives and reduces purchased electrical energy consumption.
Incorporate energy efficiency technology such as super insulation motion sensors for lighting and climate-control-efficient, directed exterior lighting.	Reduces fuel combustion and purchased electricity consumption.
Use water-conserving fixtures that surpass building code requirements.	Reduces water consumption.
Reuse gray water and/or collect and reuse rainwater.	Reduces water consumption with its indirect upstream electricity requirements.
Use recycled building materials and products.	Reduces extraction of purchased materials, possibly reduces transportation of materials, encourages recycling and reduction of solid waste disposal.

Reduction Measures	Comments
Use building materials that are extracted and/or manufactured within the region.	Reduces transportation of purchased materials.
Use rapidly renewable building materials.	Reduces emissions from extraction of purchased materials.
Conduct third-party building commissioning to ensure energy performance.	Reduces fuel combustion and purchased electricity consumption.
Track energy performance of building and develop strategy to maintain efficiency.	Reduces fuel combustion and purchased electricity consumption.
Transportation	
Size parking capacity to not exceed local parking requirements and, where possible, seek reductions in parking supply through special permits or waivers.	Reduced parking discourages auto-dependent travel, encouraging alternative modes such as transit, walking, and biking. Reduces direct and indirect VMT.
Develop and implement a marketing/information program that includes posting and distribution of ridesharing/transit information.	Reduces direct and indirect VMT.
Subsidize transit passes. Reduce employee trips during peak periods through alternative work schedules, telecommuting, and/or flex time. Provide a guaranteed-ride-home program.	Reduces employee VMT.
Provide bicycle storage and showers/changing rooms.	Reduces employee VMT.
Use traffic signalization and coordination to improve traffic flow and support pedestrian and bicycle safety.	Reduces transportation emissions and VMT.
Apply advanced technology systems and management strategies to improve operational efficiency of local streets.	Reduces emissions from transportation by minimizing idling and maximizing transportation routes/systems for fuel efficiency.
Develop shuttle systems around business district parking garages to reduce congestion and create shorter commutes.	Reduces idling fuel emissions and direct and indirect VMT.

Source: Washington State Department of Ecology 2008b
VMT = vehicle miles travelled.

4.2.2.2 Potential Sunset Terrace Redevelopment Subarea

Mitigation measures for air quality applied to the subarea are the same as described under the Planned Action Study Area above.

In addition, the City and RHA could explore measures to improve indoor air quality beyond what is normally achieved by simply complying with building codes. For example, grant programs such as the Breath Easy Homes program could provide funding to foster construction methods that reduce dust, mold, and air toxics concentrations in the homes, such as the following:

- use of low-VOC building materials and coatings,
- enhanced building ventilation and room air filtration, and
- installation of dust-free floor materials and low-pile carpeting to reduce dust buildup.

4.2.3 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on regional or local air quality are anticipated. Temporary, localized dust and odor impacts could occur during the construction activities. The regulations and mitigation measures described above are adequate to mitigate any adverse impacts anticipated to occur as a result of study area growth increases.

4.3 Water Resources

Because there are no known water resources within the Planned Action Study Area, this impact analysis focuses on potential impacts on the quality and quantity of water in off-site resources due to stormwater runoff and recharge from the Planned Action Study Area, including Johns Creek/Lake Washington, Honey Creek, May Creek, and the underlying groundwater aquifer.

4.3.1 Impacts

Impacts on surface water and stormwater would result primarily from changes in the amount and quality of runoff from impervious surfaces in the Planned Action Study Area. Similarly, impacts on groundwater would result primarily from changes in the amount of recharge from the surface area due to the change in impervious surfaces and/or stormwater infrastructure. Under predeveloped conditions, native vegetation and surficial soils generally intercept and absorb rainfall. Typically, the majority of this rainfall infiltrates into permeable soils and recharges underlying aquifers with minimal surface runoff. Under typical developed conditions, vegetative cover and topsoil are disturbed or removed, and hard, impermeable surfaces are added. This results in reduced capacity of the land surface to absorb and infiltrate runoff, and increased runoff is generated. The increased rate and volume of runoff can create erosion and degrade habitat, carrying increased pollutants that have accumulated on impervious surfaces into downstream water bodies.

Apart from a few vacant parcels, the study area is already developed with mixed residential and commercial land use with a high impervious surface coverage and runoff is conveyed via storm drains to surface waters outside of the study area. Runoff from much of the study area is conveyed via piped systems to Lake Washington Boulevard North at Houser Way North, and discharges into Johns Creek, which consists of a series of culverts and an open-channel section flowing north to Lake Washington. All alternatives would result in changes in impervious surface as the study area is redeveloped. In the absence of mitigation, the stormwater runoff volume and peak discharges would change as a result of this change in impervious surface. However, Lake Washington and Johns Creek at the point of discharge are considered flow-control-exempt water bodies and, therefore, are not significantly affected by changes in runoff volume. Changes to peak flows will be analyzed during development of the stormwater master plan, and infrastructure improvements necessary to meet the 25-year design storm capacity per the conveyance standard will be incorporated into the master plan. Overall, peak flows will match existing conditions at the discharge points for the study area.

Runoff from a small portion of the northern limits of the study area is conveyed via piped systems to Honey and May creeks. Changes in impervious coverage in this portion of the study area could result in a change in the runoff volume and peak discharges to these creeks.

As development increases, the utilization and traffic within the study area would increase with additional residential units, commercial/retail space, and use of public facilities. The increase in vehicular traffic would result in an approximately proportional increase in many pollutants, particularly metals and hydrocarbons. Additionally, increased runoff of nutrients can result in reduced dissolved oxygen in receiving water bodies. Finally, increased residential population can increase the fecal coliform loading to an already degraded water body, Lake Washington and Johns Creek, downstream (at Gene Coulon Park). The sources of fecal coliform include avian, wildlife, human, and pet wastes, and other unknown sources (Herrera Environmental Consultants 2006).

The improved water quality and quantity controls required by the stormwater code (RMC 4-6-030) for new developments and redevelopment projects over the required thresholds will help reduce the potential impacts of increased impervious area within the study area. Impacts on potential water quality are, therefore, evaluated based on the relative change in total pollution-generating impervious surfaces that would remain untreated (e.g., not redeveloped) as a result of anticipated growth and implementation of the stormwater code. Impacts on downstream flow volumes and recharge are evaluated based on the total net change in effective impervious area (e.g., impervious area not managed by flow-control BMPs) that would result based on anticipated growth and implementation of the stormwater code under each alternative. The spill control required by the 2009 *King County Surface Water Design Manual* (King County 2009) for the new development and redevelopment projects over the required thresholds will provide additional protection to the water quality downstream of the study area. Construction impacts on water resources would be addressed through compliance with Core Requirement #5 for Erosion and Sediment Control in the 2009 *King County Surface Water Design Manual* (King County 2009) and the City amendments to the manual (City of Renton 2010) and compliance with Ecology's NPDES Construction Stormwater General Permit, if the project results in 1 acre or more of land-disturbing activity.

Impervious surface coverage for existing conditions was estimated from existing GIS and aerial imagery. Future impervious surface coverage for the Potential Sunset Terrace Redevelopment Subarea, under the alternatives was estimated based on the conceptual site plans (Figures 2.9 and 2.10). For the remainder of the Planned Action Study Area, the estimated future impervious surface coverage under the alternatives was estimated by assuming that all infill and redevelopment projects would generally build to the maximum allowable impervious coverage as defined by the zoning. Similarly, the proportion of pollution-generating impervious surfaces (e.g., roadways, driveways, and parking) versus non-pollution-generating impervious surfaces (e.g., building roofs, sidewalks, and patios) was estimated from allowable building coverage by the code and typical recent development as measured through aerial imagery. All new and redeveloped parcels were assumed to trigger all stormwater code requirements for flow control and water quality, which would result in water quality treatment of all pollution-generating impervious surfaces. Due to the density of the study area, flow-control BMPs assume that full infiltration or dispersion of impervious surfaces would be infeasible; however, the minimum percentages, based on site area, were assumed to be implemented.

4.3.1.1 Alternative 1: No Action

Estimates of land cover changes under the No Action Alternative are shown in Table 4.3-1 and described following the table.

Table 4.3-1. Land Cover Summary—No Action Alternative

	Total Area (acres)	Total Impervious Area (acres)	Total Pervious Area (acres)	Total PGIS[1] (acres)	Total Untreated PGIS[1] (acres)	Effective Impervious
Planned Action Study Area	255.40	166.93	88.47	86.34	76.07	164.92
Potential Sunset Terrace Redevelopment Subarea	13.06	6.49	6.57	2.33	1.83	6.27

[1] Pollution-generating impervious area

Table 4.3-2. Change in Land Cover Summary—No Action Alternative

Project Area	Net Change in Impervious Area (acres)	Net Change in PGIS[1] Area (acres)	Net Change in Untreated PGIS[1] (acres)	Net Change in Effective Impervious Area (acres)[2]
Planned Action Study Area	5.76 (6.5%)	-6.97 (-7.9%)	-12.49 (-14.1%)	3.75 (2.3%)
Potential Sunset Terrace Redevelopment Subarea	1.76 (96.2%)	0.5 (27.3%)	0 (0%)	1.54 (32.6%)

[1] Pollution-generating impervious area
[2] Impervious area not directly connected to a stream or drainage system.
[3] All areas are expressed relative to existing conditions. See Section 3.3 (Table 3.3-1) for a summary of existing conditions.

Planned Action Study Area

Under the No Action Alternative, new and redevelopment projects would still occur, but at an anticipated lower rate than under the action alternatives. All new and redevelopment projects would be required to provide "enhanced basic water quality treatment" or "basic water quality treatment," if single family, per the City's adopted stormwater code. In addition, all redevelopment projects would be required to provide flow-control BMPs, where feasible, such as rain gardens, cisterns, permeable pavements, and other infiltration and flow-reduction techniques. No roadway improvement projects are planned within the Planned Action Study Area under the No Action Alternative; therefore, no change is assumed in resulting impervious area, pollution-generating impervious area, or stormwater BMPs within NE Sunset Boulevard or other local streets' rights-of-way. The resulting net change in pollution-generating impervious area within the Planned Action Study Area (not including the Potential Sunset Terrace Redevelopment Subarea) is estimated to be a reduction of approximately 7.0 acres (7.9%) from existing conditions due to non-roadway-related projects. The net change in effective impervious area would be an increase of approximately 3.75 acres (2.3%) from existing conditions. Under the No Action Alternative, additional flow control would be required on site, per the code, to match the peak runoff from existing conditions. Where feasible, this impact could be reduced through full infiltration within the site. However, where full infiltration or dispersion is not feasible, no further mitigation would be required by the existing code.

This analysis assumes that all associated redevelopment within the Planned Action Study Area would be required to comply with the stormwater requirements specified in RMC 4-6-030; therefore, no additional cumulative impacts are anticipated.

Potential Sunset Terrace Redevelopment Subarea

The Edmonds-Glenwood site and the senior enriched housing and services on the northeast portions of the subarea would trigger compliance with the *2009 King County Surface Water Design Manual* (King County 2009) and the City amendments to the manual (City of Renton 2009), which would require flow control to match peak flows from the existing undeveloped site and provide enhance basic water quality treatment. Under the No Action Alternative, there would be no change in the total area of pollution generating surfaces remaining untreated. Presuming that the two projects cannot fully infiltrate or disperse runoff, the estimated change in effective impervious area would result in an increase of approximately 1.5 acres (33%) over existing conditions.

4.3.1.2 Alternative 2

Estimates of land cover changes under Alternative 2 are shown in Tables 4.3-3 and 4.3.4.

Table 4.3-3. Land Cover Summary—Alternative 2

	Total Area (acres)	Total Impervious Area (acres)	Total Pervious Area (acres)	Total PGIS[1] (acres)	Total Untreated PGIS[1] (acres)	Effective Impervious (acres)
Planned Action Study Area	255.40	168.13	87.27	79.01	48.01	162.12
Potential Sunset Terrace Redevelopment Subarea	13.06	6.61	6.45	1.96	0	5.29

[1] Pollution-generating impervious area

Table 4.3-4. Change in Land Cover Summary—Alternative 2

Project Area	Net Change in Impervious Area (acres)	Net Change in PGIS[1] Area (acres)	Net Change in Untreated PGIS[1] (acres)	Net Change in Effective Impervious Area (acres)[2]
Planned Action Study Area	6.96 (7.9%)	-14.3 (-16.2%)	-40.54 (-45.8%)	0.95 (0.6%)
Potential Sunset Terrace Redevelopment Subarea	1.88 (102.7%)	0.13 (7.1%)	-1.83 (-100%)	0.56 (11.8%)

[1] Pollution-generating impervious area
[2] Impervious area not directly connected to a stream or drainage system.
[3] All areas are expressed relative to existing conditions. See Section 3.3 (Table 3.3-1) for a summary of existing conditions.

Planned Action Study Area

Under Alternative 2, new and redevelopment projects are anticipated at an increased growth rate over the No Action Alternative. All new and redevelopment projects would be required to provide "enhanced basic water quality treatment" or "basic water quality treatment," if single family, per the stormwater code. All redevelopment projects would still be required to provide flow-control BMPs to the minimum levels of site or impervious area, as required by the code, where feasible.

NE Sunset Boulevard would be reconstructed largely within the existing right-of-way; however, accommodating some pedestrian and landscaping improvements would require up to 5 feet of acquisition. Under this alternative, the reconstructed roadway is assumed to result in no change in

pollution-generating impervious surface or in a slight reduction. The project would require compliance with the code and would, therefore, likely include Low Impact Development (LID) practices, including bioretention planters, rain gardens within planted medians, increased street trees, and permeable sidewalks to provide water quality treatment. As the proposed roadway would decrease the total impervious footprint within the right-of-way, no additional flow control would be necessary. However, preliminary modeling of LID practices that are sized for water quality treatment indicates that they also provide some flow control that is roughly equivalent to a reduction of 10% of the tributary impervious area, that is, reducing the net resulting effective impervious area by 10%.

Alternative 2 would also include construction of green connections within portions of the right-of-way. These projects would include retrofitting the edge of the roadways to add bioretention planters and replaced or improved sidewalks constructed of permeable pavement. The assumed design level for this analysis is to provide for water quality treatment of the full roadway surface within the green connection. It is assumed, based on preliminary sizing, that the implementation of these practices would replace all non-pollution-generating impervious surfaces with permeable concrete and up to 10% pollution-generating impervious surfaces (e.g., parking lanes) with bioretention planters or rain gardens. Implementation of the green connections and the NE Sunset Boulevard reconstruction project under Alternative 2 is estimated to result in a net reduction of approximately 14.7 acres of untreated pollution-generating impervious area and approximately 4.1 acres of effective impervious area. The impacts of increased runoff resulting from the increase in effect impervious area would be self mitigated by the required additional flow control by private developers. The effective reduction in recharge due to the slight increase in effective impervious area is considered to be insignificant. Considering the conservative assumptions in this analysis, the net effective impervious area could be further reduced through a decrease in actual impervious area on redevelopment projects or through increased implementation of flow-control BMPs due to suitable soils that exist within the north and south portions of the study area.

The resulting net change in pollution-generating impervious area within the Planned Action Study Area (exclusive of the Sunset Terrace Redevelopment Subarea) is estimated to be a reduction of approximately 40.5 acres (46%) from existing conditions. The net change in effective impervious area would be an increase of approximately 1.0 acre (0.6%) from existing conditions.

This analysis assumes that all associated redevelopment within the study area would be required to comply with the stormwater requirements specified in RMC 4-6-030; therefore, no cumulative impacts are anticipated.

Potential Sunset Terrace Redevelopment Subarea

The redeveloped Sunset Terrace properties would include LID techniques, including pervious sidewalks, rain gardens, and cisterns, to reduce runoff from impervious surfaces. The assumed level of control under this analysis would provide water quality treatment of all pollution-generating impervious surfaces plus flow reduction from an area equivalent to 20% of the site impervious area, as required by the stormwater code for large sites with less than 65% impervious coverage. Under this alternative, all untreated pollution-generating impervious surfaces within the subarea would be eliminated, resulting in a reduction of 1.83 acres of untreated pollution-generating surface from the Johns Creek Basin. The estimated change in effective impervious area would result in an increase of approximately 0.56 acre (12%) over existing conditions.

4.3.1.3 Alternative 3

Estimates of land cover changes under Alternative 3 are shown in Tables 4.3-5 and 4.3-6 and described following the tables.

Table 4.3-5. Land Cover Summary—Alternative 3

	Total Area (acres)	Total Impervious Area (acres)	Total Pervious Area (acres)	Total PGIS[1] (acres)	Total Untreated PGIS[1] (acres)	Effective Impervious (acres)
Planned Action Study Area	255.40	169.92	85.48	76.40	48.01	162.44
Potential Sunset Terrace Redevelopment Subarea	13.06	7.04	6.02	2.43	0	4.22

1 Pollution-generating impervious area

Table 4.3-6. Change in Land Cover Summary—Alternative 3

Project Area	Net Change in Impervious Area (acres)	Net Change in PGIS[1] Area (acres)	Net Change in Untreated PGIS[1] (acres)	Net Change in Effective Impervious Area (acres)[2]
Planned Action Study Area	8.75 (9.9%)	-16.91 (-19.1%)	-40.54 (-45.8%)	1.26 (0.8%)
Potential Sunset Terrace Redevelopment Subarea	2.31 (126.2%)	0.6 (32.8%)	-1.83 (-100%)	-0.51 (-10.7%)

1 Pollution-generating impervious area
2 Impervious area not directly connected to a stream or drainage system.
3 All areas are expressed relative to existing conditions. See Section 3.3 (Table 3.3-1) for a summary of existing conditions.

Planned Action Study Area

Under the Alternative 3, new and redevelopment projects are anticipated at an increased growth rate over the No Action Alternative. Although the overall anticipated growth pattern for Alternative 3 is similar to Alternative 2, the number of redeveloped properties is assumed to be greater. This greater growth increase would likely result in larger roof areas as compared to Alternative 2 but with a potential reduction in total surface parking as a result of a shift to structured parking to accommodate parking needs with the reduced available space, particularly within the areas zoned Center Village (CV). All new and redevelopment projects would be required to provide "enhanced basic water quality treatment" or "basic water quality treatment," if single family, per the stormwater code. All redevelopment projects would still be required to provide flow-control BMPs to the minimum levels of site or impervious area as required by the code, where feasible.

NE Sunset Boulevard would be reconstructed with potential additional right-of-way of up to 13 feet. Under this alternative, the reconstructed roadway is still assumed to result in no change in pollution-generating impervious surface or in a slight reduction. The project would require compliance with the code and would, therefore, likely include LID practices, including bioretention planters, rain gardens within planted medians, increased street trees and permeable sidewalks to provide water quality treatment. As the proposed roadway would decrease the total impervious footprint within the right-of-way, no additional flow control would be necessary. However, due to the increased available area under this alternative, the extent of LID practices within the NE Sunset

Boulevard right-of-way is assumed to increase to a level that would provide double the flow reduction of Alternative 2 or equal to an effective reduction of 20% of the impervious area.

Alternative 3 would also include construction of green connections within portions of the right-of-way. These projects would include retrofitting the edge of the roadways to add a combination of bioretention planters, permeable pavement parking stalls, and replaced or improved sidewalks constructed of permeable pavement. The assumed design level for this analysis is to provide for water quality treatment of the full roadway surface as well as flow reduction equal to a 20% reduction in the flow from the tributary impervious area. It is assumed that the implementation of these practices would result in an effective 24-foot-width travel way that would remain pollution-generating impervious surfaces with the remaining right-of-way area occupied with permeable pavements (e.g., parking lanes), bioretention planters or rain gardens, landscaped planters and trees, and permeable sidewalks. Implementation of the green connections and the NE Sunset Boulevard reconstruction project under Alternative 3 is estimated to result in a net reduction of approximately 14.7 acres of untreated pollution-generating impervious area (similar to Alternative 2) and approximately 6.6 acres of effective impervious area.

The resulting net change in pollution-generating impervious area within the Planned Action Study Area (exclusive of the Sunset Terrace Redevelopment Subarea) is estimated to be a reduction of approximately 40.5 acres (46%) from existing conditions. The net change in effective impervious area would be an increase of approximately 1.3 acres (0.8%) from existing conditions. Under Alternative 3, the City proposes to invest in the public stormwater infrastructure by constructing regional stormwater facilities within publicly owned space (Figure 4.3-1). These facilities would be designed to maintain active and open recreation space through distribution of small integrated rain gardens in parks or other passive open space or constructing underground infiltration facilities beneath open space areas or parking lots on publicly own property. Another approach may include public-private partnership opportunities whereby the City implements or reimburses private developments (e.g., large parking lots) to retrofit existing impervious surfaces or implement flow-control BMPs beyond code requirements to meet the target deficit in net effective impervious area (Figure 4.3-2). Again, the City may share the cost burden for the additional off-site mitigation with private developers through a fee system or may obtain grants to build the infrastructure as an economic development strategy. These measures that are included in Alternative 3 would be self-mitigating for the minor impacts due to the slight increase in effective impervious area estimated through this analysis. This analysis assumes that all associated redevelopment within the Planned Action Study Area would be required to comply with the stormwater code; therefore, no additional cumulative impacts are anticipated.

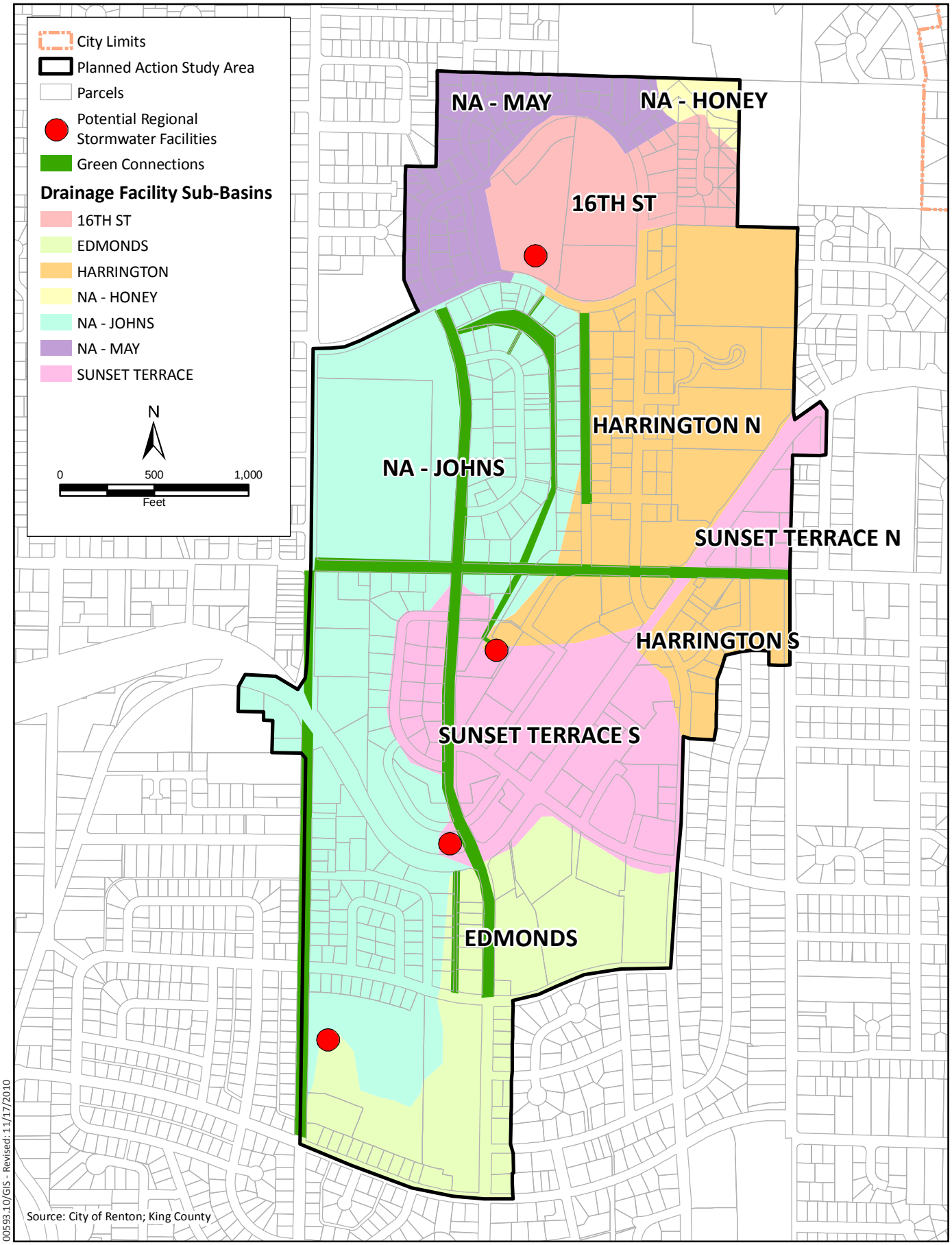
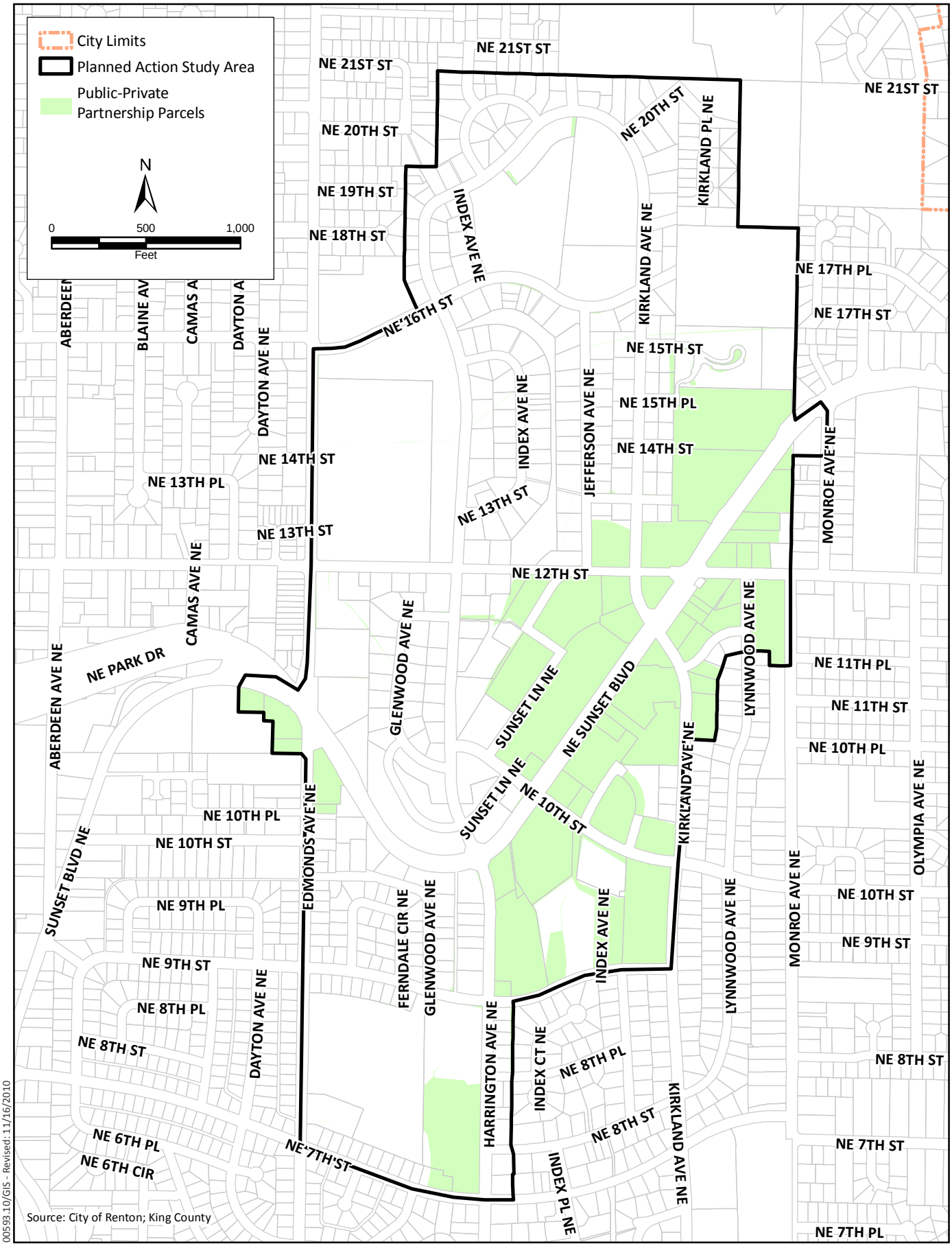


Figure 4.3-1
Potential Regional Stormwater Facilities and Green Connections
Sunset Area Community Planned Action Draft NEPA/SEPA EIS



Source: City of Renton; King County

00593.10/GIS - Revised: 11/16/2010

ICF INTERNATIONAL

Figure 4.3-2
Potential Parcels for Public-Private Partnerships
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Potential Sunset Terrace Redevelopment Subarea

The redeveloped Sunset Terrace properties would include LID techniques, including pervious sidewalks, rain gardens, and cisterns, to reduce runoff from impervious surfaces. The assumed level of control under this analysis would provide water quality treatment of all pollution-generating impervious surfaces plus flow reduction from an area equivalent to 40% of the site impervious area, twice as much as required by the stormwater code for large site with less than 65% impervious coverage. Under this alternative all untreated pollution-generating impervious surfaces within the subarea would be eliminated, resulting in a reduction of 1.83 acres of untreated pollution-generating surface from the Johns Creek Basin. The estimated change in effective impervious area would result in a decrease of approximately 0.51 acre (11%) compared to existing conditions.

4.3.2 Mitigation Measures

4.3.2.1 Planned Action Study Area

All of the alternatives would involve redevelopment and reduction of existing pollution-generating impervious surfaces in the Planned Action Study Area. In addition, per the requirements of the stormwater code, the redeveloped properties would be required to provide water quality treatment for all remaining pollution-generating impervious surfaces. The net reduction in untreated pollution-generating impervious surfaces throughout the study area is, therefore, considered to result in a net benefit to surface water quality. Therefore, no additional mitigation measures are proposed.

Each of the alternatives would result in a slight increase in the effective impervious area of the Planned Action Study Area. Under the No Action Alternative, mitigation for increased impervious area would be provided through implementation of on-site flow control incrementally with the new and redevelopment projects. The new and some existing impervious surface will be mitigated as individual redevelopment occurs.

Under Alternative 2, mitigation would be provided in advance of development through public infrastructure investments in the green connections or would be provided incrementally through the new developments and redevelopment projects. Conceptual design and planning of the green connections would be developed under a drainage master plan for the Planned Action Study Area and could be developed in advance of (likely through grants or city funds) or incrementally as development occurs depending on opportunity costs of constructing the green connections in conjunction with additional improvements (e.g., frontage improvements associated with redevelopment, roadway or pedestrian improvements, utility infrastructure improvements). The extent and form of the green connections would be refined through the drainage master plan development and further design. At such a time as the green connections and other associated decreases in effective impervious area due to redevelopment of highly impervious parcels, mitigation responsibility would shift back to individual projects to provide on-site flow control, or additional public investment could be directed to restoring the mitigation. The total amount of impervious surface mitigated would increase as redevelopment occurs in the Planned Action Study Area.

Under Alternative 3, mitigation would be provided in advance or incrementally through the self-mitigating public stormwater infrastructure features including a combination of green connections, regional stormwater flow control, and possible public-private partnership opportunities for

retrofits. Similar to Alternative 2, conceptual design and planning of the public stormwater infrastructure would be developed under a drainage master plan for the Planned Action Study Area. It could be developed in advance of (likely through grants or city funds) or incrementally as development occurs depending on opportunity costs of constructing the improvements. The extent and form of the public infrastructure projects would be refined through the drainage master plan development and further design. However, as opposed to Alternative 2, the goal under Alternative 3 would be to provide sufficient advance public infrastructure improvements to balance the anticipated increase in effective impervious area. This strategy would only require that future developments implement flow-control BMPs, but could eliminate on-site flow control through a development fee or similar funding structure to compensate for the off-site mitigation provided by the public infrastructure investment. Similar to Alternative 2, the total mitigated impervious surface mitigated would increase as redevelopment occurs in the study area. Since more redevelopment is expected under this alternative, more impervious surface will be mitigated compared to Alternative 2.

If grant funding or City funding is not obtained to implement the green connections or regional stormwater flow-control facilities needed to provide required mitigation for stormwater quantity and quality impacts associated with the land use changes that will occur under Alternatives 2 and 3, then the stormwater mitigation will be implemented incrementally with the new and redevelopment projects. Phasing and funding are anticipated to be addressed in the Master Drainage Plan.

4.3.2.2 Potential Sunset Terrace Redevelopment Subarea

No additional mitigation measures are proposed for the Potential Sunset Terrace Redevelopment Subarea. The improvements under the action alternatives are anticipated to improve the quality of runoff and recharge water. Although Alternative 2 would result in a slight increase in net effective impervious area, the increase in effective impervious area would be mitigated by the additional public stormwater infrastructure improvements (green connections and NE Sunset Boulevard improvements) provided elsewhere in the Planned Action Study Area. The City may require cost-reimbursement from RHA to provide the off-site mitigation, or as a catalyst for economic development, the Sunset Terrace redevelopment may be considered to be exempt from reimbursement.

Alternative 3 would result in a reduction in the net effective impervious area through the incorporation of flow-control BMPs such as permeable pavements, rain gardens, and cisterns.

4.3.3 Significant Unavoidable Adverse Impacts

None of the alternatives would have significant unavoidable adverse impacts on water resources, because the redevelopment would likely result in an improvement of runoff and recharge water quality. In addition, the net change in effective impervious area can be adequately mitigated through the self-mitigating features of the action alternatives and through implementation of the stormwater code, as described under Section 4.3.2.

4.4 Plants and Animals

4.4.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Sunset Terrace Redevelopment Subarea.

As noted in Section 3.4, there is very little potential plant or wildlife habitat in the Planned Action Study Area, and public data sources have not identified any use of the Planned Action Study Area by sensitive fish, wildlife, or plant species. There is no aquatic habitat in the study area, but stormwater generated from the northernmost portions of the Planned Action Study Area would be routed to May and Honey creeks, which support salmon and steelhead; thus, there is a potential for all alternatives to affect these protected fish species. Stormwater generated from the remainder of the Planned Action Study Area would be conveyed by the City stormwater system to Johns Creek, which is primarily culverted and contains no aquatic species of concern.

4.4.1.1 Alternative 1: No Action

Planned Action Study Area

Redevelopment activities that would be expected to occur in the Planned Action Study Area under Alternative 1 (No Action) would have a small effect on plant or wildlife habitat in the Planned Action Study Area given the already developed character and little vegetation. Alternative 1 assumes that about 16% of the 213 acres of study area parcels could infill or redevelop. These changes could result in a reduction in plant cover and a shift toward more intensive use of vegetated areas. As discussed in the water resources analysis (Section 4.3), redevelopment in the Planned Action Study Area would be compliant with existing stormwater regulations that call for LID practices, such as rain gardens and hydraulically functional landscaping, which are likely to increase shrub and tree cover and thereby support slightly improved wildlife habitat function. Redevelopment would also be compliant with the *Renton Urban and Community Forestry Redevelopment Plan* (Worthy and Associates 2009). Although implementation of the plan (adopted 2009) is still in the early stages, it is foreseeable that it would ensure that redevelopment occurs in a manner compatible with urban forestry goals such as healthy urban forest vegetation, preserving public safety, planting tree species appropriate to site constraints, and meeting local wildlife needs. The expected small reduction in habitat combined with a small improvement in habitat quality is likely to result in no measurable change in the variety or population sizes of wildlife species occurring in the Planned Action Study Area.

Besides these net changes, individual redevelopment projects would result in short-term loss of vegetation cover, along with noise and activity levels that would result in little or no use of the construction areas by wildlife during the period of construction. Because these impacts would be temporary and localized, and would not occur simultaneously across the Planned Action Study Area, their effects would be very minor.

Redevelopment actions would be required to comply, during construction, with City regulations requiring temporary erosion and sedimentation controls to prevent water quality impacts from work site stormwater runoff. Following construction, projects in the May and Honey creek watersheds would be required to comply with City regulations requiring all stormwater detention and treatment to be consistent with the 2009 *King County Surface Water Design Manual* (King County 2009). With this compliance, the projects would match the forested discharge duration for the discharge rates between 50% of the 2-year peak flow through the 50-year peak flow and match the 2-year and 10-year peak discharge assuming forested site conditions. Projects in the Planned Action Study Area would be required to comply with existing stormwater regulations that require "enhanced basic water quality treatment" or "basic water quality treatment," if single family, per the stormwater code. Compliance with these regulations would produce a decline in the area of untreated pollutant-generating impervious surface, resulting in beneficial effects on water quality. These protections are sufficient to ensure that redevelopment actions under Alternative 1 would not cause adverse impacts on fish and their habitat in the Planned Action Study Area or in waters receiving runoff from the Planned Action Study Area.

An indirect impact on plants and wildlife would result due to the increased residential density within the Planned Action Study Area. This can be expected to result in effects such as increased wildlife mortality due to predation by pets, and reduced wildlife diversity due to increases in opportunistic species such as starlings, crows, and rats. These indirect impacts can be expected to result in reduced numbers, vigor, and diversity of plant and wildlife species. These types of changes would not result in increased impacts on aquatic habitats and fish, beyond those discussed above. Redevelopment work of this kind often also results in an increase in the incidence of invasive plant species. This is not expected to occur under Alternative 1, because: 1) the Planned Action Study Area has negligible areas of ruderal vegetation, which are typically core habitat for invasive species in developed areas, and 2) the Planned Action Study Area has negligible areas of native vegetation cover types, which are vulnerable to colonization by invasive species. Rather, the entire area has actively managed vegetation (i.e., landscaping), a condition expected to persist in the future.

No cumulative impacts have been identified in association with activities that would be expected to occur in the Planned Action Study Area under Alternative 1.

Potential Sunset Terrace Redevelopment Subarea

Potential impacts on plant and wildlife habitat in the Potential Sunset Terrace Redevelopment Subarea would be substantially the same as those described above for the Planned Action Study Area. Since redevelopment would include current vacant lots and would include development of housing and a senior health facility, it is likely that a net loss of vegetation would occur, even if it were partially compensated by the construction of LID practices such as rain gardens and hydraulically functional landscaping. Nonetheless, in the absence of sensitive wildlife species, these effects would be very minor and would not be expected to substantially alter levels of diversity of plant and animal life now found in the subarea.

Under Alternative 1, there would be no change in the total area of untreated pollutant-generating surfaces, and the estimated change in effective impervious area would result in an increase of approximately 33% over existing conditions. This represents a functional impairment relative to existing conditions. However, because all runoff from the subarea is conveyed to the City stormwater system, and would be subject to the same regulations described above for the Planned

Action Study Area, the runoff increases would have no impact on aquatic habitat or sensitive fish species.

No indirect or cumulative impacts have been identified in association with Sunset Terrace redevelopment under Alternative 1.

4.4.1.2 Alternative 2

Planned Action Study Area

Redevelopment activities that would be facilitated under the planned action ordinance would have a limited effect on plant or wildlife habitat in the Planned Action Study Area. Alternative 2 assumes that about 32% of the study area acreage would infill or redevelop. This change would likely result in a proportional reduction in plant cover and a shift toward more intensive use of vegetated areas. However, redevelopment in the study area would use LID practices such as rain gardens and hydraulically functional landscaping measures. These approaches emphasize vegetation enhancement and, as currently practiced in the region, commonly result in a shift to vegetation that requires less watering and chemical (fertilizer/pesticide) application than typical landscaping, and which entails less grass with more trees and shrubs. These changes are likely to result in improved wildlife habitat function in the affected areas. Also, as under the No Action Alternative, redevelopment would be consistent with the goals of the *Renton Urban and Community Forestry Redevelopment Plan* (Worthy and Associates 2009). The net result is likely to be a measurable decline in total vegetated area, accompanied by a measurable improvement in plant diversity and quality of the remaining habitat. There would also be some restructuring of wildlife habitat continuity compared to Alternative 1. The green connections could enhance habitat connectivity, while areas of density increase would tend to fragment habitat. The net effect would be restricted to minor and local changes in habitat connectivity. Thus, effects on wildlife habitat would be less than significant.

Besides these net changes, individual redevelopment projects would result in short-term loss of vegetation cover, along with noise and activity levels that would result in little or no use of the construction areas by wildlife during the period of construction. Because these impacts would be temporary and localized and would not occur simultaneously across the Planned Action Study Area, their effects would be very minor.

Redevelopment actions would be required to comply, during construction, with City regulations requiring temporary erosion and sedimentation controls to prevent water quality impacts from work site stormwater runoff. Following construction, projects in the May and Honey creek watersheds would be required to comply with City regulations requiring all stormwater detention and treatment to be consistent with the 2009 King County stormwater manual. With this compliance, the projects would match the forested discharge duration for the discharge rates between 50% of the 2-year peak flow through the 50-year peak flow and match the 2-year and 10-year peak discharge assuming forested site conditions. Additionally, the stormwater commitments made under Alternative 2, summarized in Section 2.7.2.4, would result in a net reduction in untreated pollutant-generating impervious surface, with commensurate improvements in stormwater quality, as described in the water resources analysis (Section 4.3.1.2). These protections are sufficient to ensure that redevelopment actions under Alternative 2 would not cause adverse impacts on fish and their habitat in the Planned Action Study Area or in waters receiving runoff from the Planned Action Study Area.

Alternative 2 would result in an indirect impact on plants and wildlife by contributing to a substantial increase in the human population within the Planned Action Study Area (compared to Alternative 1, a 11% increase in number of dwelling units, and a 137% increase in number of jobs). This can be expected to result in effects such as increased wildlife mortality due to road kill and predation by pets, and reduced wildlife diversity due to increases in opportunistic species such as starlings, crows, and rats. These indirect impacts can be expected to result in reduced numbers, vigor, and diversity of plant and wildlife species. The stormwater commitments incorporated in Alternative 2, discussed above, would be sufficient to avoid indirect impacts on aquatic habitats and fish.

The low potential for invasive plant species is the same under Alternative 2 as for Alternative 1.

No cumulative impacts have been identified in association with activities that would be expected to occur in the Planned Action Study Area under Alternative 2.

Potential Sunset Terrace Redevelopment Subarea

Potential impacts on plant and wildlife habitat in the Potential Sunset Terrace Redevelopment Subarea would be substantially the same as those described above for the Planned Action Study Area. Since redevelopment would include a substantial density increase (77% dwelling unit increase relative to Alternative 1), a net loss of vegetation would occur, despite the compensating effects of installing LID practices such as rain gardens and hydraulically functional landscaping, and the proposed creation of community garden spaces within the subarea. Nonetheless, in view of the absence of sensitive wildlife species, these effects would not be expected to substantially alter levels of diversity of plant and animal life now found in the subarea.

All runoff from the subarea is conveyed to the City stormwater system and is subject to existing regulation as described above. All but 0.13 acre of the pollutant-generating impervious surfaces in the subarea would be treated, representing a substantial improvement compared to existing conditions, under which the subarea has 1.88 acres of untreated pollutant-generating impervious surfaces. Thus, there would be no impact on aquatic habitat or sensitive fish species.

An indirect impact on plants and wildlife would result due to the increased residential density within the subarea. This can be expected to result in effects such as increased wildlife mortality due to predation by pets, and reduced wildlife diversity due to increases in opportunistic species such as starlings, crows, and rats. These indirect impacts can be expected to result in reduced numbers, vigor, and diversity of plant and wildlife species. The stormwater commitments incorporated in Alternative 2, discussed above, would be sufficient to avoid indirect impacts on aquatic habitats and fish.

No cumulative impacts have been identified in association with Sunset Terrace redevelopment under Alternative 2.

4.4.1.3 Alternative 3

Planned Action Study Area

Impacts on plants, wildlife and fish under Alternative 3 would be very similar to those described under Alternative 2, but would be substantially greater due to the greater projected density increase (68% dwelling unit increase relative to Alternative 1). The LID practices that would be implemented under Alternative 3 are substantially the same as those proposed under Alternative 2, so the increase in density would be expected to result in a proportional decrease in wildlife habitat. Also, as under the No Action Alternative, redevelopment would be consistent with the goals of the *Renton Urban and Community Forestry Redevelopment Plan* (Worthy and Associates 2009). The green connections could enhance wildlife habitat connectivity, but density increases would tend to reduce connectivity. The net result is likely to be a reduction in habitat connectivity and a decline in total vegetated area, albeit with some improvement in plant diversity and quality of the remaining habitat. Largely due to the absence of impacts on special-status species, effects on wildlife would be less than significant.

Indirect impacts on plants and wildlife would also be very similar to those described under Alternative 2, but again, the adverse impacts on plants and wildlife would be greater in proportion to the greater density proposed under Alternative 3. Largely due to the absence of impacts on special-status species, effects on wildlife would be less than significant.

As under Alternative 2, stormwater commitments proposed under Alternative 3, coupled with existing regulations, would be sufficient to avoid substantial impacts on aquatic habitats and fish.

No cumulative impacts have been identified in association with activities that would be expected to occur in the Planned Action Study Area under Alternative 3.

Potential Sunset Terrace Redevelopment Subarea

Potential impacts on plant and wildlife habitat in the Potential Sunset Terrace Redevelopment Subarea would be substantially the same as those described for Alternative 2. Since redevelopment would include a substantial density increase (compared to Alternative 1, a 173% increase in dwelling units and a 271% increase in jobs), a net loss of vegetation would occur, despite the compensating effects of installing LID practices such as rain gardens and hydraulically functional landscaping, and the proposed creation of community garden spaces within the subarea. Nonetheless, in the absence of sensitive wildlife species, these effects would not be expected to result in significant impacts on plants or wildlife.

As under Alternative 2, runoff from the subarea is conveyed to the City stormwater system and is subject to existing regulation. All but 0.6 acre of pollutant-generating impervious surfaces in the subarea would be treated, representing a reduction of 1.83 acres in untreated pollutant-generating impervious surfaces. Thus, there would be no impact on aquatic habitat or sensitive fish species.

Indirect effects on plants, wildlife, and fish would very similar to those described under Alternative 2, but the adverse impacts on plants and wildlife would be somewhat greater due to density-related effects. Again, largely due to the absence of impacts on special-status species, effects on wildlife would be less than significant.

The stormwater commitments incorporated in Alternative 3 would be sufficient to avoid indirect impacts on aquatic habitats and fish.

No cumulative impacts have been identified in association with activities that would be expected to occur in the Planned Action Study Area under Alternative 3.

4.4.2 Mitigation Measures

4.4.2.1 Planned Action Study Area

With implementation of proposed stormwater features or standards, no mitigation is required.

4.4.2.2 Potential Sunset Terrace Redevelopment Subarea

With implementation of proposed stormwater features or standards, no mitigation is required.

4.4.3 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would occur under any alternative.

4.5 Energy

4.5.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. For each geographic level, temporary construction impacts are addressed as well as long-term local energy use. In addition, indirect and cumulative impacts of the alternatives' contribution to regional energy use are addressed.

4.5.1.1 Alternative 1: No Action

Under the No Action Alternative, new development and redevelopment within the Planned Action Study Area, including the Potential Sunset Terrace Redevelopment Subarea, would be constructed to meet the state and City building and energy code requirements. Although the growth would result in increased energy demand in the study area and subarea, the utility service agencies have planned for future service demands, as required by state law. Therefore, no significant impacts are anticipated.

Planned Action Study Area

Under the No Action Alternative, the Planned Action Study Area would experience a low level of growth. Development under this alternative would lead to increases in population and employment throughout the study area and would increase energy consumption from construction activities, buildings, and vehicles.

Construction Impacts

During construction, energy would be consumed by demolition and reconstruction activities. These activities would include the manufacture of construction materials, transport of construction materials to and from the construction site, and operation of machinery during demolition and construction.

Operation Impacts

As the Planned Action Study Area continues to develop, new development and redevelopment would increase the number and density of housing units and commercial and service buildings in the study area compared to current conditions, which would increase the energy usage for household uses, commercial services, and vehicle travel. As described in Section 3.5, buildings would be constructed to meet building and energy code requirements.

Similar to the GHG emissions impact discussed in the air quality analysis (Section 4.2), energy usage is expressed in terms of its increase between current conditions and future proposed land use conditions in the Planned Action Study Area. Alternative 1 (No Action) represents the future no-action scenario that is used as the basis of comparison to evaluate the future energy usage from the action alternatives. The energy estimate for future conditions accounts for energy reductions expected as a result of TOD.

Energy Usage Calculation Methods

Building energy use for projected future land use under the No Action Alternative is estimated using King County's GHG emissions worksheet (King County 2007), which, as listed in the Table 3.5-1, provides regional average energy usage by different types of land uses. In addition to building energy usage, vehicle energy usage is estimated from the projected population of the Planned Action Study Area, VMT per capita, and the fuel economy per vehicle. The average values used to calculate the future annual energy usage from vehicles are listed below.

- Average daily VMT per capita in Puget Sound is 22.9 miles (Puget Sound Regional Council 2010).
- Future average fuel economy of a light-duty vehicle is 35 miles per gallon[1] (U.S. Environmental Protection Agency 2009).
- One gallon of gasoline is equivalent to 124,238 Btu.

Future annual vehicle energy usage under the No Action Alternative is estimated to be 29.67 million Btu per capita.

Transit-Oriented Development

TOD is expected to reduce energy usage compared to traditional development by reducing vehicle trips and fuel usage. Within the Planned Action Study Area, high-density mixed-use developments and high-density multifamily developments along the NE Sunset Boulevard transit corridor, in the Sunset Mixed Use and Potential Sunset Terrace Redevelopment subareas, respectively, are considered TOD. The estimated percentage of emission reductions compared to future conditions without TOD (business as usual) are summarized in Table 4.2-2.

Land Use Values for Energy Usage Calculations

Similar to GHG emission calculations, Table 4.2-3 was used for calculating energy usage for each alternative. The values listed for each alternative represent the net increase compared to existing conditions. This analysis considered future land use growth in two geographic regions: 1) within the Planned Action Study Area and 2) within the Puget Sound region outside the study area. The proposed square footage in the study area would be higher for most land use categories under Alternative 3 than under Alternative 1 (No Action) and Alternative 2. Therefore, for purposes of comparing the beneficial reductions in regional energy usage, it is important to balance future growth outside the study area as well as within the study area. It was assumed that the lower amount of future developed square footage in the study area under Alternative 1 and Alternative 2 would be balanced by developers constructing equal square footage elsewhere in the Puget Sound region in response to assumed market demand for housing, office, and commercial space. Thus, the total amount of future additional regional square footage was balanced to the same values for all alternatives; however, under Alternatives 2 and 3, more of the TOD development would be inside the study area.

Calculated Energy Usage

For this analysis, Alternative 1 (No Action) represents the future no-action scenario that is used as the basis of comparison to evaluate future energy usage from the action alternatives. The annual

[1] Based on the Corporate Average Fuel Economy standard for new light duty vehicles by year 2020.

energy usage for Alternative 1 is calculated based on the future land use and TOD reductions presented in Section 4.2. Table 4.5-1 summarizes the calculated study area energy usage for each alternative and presents the overall regional energy reduction for each alternative relative to Alternative 1. As listed in Table 4.5-1, expansion of TOD in study area would reduce energy usage.

Table 4.5-1. Comparison of Annual Energy Usage—Planned Action Study Area

	Annual Energy Usage Increase (million Btu)		
Energy Usage Estimates	Alternative 1	Alternative 2	Alternative 3
Planned Action Study Area			
Annual building energy usage	70,483	116,260	184,500
Annual vehicle energy usage	31,180	39,804	91,029
Total annual energy usage for planned action study area	101,663	156,063	275,529
Regional growth outside planned action study area			
Annual building energy usage	133,304	78,649	0
Annual vehicle energy usage	69,755	58,156	0
Total annual energy usage for regional growth	203,509	136,806	0
Total annual energy usage increase for planned action study area plus regional growth	304,722	292,869	275,529
Net change in regional annual energy usage compared to Alternative 1 (No Action)	0	-11,853	-29,194
Btu = British thermal unit			

Potential Sunset Terrace Redevelopment Subarea

Although population and development increases under Alternative 1 (No Action) in the Potential Sunset Terrace Redevelopment Subarea would be smaller than in the Planned Action Study Area, energy impacts would be similar to those described for the Planned Action Study Area above.

Under Alternative 1, redevelopment of the Renton Housing Authority (RHA) sites would increase the energy usage from the additional residences and buildings and associated vehicle trips. For this analysis, Alternative 1 represents the future no-action scenario that is used as the basis of comparison to evaluate future energy usage from the action alternatives. The annual energy usage for Alternative 1 is calculated based on the future land use and TOD reductions presented in Section 4.2. Table 4.5-2 summarizes the calculated study area energy usage for each alternative and presents the overall regional energy reduction for each alternative relative to Alternative 1. As listed in Table 4.5-2, expansion of TOD in study area would reduce energy usage.

Table 4.5-2. Comparison of Annual Energy Usage—Potential Sunset Terrace Redevelopment Subarea

	Annual Energy Usage Increase (million Btu)		
Energy Usage Estimates	Alternative 1	Alternative 2	Alternative 3
Potential Sunset Terrace Redevelopment Subarea			
Annual building energy usage	7,953	15,048	21,821
Annual vehicle energy usage	3,081	11,408	21,833
Total annual energy usage for subarea	11,034	26,457	43,654
Regional Growth Outside Subarea			
Annual building energy usage	15,409	7,525	0
Annual vehicle energy usage	20,835	11,583	0
Total annual energy usage for regional growth	36,245	19,108	0
Total annual energy usage increase for subarea plus regional growth	47,278	45,564	43,654
Net change in regional annual energy usage compared to Alternative 1 (No Action)	0	-1,714	-3,624
Btu = British thermal unit			

Although the growth would result in increased energy demand, new buildings would be constructed to meet the state and City building and energy code requirements, and the utility service agencies have planned for future service demands, as required by state law. Therefore, no significant impacts are anticipated.

4.5.1.2 Alternative 2

Planned Action Study Area

Energy impacts due to construction and operation resulting from Alternative 2 would be similar to those described under Alternative 1 (No Action) above for the Planned Action Study Area. Under Alternative 2, the Planned Action Study Area would experience a higher level of growth and development than under the No Action Alternative, and would undergo infrastructure and public service improvements; the resulting greater increases in population and employment throughout the study area would increase energy consumption. However, future development increases in the study area under Alternative 2 are balanced against corresponding non-TOD and lower-density development outside the study area under Alternative 1.

Because Alternative 2 would provide more TOD and high-density development than Alternative 1 along NE Sunset Boulevard, in the Sunset Mixed Use and Potential Sunset Terrace Redevelopment subareas, it would reduce regional energy usage compared to Alternative 1. Table 4.5-1 summarizes the calculated study area energy usage for Alternative 2 and presents the overall regional energy reduction relative to Alternative 1. Although the growth would result in increased energy demand in the study area, the energy impact would not be significant for the following reasons.

- More TOD and mixed-use development would reduce regional fuel usage from vehicle trips.
- Higher-density multifamily development would consume less energy per unit than a low-density housing unit, because of its smaller floor area per unit, and would, therefore, reduce regional housing energy.

- New buildings would be constructed to meet the state and City building and energy code requirements, which are more energy efficient that old buildings.

Potential Sunset Terrace Redevelopment Subarea

Energy impacts would be the same as described under Alternative 1 (No Action) for the subarea. Under Alternative 3, energy usage for household uses and vehicle travel would be greater in the subarea as a result of the higher intensity of development, and additional energy usage would occur from the development of retail uses and more public service facilities. However, future development increases in the subarea under Alternative 2 are balanced against corresponding non-TOD and lower-density development outside the subarea under Alternative 1.

Because Alternative 2 would provide more TOD and high-density housing development than Alternative 1 in the subarea, it would reduce regional energy usage compared to Alternative 1. Table 4.5-2 summarizes the calculated subarea energy usage for Alternative 2 and presents the overall regional energy reduction relative to Alternative 1.

Although the growth would result in increased energy demand in the subarea, the energy impact would not be significant for the following reasons.

- More TOD and mixed-use development would reduce regional fuel usage from vehicle trips. The development of community services and limited neighborhood-scale retail uses in the subarea would provide convenient access to residents that could reduce vehicle trips to such services elsewhere and thereby reduce vehicle energy usage.
- Higher-density multifamily development would consume less energy per unit than a low-density housing unit, because of its smaller floor area per unit and would, therefore, reduce regional housing energy usage.
- New buildings would be constructed to meet the state and City building and energy code requirements, which are more energy efficient that old buildings.

4.5.1.3 Alternative 3

Planned Action Study Area

Energy impacts during construction and operation resulting from Alternative 3 would be similar to those described under Alternative 1 (No Action) above for the Planned Action Study Area. Under Alternative 3, the Planned Action Study Area would experience the most growth, development, and public service and infrastructure improvements. Development under this alternative would lead to the greatest increases in population and employment throughout the study area, resulting in the greatest increase in energy consumption. However, future development increases in the study area under Alternative 3 are balanced against corresponding non-TOD and lower-density development outside the study area under Alternative 1.

Because Alternative 3 would provide the highest amount of TOD and high-density development along NE Sunset Boulevard, in the Sunset Mixed Use and Potential Sunset Terrace Redevelopment subareas, it would provide the largest regional energy usage reduction. Table 4.5-1 summarizes the calculated study area energy usage for Alternative 3 and presents the overall regional energy reduction relative to Alternative 1. Although the growth would result in increased energy demand in

the study area, the energy impact would not be significant for the same reasons described under Alternative 2.

Potential Sunset Terrace Redevelopment Subarea

Energy impacts under Alternative 3 would be similar to those described for Alternative 1 (No Action). Under Alternative 3, increased building and vehicle energy usage would be the highest in the subarea as a result of the highest number of housing units, public service facilities, and retail uses, and from the addition of commercial development. However, future development increases in the subarea under Alternative 3 are balanced against corresponding non-TOD and lower-density development outside the subarea under Alternative 1.

Because Alternative 3 would provide the highest amount of TOD and high-density development in the subarea, it would provide the largest regional energy usage reduction. Table 4.5-1 summarizes the calculated subarea energy usage for Alternative 3 and presents the overall regional energy reduction relative to Alternative 1. Although the growth would result in increased energy demand in the subarea, the energy impact would not be significant for the same reasons described under Alternative 2.

4.5.2 Mitigation Measures

4.5.2.1 Planned Action Study Area

Although the growth and development would result in increased energy demand in the Planned Action Study Area under all of the alternatives, as described in Section 4.5.1, expanding the beneficial TOD and high-density housing development within the study area would reduce regional energy usage. Therefore, all alternatives would provide a net benefit rather than adverse impact with regards to energy usage. However, to further reduce energy consumption, the City could require or encourage future developers to implement additional trip-reduction measures and energy conservation measures. As described in the Section 4.2, GHG emissions can be reduced through a variety of energy conservation measures. Table 4.2-8 lists a variety of mitigation measures that could reduce energy usage caused by transportation facilities, building construction, space heating, and electricity usage (Washington State Department of Ecology 2008b).

The City could adopt more restrictive energy codes established by the City of Seattle (WAC 51-11, plus Seattle amendments) or the EPA (2010) Energy Star program and require future developments to be constructed with energy conservation measures shown in Table 4.2-8. According to the King County proposed GHG reduction regulation, the energy and GHG reductions can be achieved through implementation of the following energy conservation techniques or equivalent approaches.

- An energy reduction of 12% can be achieved by implementing sufficient strategies established by the Northwest Energy Star Homes program for multifamily residential buildings. The Northwest ENERGY STAR Homes program (U.S. Environmental Protection Agency 2010) is designed to help builders construct energy-efficient homes in Washington, Oregon, Idaho, and Montana to meet energy-efficiency guidelines set forth by the EPA.
- An energy reduction of 10% would comply with Seattle Energy Code for non-residential buildings.

4.5.2.2 Potential Sunset Terrace Redevelopment Subarea

In addition to the mitigation measures described above for the Planned Action Study Area, according to the King County proposed GHG reduction regulation, energy reductions can be provided with the implementation of the following basic requirements of the *American Society of Heating, Refrigerating and Air-Conditioning Engineers Advanced Buildings Core Performance Guide* for residential and non-residential building in the subarea:

- 30% energy reduction for residential dwelling that are 50% of average size; and 15% energy reduction for residential dwelling that are 75% of average size; and
- 12% energy reduction for office, school, retail, and public assembly buildings that are smaller than 100,000 square feet in floor area.

4.5.3 Significant Unavoidable Adverse Impacts

Additional energy would be consumed and would contribute to increases in demand associated with the growth and development of the region. As described in the Utilities Element of the City Comprehensive Plan, it is anticipated that existing and planned infrastructure of affected energy utilities could accommodate growth (City of Renton 2009). Energy conservation features would be incorporated into building design as required by the current City building codes. For the Potential Sunset Terrace Redevelopment Subarea, U.S. Department of Housing and Urban Development (HUD) encourages public housing authorities such as RHA to use Energy Star, renewable energy, and green construction practices in public housing. As such, no significant unavoidable adverse impacts on energy use are anticipated.

4.6 Noise

4.6.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. For each geographic level, temporary construction noise impacts are addressed as well as long-term operational noise impacts of land use activities. In addition, the increase in noise from traffic is addressed as a cumulative impact including each alternative's contribution of vehicular trips to total trips on NE Sunset Boulevard.

4.6.1.1 Alternative 1: No Action

Planned Action Study Area

Under Alternative 1 (No Action), the Planned Action Study Area would experience growth, but to a lesser extent than under Alternatives 2 and 3. Development under this alternative would still lead to increases in population and employment throughout the study area and could increase ambient noise levels generated by construction activities, commercial facilities, and traffic.

Construction Noise

Development in the Planned Action Study Area would require demolition and construction activity, which would temporarily increase noise levels at residences close to the development site. Temporary daytime construction activity is exempt from the City noise ordinance limits. This type of activity could cause annoyance and speech interference at outdoor locations adjacent to the construction sites, and could cause discernible noise for several blocks away from the development site. Nighttime construction activity, if required at all, would be required to comply with the nighttime limits specified by the City noise ordinance, which are described in Section 3.6. Compliance with these limits would ensure this potential impact would not be significant.

Noise from New Commercial Operations

Land use development would mostly be concentrated in the Potential Sunset Terrace Redevelopment Subarea and Sunset Mixed Use Subarea along NE Sunset Boulevard and would consist of a mix of high-density housing and retail, office, and commercial buildings. It is likely that new commercial development would occur near either current or future residences. Unless properly controlled, mechanical equipment (e.g., rooftop air conditioning units) and trucks at loading docks of office and retail buildings could cause ambient noise levels at nearby residences to exceed the City noise ordinance limits.

Noise from Increased Traffic

As described in Section 4.14, Transportation, future traffic volumes would increase under each alternative as a result of increased population and development in the Planned Action Study Area. For most residents adjacent to roadways, increased traffic would result in the greatest increase in ambient noise levels, caused by moving traffic and vehicles idling at intersections.

Increased population and development could lead to the following types of events, which could result in future traffic noise impacts:

- increases in traffic volumes along existing roadways, with resulting impacts on existing homes near the roadways;
- increases in traffic volumes and traffic speeds caused by improvements to existing roads, with resulting impacts on existing homes near the roadways;
- widening of existing roadways, thereby moving traffic closer to existing homes near the roadways;
- construction of new roadways through lightly developed land; and
- construction of new homes close to existing highways or arterials with high traffic volumes and high speed limits.

Traffic noise typically exceeds the Federal Highway Administration (FHWA) noise abatement criteria for homes within 200 feet of a freeway or within 50 to 100 feet of an arterial roadway. The magnitude of the traffic noise impact near any given roadway would depend on the traffic volume, traffic speed, and number of lanes.

For this assessment, traffic noise impacts caused by increased traffic on NE Sunset Boulevard were evaluated for existing homes and proposed developments, because it is a major arterial road in the study area. Peak-hour traffic volumes along NE Sunset Boulevard in the study area under the existing conditions and each alternative are listed in Table 4.6-1.

Table 4.6-1. NE Sunset Boulevard Traffic Volumes in Planned Action Study Area

Alternative	Peak-Hour Traffic Volume (vehicles/hour)	Average Daily Traffic Volume (vehicles/day)
Existing (2009)	2,020	20,200
Alternative 1 (2030)	2,420	24,200
Alternative 2 (2030)	2,530	25,300
Alternative 3 (2030)	2,660	26,600

The FHWA Traffic Noise Model Version 2.5 was used to predict existing and future noise levels during the peak hour. The model was configured as follows for NE Sunset Boulevard within the Planned Action Study Area.

- Medium trucks and heavy trucks[1] were assumed to represent 1.5% and 0.5% of traffic, respectively[2].
- Traffic was assumed to operate at 35 miles per hour.
- The surface between the roadway and nearby residences consists mainly of asphalt and packed soil. Therefore, the ground surface type was defined as “hard surface” for the model.

[1] The truck percentage is based on the existing traffic count data that the City provided for the project’s traffic analysis, which show a general 2% for all trucks.

[2] The model requires traffic information by motor vehicle (two-axle, four-tire vehicles), medium trucks (two-axle, six-tire vehicles), and heavy trucks (three or more axles).

- The analysis distance from the center of the road to existing homes was assumed to be 75 feet under existing conditions. Future distance between the center of the road and average allowable setbacks (for new developments) was assumed to be 60 feet[3].

The modeled peak-hour traffic noise increase (2030 noise levels compared to existing noise) caused by NE Sunset Boulevard traffic is shown in Table4.6-2; the increase is less than the Washington State Department of Transportation (WSDOT) "substantial increase" impact threshold of 10 A-weighted decibels (dBA). Therefore, Alternative 1 would not affect typical residences along NE Sunset Boulevard.

Table 4.6-2. Modeled Peak-Hour Noise Levels of NE Sunset Boulevard in the Planned Action Study Area

Alternative	Outdoor Noise Level Leq (dBA)	Increased Noise Level from Existing Leq (dBA)
Existing (2009)	67.4	—
Alternative 1 (2030)	69.5	2.1
Alternative 2 (2030)	69.6	2.2
Alternative 3 (2030)	69.9	2.5

Leq = equivalent sound level; dBA = A-weighted decibel

As shown in Table 4.6-2, the modeled peak-hour exterior noise levels for Alternative 1 are greater than 66 dBA, high enough to interfere with normal speech at outdoor use areas (e.g., exterior balconies) and cause excessive indoor noise levels for buildings adjacent to NE Sunset Boulevard. Although traffic noise is exempt from the City noise ordinance, based on site-specific considerations, the City may at its discretion, require new development to install double-pane glass windows or other building insulation measures based on the City's adoption of the State Energy Code (RMC 4-5-040). This could change if the City uses state or federal funding for future roadway widening on NE Sunset Boulevard, because WSDOT's 66-dBA impact criterion applies to exterior noise levels, regardless of the City's acoustical building code requirements. The City would be required to consider traffic noise abatement measures and to provide noise abatement if it were shown to be acoustically feasible and constructible at a reasonable cost. However, if the roadway improvements were constructed using only local funding, then the City would not be required to consider noise abatement.

Potential Sunset Terrace Redevelopment Subarea

Although the increases in population and development in the subarea would be smaller than in the Planned Action Study Area, impacts on noise would be similar to those described for the Planned Action Study Area above.

Traffic noise impacts caused by increased traffic on NE Sunset Boulevard were evaluated for the existing housing development in the subarea using the HUD site noise level calculator (U.S. Department of Housing and Urban Development 2010a); under Alternative 1 the Sunset Terrace public housing community would not be redeveloped and only vacant properties further from NE

[3] The 60-foot distance is calculated based on the maximum front-yard setback of 15 feet of the Center Village (CV) zone plus the average right-of-way width of 90 feet for NE Sunset Boulevard under future conditions.

Sunset Boulevard would be developed. Average daily traffic volumes along NE Sunset Boulevard in the subarea for each alternative are listed in Table 4.6-1.

HUD's site noise level calculator was configured as follows to predict future day-night noise levels at the first row buildings abutting NE Sunset Boulevard in the subarea.

- Medium trucks and heavy trucks were assumed to represent 1.5% and 0.5% of traffic, respectively.
- Traffic was assumed to operate at 35 miles per hour.
- Night fraction of average daily traffic was assumed to be 15% for all types of vehicles based on the HUD noise model default value.
- Road gradient was assumed to be 2% based on the HUD default value.
- The analysis distance from the center of the road to the existing homes is assumed to be 75 feet under the existing conditions. Future distance between the center of the road and average allowable setbacks (for new developments) is assumed to be 60 feet
- The analysis distance from the center of the road to the existing and proposed homes was assumed to be 60 feet for Alternative 1, based on existing conditions. For Alternatives 2 and 3, the analysis distance from the center of the road to the existing and proposed homes is assumed to be 70 feet west of Harrington Avenue NE and 50 feet east of Harrington Avenue NE, based on conceptual site plans show in Figures 2-9 and 2-10.

Table 4.6-3 shows the estimated day-night noise levels from NE Sunset Boulevard at the adjacent buildings and indicates that they would be exposed to "normally unacceptable" noise levels exceeding HUD's outdoor day-night noise criterion of 65 dBA day-night level (Ldn). The noise levels at these first row residences also currently exceed the HUD noise criterion and would continue to exceed it under Alternative 1.

Table 4.6-3. Modeled Day-Night Noise Levels of NE Sunset Boulevard in Potential Sunset Terrace Redevelopment Subarea

Alternative	Outdoor Noise Level West of Harrington Avenue NE Ldn (dBA)	Outdoor Noise Level East of Harrington Avenue NE Ldn (dBA)
Existing (2009)	68.1	68.1
Alternative 1 (2030)	68.9	68.9
Alternative 2 (2030)	68.0	70.2
Alternative 3 (2030)	68.3	70.4

Ldn = day-night noise level; dBA = A-weighted decibel

4.6.1.2 Alternative 2

Planned Action Study Area

Under Alternative 2, the Planned Action Study Area is expected to experience greater population and employment growth than under Alternative 1. Development under this alternative would result in greater noise impacts from construction activities, commercial activities, and vehicles traveling on NE Sunset Boulevard and local streets. Regardless, noise impacts resulting from Alternative 2 would be similar to those described under Alternative 1, above, for the Planned Action Study Area.

As shown in Table 4.6-1, the forecasted traffic volumes on NE Sunset Boulevard for Alternative 2 are slightly higher than the forecasted values for Alternative 1, which would result in a slightly higher peak-hour noise level at adjacent homes. However, as shown in Table 4.6-2, the modeled peak-hour traffic noise increase (2030 noise levels compared to existing noise) is less than WSDOT's "substantial increase" impact threshold of 10 dBA. Therefore, Alternative 2 would not affect typical residences along NE Sunset Boulevard.

Potential Sunset Terrace Redevelopment Subarea

Under Alternative 2, this subarea is expected to experience greater population and employment growth than under Alternative 1. Development under this alternative would result in greater noise impacts from construction activities, commercial activities, and vehicles traveling on NE Sunset Boulevard. Regardless, the noise impacts under Alternative 2 for the subarea would be similar to those impacts described for the subarea under Alternative 1.

As shown in Table 4.6-1, the forecasted daily traffic volumes on NE Sunset Boulevard for Alternative 2 are slightly higher than the forecasted values for Alternative 1; this would generate slightly higher day-night noise levels at adjacent residences in the subarea. However, on the west side of Harrington Avenue NE, the proposed residential buildings would be farther from NE Sunset Boulevard than existing conditions; therefore, the estimated day-night noise level at these residences is slightly lower than the noise levels for Alternative 1. Regardless, as shown in Table 4.6-3, the first row residential dwellings in Figure 2-9 abutting NE Sunset Boulevard would be exposed to "normally unacceptable" noise levels, based on HUD criterion of 65 dBA Ldn. The noise levels at these first row residential dwellings also currently exceed the HUD noise criterion and would continue to exceed it under Alternative 2.

4.6.1.3 Alternative 3

Planned Action Study Area

Under Alternative 3, the Planned Action Study Area is expected to experience the greatest population and employment growth among the three alternatives. Development under this alternative would result in the greatest noise increase from construction activities, commercial activities, and vehicles traveling on NE Sunset Boulevard and local streets. Regardless, noise impacts resulting from Alternative 3 would be similar to those described under Alternative 1 for the Planned Action Study Area.

As shown in Table 4.6-1, Alternative 3 would generate the highest traffic volumes on NE Sunset Boulevard, resulting in the highest peak-hour noise level at adjacent homes. However, as shown in Table 4.6-2, the modeled peak-hour traffic noise increase (2030 noise levels compared to existing noise) is less than WSDOT's "substantial increase" impact threshold of 10 dBA. Therefore, Alternative 3 would not affect typical residences along NE Sunset Boulevard.

Potential Sunset Terrace Redevelopment Subarea

Under Alternative 3, the subarea is expected to experience the greatest population and employment growth among the three alternatives. Development under this alternative would result in the greatest noise increase from construction activities, commercial activities, and vehicles traveling on NE Sunset Boulevard. Regardless, the air quality impacts under Alternative 3 for the subarea would be the similar to those described under Alternative 1 above for the subarea.

As shown in Table 4.6-1, Alternative 3 would generate the highest daily traffic volumes on NE Sunset Boulevard, which would result in the highest day-night noise level at adjacent residences in the subarea. However, on the west side of Harrington Avenue NE, the proposed residential buildings would be farther from NE Sunset Boulevard than the existing conditions; therefore, the estimated day-night noise level at these residences is slightly lower than under Alternative 1. Regardless, as shown in Table 4.6-3, the first row residential dwellings abutting NE Sunset Boulevard in Figure 2-10 would be exposed to "normally unacceptable" noise levels, based on HUD criterion of 65 dBA Ldn. The noise levels at these first row residential dwellings currently exceed the HUD noise criterion and would continue to exceed it under Alternative 3.

4.6.2 Mitigation Measures

4.6.2.1 Planned Action Study Area

Construction Noise Abatement

If nighttime construction operations are required, then noise abatement will be considered on a case-by-case basis to ensure that noise levels at the nearest residences are within the City's nighttime noise limits. According to the City noise ordinance (discussed in Section 3.6.2), temporary daytime construction activities are exempt. Regardless, based on site-specific considerations at the time of construction permit review, the City may at its discretion require all construction contractors to implement noise control plans for construction activities in the study area for daytime activities.

Construction noise could be reduced by using enclosures or walls to surround noisy stationary equipment, installing mufflers on engines, substituting quieter equipment or construction methods, minimizing time of operation, and locating equipment as far as practical from sensitive receivers. To reduce construction noise at nearby receivers, the following mitigation measures will be incorporated into construction plans and contractor specifications.

- Locate stationary equipment away from receiving properties.
- Erect portable noise barriers around loud stationary equipment located near sensitive receivers.
- Limit construction activities to between 7:00 a.m. and 10:00 p.m. to avoid sensitive nighttime hours.
- Turn off idling construction equipment.
- Require contractors to rigorously maintain all equipment.
- Train construction crews to avoid unnecessarily loud actions (e.g., dropping bundles of rebar onto the ground or dragging steel plates across pavement) near noise-sensitive areas.

New Commercial Operation Noise

The City may require all prospective future developers to use low-noise mechanical equipment adequate to ensure compliance with the City's daytime and nighttime noise ordinance limits. Depending on the nature of the proposed development, the City may require the developer to conduct a noise impact study to forecast future noise levels and to specify appropriate noise control measures. Compliance with the noise ordinance would ensure this potential impact would not be significant.

Traffic Noise Mitigation

Although traffic noise is exempt from City noise ordinance, based on site-specific considerations, the City may, at its discretion, require the new development to install double-pane glass windows or other building insulation measures using its authority under the Washington State Energy Code (4-5-040).

4.6.2.2 Potential Sunset Terrace Redevelopment Subarea

Mitigation measures described above for the Planned Action Study Area would also apply to this subarea. In addition, outdoor noise levels at the residential dwellings abutting NE Sunset Boulevard are expected to exceed HUD's noise criterion of 65 dBA Ldn under all alternatives. Therefore, mitigation measures determined feasible will be required to reduce traffic noise from NE Sunset Boulevard so that day-night sound levels at outdoor use locations and inside residences in the subarea would be within the levels considered "acceptable" by HUD or would otherwise meet HUD requirements for attenuation. The following options of mitigation measures were considered for the subarea.

Noise Barrier

Noise barriers could be designed to reduce traffic noise from NE Sunset Boulevard at residences west of Harrington Avenue NE. To provide the maximum outdoor use area between NE Sunset Boulevard and the residences, the noise barrier could be installed along the NE Sunset Boulevard right-of-way.

Table 4.6-4 shows the estimated day-night noise with an 8-foot-tall noise barrier for all alternatives. The 8-foot-tall barrier provides just enough noise reduction at ground-level locations to meet the HUD outdoor noise criterion of 65 dBA Ldn and the minimum noise reduction requirement of 5 dBA Ldn. The noise reduction is estimated using HUD's barrier performance module (U.S. Department of Housing and Urban Development 2010b) by assuming flat terrain[4] between the roadway and the receivers. Because the elevation of this portion of the subarea is between about 3 and 10 feet higher than NE Sunset Boulevard, the noise barrier along the NE Sunset Boulevard right-of-way will need to be between at least 11 and 18 feet tall for the outdoor use area and ground-floor residential units to meet the HUD acceptability criterion.

[4] HUD's site noise level calculator does not include inputs to account for terrain. Therefore, although the subarea is higher than NE Sunset Boulevard, for comparison purposed, terrain is also not accounted when using HUD's barrier performance module to evaluate the effects of a noise barrier. Based on the FHWA TNM analysis, the average noise level with terrain is only less than 1 dBA quieter than the average noise level without terrain.

Table 4.6-4. Modeled Day-Night Noise Levels in Potential Sunset Terrace Redevelopment Subarea with Noise Barrier

Alternative	Outdoor Noise Level with 8-Foot-Tall Barrier West of Harrington Avenue NE Ldn (dBA)	Noise Reduction with Barrier Ldn (dBA)
Alternative 1 (2030)	63.3	5.6
Alternative 2 (2030)	62.6	5.4
Alternative 3 (2030)	62.8	5.4

Ldn = day-night noise level; dBA = A-weighted decibel

The noise barrier would create conflicts with the project goals and objectives as described in the Chapter 2, with security and maintenance of the site, and with other environmental values (i.e., aesthetics).

- Noise barriers along the perimeter of the site would create substantial physical, psychological, and social barriers, which could reinforce the historical separation of the site from the surrounding community. Such a result would conflict with the explicit goals of the subarea to maximize its visibility and location as the heart of the Sunset Area Community.
- Noise barriers would create security issues by blocking views between the subarea and the street. Blocking the community's "eyes on the street" could compromise residents' sense of safety. Noise barriers would also create places to hide.
- Even the most well-designed noise barriers are not commonly perceived to be attractive. The location of barriers along NE Sunset Boulevard would present a strong visual image to the neighborhood, one that would conflict with the aesthetic values incorporated into the design of the Sunset Terrace redevelopment. In urban areas, solid walls are also frequent targets of graffiti; such vandalism could create an ongoing eyesore and/or maintenance burden for RHA.

Because of these numerous conflicts, it is appropriate to consider balancing achievement of the noise criterion with other planning, environmental, and social goals, as permitted by HUD's noise rules (24 Code of Federal Regulations [CFR] 51.105). Furthermore, such barriers would not reduce noise levels at the upper level dwellings in these buildings, so traffic noise levels would still exceed the HUD acceptability criterion at these residences.

Noise barriers would not be feasible for mixed-use buildings and the community service building planned at the intersection of Harrington Avenue NE and NE Sunset Boulevard and the portion east of Harrington Avenue NE, because the barriers would restrict access to these buildings and conflict the project goals and objectives.

Acoustical Construction Technique

For the affected upper-level residential units and locations where noise barriers are not feasible, acoustical construction techniques and materials should be incorporated into building designs to reduce noise impacts for interior uses. To meet the HUD interior noise criterion of 45 dBA Ldn for residential uses, it will be necessary to provide 23 to 26 dBA of reduction in projected exterior noise levels to achieve 45 dBA Ldn in the interior. Normal construction materials and techniques can provide between about 15 and 25 dBA reductions in exterior to interior sound levels if there are no openings like windows, doors, or ventilation ports on the noise-affected sides of the buildings. Open windows reduce the sound-blocking properties of a wall by at least 50%. Thus, it will be necessary

to employ special designs, materials, and construction techniques to insure that interior noise levels in the residences fronting on NE Sunset Boulevard comply with the HUD suitability criterion.

Based on building code construction requirements, indoor sound levels in most of the subarea would likely be reduced to the point they would not exceed the HUD suitability criterion. However, in areas fronting NE Sunset Boulevard, additional noise reduction using special building techniques and materials will be necessary. A variety of methods and materials could be used to provide the required noise reduction. Construction techniques that could ensure that noise levels inside these units remain below the HUD criterion include, but are not limited:

- building wall designs that include dense sheeting materials,
- tightly sealed acoustic windows and doors to limit sound penetration, and
- sound-absorbing insulation material for the west and south side of units adjacent to NE Sunset Boulevard.

Specially designed ventilation ports or ducts, and/or some form of active mechanical ventilation system, so that it would not be necessary to open windows or doors to provide ventilation, could also be considered. Although HUD considers the use of acoustical construction techniques without also taking steps to reduce outdoor sound levels as the least desirable mitigation option, protecting interior levels to provide a suitable indoor living environment is the most important aspect of the HUD noise control program.

Both Noise Barrier and Acoustical Construction Technique

To optimize the noise mitigation result, noise barriers should be considered, where feasible, to reduce noise levels at affected outdoor use areas and the affected ground-floor residential units fronting NE Sunset Boulevard, and acoustical construction techniques should be applied to other affected residential uses that cannot be mitigated by noise barriers.

Site Design

Site design approaches that could reduce potential noise impacts include the following.

- Park and open space uses are concentrated away from NE Sunset Boulevard. However, a plaza and setback areas remain adjacent to the roadway. Planned uses of the plaza and setbacks should not include activities that require easily understood conversation (e.g., instructional classes) or other uses where quiet conditions are required for the primary function of the activity.
- The City and RHA could allow for balconies on exterior-facing units only if they do not open to a bedroom.
- The City and RHA could reorient publicly funded residential dwellings to locations away from NE Sunset Boulevard. However, care would be needed to ensure that site design measures do not concentrate low-income residents into one area of the site.

Other Measures

The City could consider the exception at 24 CFR 51.105 to approve raising the allowable exterior noise threshold from 65dB to 70dB. This is allowed for proposals that meet goals such as providing housing in proximity to employment, public facilities, and transportation and that maintain the character of the neighborhood.

4.6.3 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse construction or operational traffic noise impacts are anticipated in the Planned Action Study Area with the implementation of mitigation measures noted above. No significant unavoidable adverse traffic noise impacts are anticipated at residences along NE Sunset Boulevard in the Planned Action Study Area per WSDOT criteria, because the noise increase caused by NE Sunset Boulevard traffic is less than the WSDOT "substantial increase" impact threshold.

Portions of the Potential Sunset Terrace Redevelopment Subarea, even under existing conditions and the No Action Alternative, would be deemed normally unacceptable under the HUD noise criteria without implementation of noise attenuation mitigation, due to traffic noise from the adjacent street (NE Sunset Boulevard). No significant unavoidable adverse noise impacts are anticipated in this subarea, if the noise control measures noted above are implemented to reduce anticipated future traffic noise to levels suitable for residential uses under the HUD criteria.

4.7 Environmental Health

4.7.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

While all of the impacts listed below could occur during construction and operation of the project, elements included under each alternative being evaluated would need to be addressed at a project-specific level through permitting and demonstrate compliance with federal, state, and local laws that address hazardous materials (see Section 3.7). The relative impacts listed below are based on general anticipated areas of construction, along with general land use development type and proximity to sites identified in the regulatory agency database search (also see Section 3.7). The hazardous material sites identified in the regulatory agency database search are not expected to affect the health and safety of occupants or conflict with the intended utilization of future developments.

4.7.1.1 Alternative 1: No Action

The low level of redevelopment under this alternative would translate into a low potential for releasing hazardous materials into the environment during construction and operation. Construction and operation impacts would be similar to other projects with similar level of development, as described below.

Planned Action Study Area

Construction Impacts

Potential construction impacts under this alternative include releasing existing contaminants to the environment by ground-disturbing or dewatering activities, encountering underground storage tanks (USTs) or leaking USTs, generating hazardous building materials that require special disposal, and accidentally releasing hazardous substances.

Hazardous sites in the Planned Action Study Area (identified on Figure 3.7-1 and discussed in Section 3.7)—those that generated hazardous wastes, operated businesses that have higher potential for having previous releases that may not have been discovered, or have a documented release—could contain petroleum-contaminated soil and groundwater that would be encountered during ground penetration activities. Other contaminants associated with fuels, such as volatile organic compounds, if not managed properly in accordance with existing regulations, could have an impact on human health and ecological receptors.

USTs generally contain petroleum products or residues of such products, which might in some cases have contaminated nearby soil or groundwater. Even where USTs have been cleaned up and/or removed, residual contamination could possibly be encountered when the site is disturbed during construction.

During demolition, hazardous building materials such as lead-based paint and asbestos-containing materials (ACMs) could be encountered. If this material is not managed properly in accordance with existing regulations, a potential impact on human health and ecological receptors could occur. In addition, some buildings could have old fluorescent lighting that contains mercury or ballasts that contain polychlorinated biphenyls (PCBs). If not managed properly to avoid damage and disposed of in accordance with existing regulations, these materials could release contaminants to the environment.

If electrical utility poles or transformers are relocated during construction, transformer fluid containing PCBs or other dielectric fluid could be released.

Any development project has the potential for accidental release of a hazardous substance (e.g., fuels and oils needed for heavy equipment operation and maintenance) during construction. Cleaning the spilled material and disposing of wastes from the clean-up, including contaminated soil, could add additional time and costs to construction operations. Large spills of hazardous materials during construction could also require emergency response agency intervention.

Demolition and construction would disturb the land surface, potentially causing soil and other materials to contaminate stormwater and be carried in stormwater away from the site. Compliance with the construction stormwater permit required by Ecology and the associated stormwater BMPs would minimize the impact of construction on stormwater.

Operational Impacts

If development occurs on contaminated sites, where appropriate clean-up measures were not completed or residual contaminations were present, then there is a potential risk to public health for people using the site. In addition, acquiring an easement or title to properties with potential environmental contamination could create significant long-term environmental liability or management concerns. Longer-term environmental liabilities might include financial responsibility for cleaning on-site contamination or for remediation activities necessitated by off-site migration of hazardous substances.

Indirect and Cumulative Impacts

No observable indirect or cumulative impacts have been identified under the No Action Alternative because of the low level of development proposed.

Potential Sunset Terrace Redevelopment Subarea

In this subarea, the RHA would develop affordable housing on two vacant properties and eliminate one duplex, but it would not redevelop the Sunset Terrace public housing property. Existing subsurface contaminations have not been identified on the vacant properties and, therefore, are not expected to be encountered during construction. Hazardous building materials such as lead-based paint and ACMs would not be generated from the demolition of the existing Sunset Terrace buildings. If there are lead based paints or ACMs at the duplex, appropriate permits and precautions would be required. Accidental release of hazardous substances during construction could still occur as in all construction projects.

No operational, indirect, or cumulative impacts have been identified under the No Action Alternative because of the low level of development proposed.

4.7.1.2 Alternative 2

Impacts under Alternative 2 would be the same as those described for the No Action Alternative; however, because of the moderate level of growth and redevelopment under this alternative, the potential that these impacts would occur is considered higher relative to the No Action Alternative.

Planned Action Study Area

Construction Impacts

The primary potential construction impact under Alternative 2 is encountering or releasing hazardous substances into the environment during construction, as described for Alternative 1. With increasing level of development, the likelihood of encountering substances at sites with past releases increases. Contamination from hazardous building materials, USTs, and PCBs would also increase due to increased demolition activities. Accidental releases of hazardous substances as a result of construction activities could also increase.

Operation Impacts

As described under Alternative 1, if development occurs on contaminated sites, where appropriate clean-up measures were not completed or residual contaminations were present, then there is a potential risk to public health for people using the site. In addition, acquiring an easement or title to properties with potential environmental contamination could create significant long-term environmental liability or management concerns. Longer-term environmental liabilities might include financial responsibility for cleaning on-site contamination or for remediation activities necessitated by off-site migration of hazardous substances.

The potential for hazardous material releases could also increase relative to Alternative 1 because of the increased level of commercial development and roadway/transit improvements. Increased commercial development, such as addition of new fuel stations or dry cleaners, could increase the potential for release of hazardous substances into the environment as a result of accidental spills during transport and operation of these facilities.

In addition, hazardous substances, such as oil and other lubricants, are used or transported during routine operation and maintenance of transit facilities or roadways. With increased level of development, increased traffic is expected. If an accident occurs, then these substances could be released to the environment in the form of spills. All other things being equal, the risk of a spill occurring is proportional to the vehicle miles traveled. Thus, an increase in traffic as a result of roadway and/or transit improvements would increase the risk of incidental spills of hazardous materials.

Indirect Impacts

The removal of contaminated groundwater, hazardous building materials, or USTs would result in an overall cleaner environment and reduced risk to human health and the environment. By removing contaminated groundwater and USTs from hazardous materials sites, the potential for the contaminants to migrate to an otherwise uncontaminated area is reduced and the potential for the hazardous materials to harm human health and the environment is also reduced. This beneficial effect would be observed in the immediate vicinity of the area where contaminated media is present and removed as a result of redevelopment.

Cumulative Impacts

As development occurs within the Planned Study Area and the surrounding region, the population and activity level will rise and the number of people exposed to hazards related to the transport of hazardous materials will increase. However, the incremental impact of the project is so small it would make only a negligible contribution to the cumulative impact within the region. Enforcement of federal, state, county, and local hazardous material regulations will reduce public health hazards to a less-than-significant level.

Potential Sunset Terrace Redevelopment Subarea

Construction Impacts

None of the sites with identified use or documented releases of hazardous substances are present within this subarea. Therefore, the potential to encounter uncontrolled releases of hazardous substances in the environment during construction is relatively low. Contamination from hazardous building materials, USTs, and PCBs during demolition activities, and accidental spills during construction would be the same as described for the Planned Action Study Area.

Operational Impacts

No operation impacts have been identified because none of the sites with identified use or documented releases of hazardous substances are present within this subarea. Therefore, the potential for acquiring long-term environmental liability or management concerns are low.

Indirect Impacts

The removal of hazardous building materials or USTs would result in an overall cleaner environment and reduced risk to human health and the environment.

Cumulative Impacts

The hazardous materials impact of the potential development in the subarea is so small it would make only a negligible contribution to the cumulative impact within the region.

4.7.1.3 Alternative 3

Impacts under Alternative 3 would be the same as those described for Alternative 2; however, because of the high level of growth and redevelopment under this alternative, the potential that these impacts would occur is considered high relative to Alternatives 1 and 2.

Planned Action Study Area

The construction, operation, and indirect impacts described under Alternatives 1 and 2 are also applicable to Alternative 3; however, the potential for these impacts to occur would be higher because of the higher level of development proposed. For example, increased ground-disturbing activities would lead to a higher potential for encountering existing subsurface contamination. Increased development would lead to increased generation of hazardous building materials.

Potential Sunset Terrace Redevelopment Subarea

The construction, operation, and indirect impacts described under Alternative 2 would also be applicable to Alternative 3; however, the potential for these impacts to occur would be higher.

4.7.2 Mitigation Measures

Mitigation measures to minimize or eliminate the impacts discussed above are described below and apply to all alternatives. As noted in Section 4.7.1, the hazardous material sites identified in the regulatory agency database search are not expected to affect the health and safety of occupants or conflict with the intended utilization of the future development, the mitigation measures described below are largely precautionary and are designed to minimize or eliminate impacts of the alternatives should hazardous materials be encountered during project implementation.

4.7.2.1 Planned Action Study Area

Construction Mitigation Measures

The following general mitigation measures would minimize or eliminate construction impacts within the Planned Action Study Area.

- Since encountering unreported spills or unreported underground fuel tanks is a risk when performing construction, contractors will be required to provide hazardous materials awareness training to all grading and excavation crews on how to identify any suspected contaminated soil or groundwater, and how to alert supervisors in the event of suspected contaminated material. Signs of potential contaminated soil include stained soil, odors, oily sheen, or the presence of debris.
- Contractors will be required to implement a contingency plan to identify, segregate, and dispose of hazardous waste in full accordance with the Model Toxics Control Act (MTCA).
- Contractors will be required to develop and implement the Stormwater Pollution Prevention Plan, best management practices (BMPs), and other permit conditions to minimize the potential for a release of hazardous materials to soil, groundwater, or surface water during construction.
- Contractors will be required to follow careful construction practices to protect against hazardous materials spills from routine equipment operation during construction; prepare and maintain a current spill prevention, control, and countermeasure plan, and have an individual on site designated as an emergency coordinator; and understand and use proper hazardous materials storage and handling procedures and emergency procedures, including proper spill notification and response requirements.
- All ACM and lead-based paint will be identified in structures prior to demolition activities in accordance with 24 CFR Part 35. If ACM or lead-based paint is identified, appropriately trained and licensed personnel will contain, remove, and properly dispose of the ACM and/or lead-based paint material according to federal and state regulations prior to demolition of the affected area.
- If warranted, contractors will conduct additional studies to locate undocumented USTs and fuel lines before construction of specific development projects (areas of concern include current and former commercial and residential structures) and will permanently decommission and properly remove USTs from project sites before commencing general construction activities.

Operation Mitigation Measures

The following general mitigation measure would minimize or eliminate operational impacts within the Planned Action Study Area.

- Prior to acquisition of known or potentially contaminated property (see Section 3.7, Tables 3.7-1 and 3.7-3), the City will require appropriate due diligence be performed to identify the presence and extent of soil or groundwater contamination. This can help to prevent or manage liabilities for any long-term clean-up activities that might be ongoing during project operations. If contamination is discovered, the project proponent will comply with all state and federal regulations for contaminated sites.

4.7.2.2 Potential Sunset Terrace Redevelopment Subarea

Similar construction and operation mitigation measures identified for the Planned Action Study Area would be applicable to this subarea.

4.7.3 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are identified at the programmatic level throughout the Planned Study Area or for the Sunset Terrace Redevelopment Subarea for any of the studied alternatives. Contaminated sites would be avoided during project design when possible; implementing the mitigation approaches described above would minimize or eliminate adverse effects on human health and the environment.

4.8 Land Use

4.8.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

4.8.1.1 Alternative 1: No Action

Planned Action Study Area

Under the No Action Alternative, a lesser amount of redevelopment would occur in the Planned Action Study Area compared to the action alternatives. Thus, temporary impacts on adjacent land uses, including dust emissions, noise, construction traffic, and sporadic interference with access to adjacent residences and businesses, would be fewer. The incremental development occurring under this alternative would minimize the number of nearby residents exposed to such temporary construction impacts. Implementation of appropriate mitigation measures, such as dust control and construction traffic management, would ensure that construction would not cause significant adverse impacts.

Development under the No Action Alternative would implement the City's Comprehensive Plan designations for the Planned Action Study Area, only in a more incremental and piecemeal manner than under the action alternatives. Development would more than double the number of residential units within the study area, as property owners redeveloped their properties using zoning designations, including the CV designation that allows for taller buildings and more intense mixed-use development than currently exist in the study area. However, there would be fewer mixed-use multistory buildings than under the action alternatives. Whereas other alternatives have a larger increase in employees than residents, the No Action Alternative includes a larger increase in residents, because the current single-use development patterns would continue. The majority of new development under this alternative occurs in the Sunset Mixed Use Subarea, where the CV designation is predominantly applied. Fewer infrastructure improvements are anticipated under this alternative; however, partial or total property acquisitions for public infrastructure projects, such as streetscapes and drainage improvements, would occur.

Generally speaking, the No Action Alternative implements the City's land use and zoning designations within the Planned Action Study Area, according to the development types envisioned in policies LU-237 through LU-239, and is otherwise consistent with the City's Comprehensive Plan goals and policies shown in Appendix E. In general, all alternatives reviewed are consistent with Land Use Element goals and policies that encourage a wide mix of uses, higher-intensity development that supports transit, and new employment opportunities and economic development in areas with the CV designation (Objectives LU-NN and XX, and Policies LU-189, 190, 191, 192, 240, 241, 242, 243, 244, 245, and 246). However, the alternatives vary in the level of consistency. The No Action Alternative provides the lowest level of consistency with these objectives and policies. However, the No Action Alternative is consistent with Policy LU-4 addressing the City's growth targets for the 2001-2022 timeframe. As such, the No Action Alternative also provides the least

consistency with the 2006–2031 growth targets ratified through a regional process in May 2010, which call for 14,835 dwelling units and 29,000 jobs to be accommodated over that 25-year planning period. The City has 3 years from ratification of new growth targets in which to amend its Comprehensive Plan for consistency with the revised targets. In addition, the No Action Alternative provides the least consistency with housing, transportation, and economic development goals and policies outlined in Appendix E.

No indirect or cumulative land use impacts are anticipated outside the study area. The City applies its policies and development regulations to create a planned land use pattern. Density is most intense along the center of the study area and least along its boundaries with single-family residential land use patterns and is unlikely to alter land use patterns or plans along the edges of the study area. The City will, as part of its regular comprehensive plan review and amendment updates, control the monitoring, evaluation, and amendment process.

Potential Sunset Terrace Redevelopment Subarea

Temporary impacts on adjacent land uses in the Potential Sunset Terrace Redevelopment Subarea under the No Action Alternative would be related to development of affordable housing on two vacant properties and a property with an existing duplex on it within the subarea. Similar to the Planned Action Study Area, incremental redevelopment within the subarea would minimize the number or residents exposed to temporary construction impacts at any one time. In addition, sporadic interference with access for adjacent residents and businesses would similarly be short-term, and implementation of appropriate mitigation measures, as described under the Planned Action Study Area above, would ensure that construction would not cause significant adverse impacts.

Redevelopment within the subarea would result in less vacant land and more developed properties. This represents an intensification of land uses within the subarea as approximately 175 new housing units are built. However, with the exception of one duplex associated with the Edmonds-Glenwood site, existing buildings in the subarea would remain, and the limited new development would not provide as much of an incentive for other redevelopment opportunities near the subarea as under the action alternatives.

Similar to the Planned Action Study Area, development in the subarea would be generally consistent with City goals and policies, but to a lesser extent than the action alternatives. In particular, the No Action Alternative provides infill of new residential development in areas with the CV designation consistent with Policy LU-191, and provides affordable housing consistent with objectives H-E and H-G. However, the alternative does not disperse low-income housing as called for in Policy H-29, nor does it discourage the creation of socioeconomic enclaves as called for in Policy LU-149.

4.8.1.2 Alternative 2

Planned Action Study Area

Targeted public investment within the Planned Action Study Area, under Alternative 2, is expected to produce a greater amount of redevelopment than would occur under the No Action Alternative, but not as much as under Alternative 3. Construction impacts would be similar to those described under the No Action Alternative, but the greater amount of development would affect more residents and land uses.

Development under Alternative 2 would implement the City's Comprehensive Plan designations within the Planned Action Study Area to a greater extent than the No Action Alternative, but not to the extent of Alternative 3. Alternative 2 would provide approximately 390 more dwellings than the No Action Alternative, most of which would occur within the Potential Sunset Terrace Redevelopment Subarea. Compared to the No Action Alternative, more development would occur as intense mixed-use development in buildings up to 60 feet in height and more development would be influenced by targeted public investments, including high visibility redevelopment of the Potential Sunset Terrace Redevelopment Subarea (discussed in detail below) into a mixed-use area at a key central location within the study area. However, less of this type of development would occur compared to Alternative 3.

Alternative 2 would add about 1,660 dwellings and 790,000 square feet of commercial space above existing conditions. Alternative 2 would provide a larger increase in employees than residents, similar to Alternative 3, but different from the No Action Alternative, in which more development occurs as residential. The majority of new commercial development under Alternative 2 would be in the form of service uses (62%), including office development and civic/community space, financial institutions and similar types of uses; the remainder (38%) would be retail. Given that existing commercial development is predominantly retail (roughly 61%), the mix resulting from Alternative 2 would be fairly balanced.

Similar to other alternatives, a large percentage of new development under this alternative occurs in the Sunset Mixed Use Subarea, where the CV designation is predominantly applied and where higher visibility public infrastructure investments are planned under Alternative 2. Infrastructure improvements, including upgrades to NE Sunset Boulevard and nearby streets would mostly occur within existing rights-of-way. However, based on review of conceptual street design, it is assumed that partial acquisitions would occur along edges of properties, particularly in areas where the right-of-way is constrained. In most cases, this would not affect the function of properties; however, in instances where existing residential buildings are located close to existing rights-of-way—particularly along the south side of NE Sunset Boulevard between Edmonds Avenue NE and Harrington Avenue NE, the eastside of Harrington Avenue NE between NE 10th Street and NE 12th Street, and the south side of NE 12th Street between Harrington Avenue NE and Jefferson Avenue NE—acquisition of one or more properties could be required.

Alternative 2 provides a greater degree of consistency with the City Land Use Element goals and policies described under the No Action Alternative, because it goes further in implementing the development types envisioned in the City's land use and zoning designations within the study area. In particular, the targeted public investments made in Alternative 2 provide more of a phased implementation of development within the Center Village consistent with Policy LU-184 and does more to develop the Center Village as envisioned in Objective LU-XX. Planned improvements to NE Sunset Boulevard and nearby streets to comply with the City's Complete Streets standards, and improvements to transit facilities in the study area, would be more consistent with Transportation Element goals that contribute to a balanced multimodal transportation system and maximize transit and person-carrying capacity of the City's transportation infrastructure (Goals, 1, 2, 3, 4, and 5 found in Appendix E). Though not necessary to help the City in meeting growth targets found in Policy LU-4 for the year 2022, growth anticipated within the Planned Action Study Area under this alternative would help the City in meeting its 2031 housing and employment targets. It also provides greater consistency with selected Economic Development Element objectives and policies relating to targeted use of public resources to fund infrastructure improvements that encourage redevelopment, including expansion of retail and office base within the city (Appendix E, Objectives

ED-A and ED-B, and Policy ED-1). In addition, public investments anticipated under this alternative would need to be accounted for in amendments to the City's Transportation and Capital Facilities elements, consistent with Goal 8 of the Transportation Element and Policy CFP-3 of the Capital Facilities Element.

Similar to Alternative 1, no indirect or cumulative land use impacts are anticipated outside the study area due to the City's planned density pattern and regular comprehensive plan review and amendment updates, which control the monitoring, evaluation, and amendment process.

Potential Sunset Terrace Redevelopment Subarea

Temporary impacts on adjacent land uses in the Potential Sunset Terrace Redevelopment Subarea would be related to development of affordable housing on two vacant properties as well as redevelopment of the Sunset Terrace public housing complex. Construction-related impacts are similar to those described under the Planned Action Study Area. The phasing plan described in Chapter 2 would minimize construction-related disruption to local residents. Assuming phasing of redevelopment and the implementation of appropriate mitigation measures, described under the No Action for the Planned Action Study Area, adverse impacts would be minimized.

Alternative 2 would triple the amount of housing provided in the subarea, with more than 300 dwellings and 38,000 square feet of retail and service uses beyond that provided under the No Action Alternative. A larger part of the subarea would be transformed by redevelopment and it would be more in keeping with the City's vision of mixed-use development than the No Action Alternative, and would serve as an incentive for other redevelopment opportunities near the subarea. Infrastructure improvements planned for the subarea include renovating streets within and adjacent to the subarea to be consistent with the City's Complete Streets standards. Streetscape improvements would generally occur within the existing public rights-of-way, but may acquire up to 5 feet of right-of-way. In limited instances, where the conceptual design shows potential for street improvements to encroach on private properties and/or buildings that are located close to the right-of-way (e.g., the northwest corner of NE Sunset Boulevard and Harrington Avenue NE) the property in question would be slated for redevelopment anyway. Conceptual design of the Sunset Terrace redevelopment under Alternative 2 (Figure 2-9) does not appear to show buildings close enough to be affected by right-of-way acquisition. Therefore, impacts from partial property acquisition for streetscape improvements would not be significant in the subarea.

Alternative 2 provides a greater degree of consistency with the City's Land Use Element goals and policies (described under the No Action Alternative) than the No Action Alternative. In particular, Alternative 2 provides redevelopment of the Sunset Terrace public housing complex with a mixed-income development that is consistent with Policies LU-149 and H-29, which discourage the creation of socioeconomic enclaves and encourage dispersion of low-income housing. Alternative 2 also does more to develop the Center Village as envisioned in Objective LU-XX than the No Action Alternative. The subarea has a similar consistency as the Planned Action Study Area for other City goals and policies.

4.8.1.3 Alternative 3

Planned Action Study Area

Alternative 3 would provide similar construction-related impacts as Alternative 2, but to a greater extent because of the larger amount of redevelopment. However, the implementation of appropriate

mitigation measures, such as dust control and construction traffic management, would ensure that construction would not cause significant adverse impacts.

Development under Alternative 3 would implement the City's Comprehensive Plan designations within the study area to a greater extent than the other alternatives, by providing more of a mixed-use, pedestrian-oriented community center. Targeted public investment within the study area is expected to produce a greater amount of redevelopment, particularly redevelopment associated with and benefiting from the larger-scale redevelopment of the Sunset Terrace public housing complex into a mixed-use development and associated infrastructure improvements at a key, high-visibility location within the study area.

Alternative 3 would provide more than 2,500 dwelling units and 1.3 million square feet of commercial space compared to existing conditions. Redevelopment would provide more commercial development than residential development. Alternative 3 provides more commercial growth, of which about 62% would be service (e.g., office and financial institution uses) and 38% retail, than Alternatives 1 or 2. This alternative would also provide almost more than two times as many residential dwellings as currently exist in the study area, and a larger amount of this new residential development would occur outside of the Potential Sunset Terrace Redevelopment Subarea. Similar to other alternatives, the most intense development would occur along and near the NE Sunset Boulevard corridor in the Sunset Mixed Use and Potential Sunset Terrace Redevelopment subareas. Development would be more intense here and would include more development influenced by the public investments than under the other alternatives. Alternative 3 would also have more development in multistory buildings up to 60 feet in height than the other alternatives.

There would be a greater amount of public infrastructure and civic improvements under Alternative 3 than under the other alternatives. Although most streetscape upgrades to NE Sunset Boulevard and nearby streets would occur within existing rights-of-way, in some instance partial right-of-way acquisitions of up to 13 feet would affect existing buildings within the study area. A review of conceptual street design indicates that a greater amount of partial acquisitions would be necessary to provide the full complement of streetscape improvements anticipated under this alternative. In addition, there is a greater likelihood that one or more properties would be acquired because of existing buildings proximate to existing right-of-way lines. These instances occur at the following locations:

- the south side of NE Sunset Boulevard between Edmonds Avenue NE and Harrington Avenue NE,
- both sides of Harrington Avenue NE between NE 10th Street and NE 12th Street,
- the south side of NE 12th Street between Harrington Avenue NE and Jefferson Avenue NE, and
- Glenwood Avenue NE (particularly on the west/south side).

In addition, civic investments under Alternative 3 would close a portion of Harrington Avenue NE between Glenwood Avenue NE and Sunset Lane NE in the Potential Sunset Terrace Redevelopment Subarea to provide a public space. Although this change to the circulation system would not affect nonmotorized traffic, vehicular traffic would need to alter travel patterns to nearby streets in order to proceed south to NE Sunset Boulevard or north to NE 12th Street and beyond.

Alternative 3 provides the greatest degree of consistency among the alternatives with the following City Comprehensive goals, objectives, and policies. Alternative 3 goes the furthest in implementing the development types envisioned in the City's land use and zoning designations within the study

area. In particular, the targeted public investments under Alternative 3 provide a greater degree of phased implementation of the Center Village designation, consistent with Policy LU-184, and do more to development the Center Village envisioned in Objective LU-XX. Planned improvements to NE Sunset Boulevard and nearby streets, and improvements to transit facilities in the study area would do more to comply with City Transportation Element goals that contribute to a balanced multimodal transportation system, and maximize transit and person-carrying capacity of the City's transportation infrastructure (Goals, 1, 2, 3, 4, and 5 found in Appendix E). Though not necessary to help the City in meeting growth targets found in Policy LU-4 for the year 2022, growth anticipated within the study area under Alternative 3 does the most to help the City in meeting its 2031 housing and employment targets. Alternative 3 also provides greater consistency with selected Economic Development Element objectives and policies relating to targeted use of public resources to fund infrastructure improvements to encourage redevelopment, including expansion of retail and office base within the city (Appendix E, Objectives ED-A and ED-B, and Policy ED-1). In addition, public investments anticipated under this alternative would need to be accounted for in amendments to the City's Transportation and Capital Facilities elements, consistent with Goal 8 of the Transportation Element and Policy CFP-3 of the Capital Facilities Element.

Similar to Alternatives 1 and 2, no indirect or cumulative land use impacts are anticipated outside the study area due to the City's planned density pattern and regular comprehensive plan review and amendment updates, which control the monitoring, evaluation, and amendment process.

Potential Sunset Terrace Redevelopment Subarea

Temporary impacts on adjacent land uses in the Potential Sunset Terrace Redevelopment Subarea would be related to redevelopment of the Sunset Terrace public housing complex, development of affordable housing on vacant properties, and completion of civic investments including a public gathering space on Harrington Avenue NE between Glenwood Avenue NE and Sunset Lane NE. Construction related impacts are similar to those described under Alternative 2. The phasing plan described in Chapter 2 would minimize construction-related disruption to local residents related to redevelopment under this alternative. Assuming phasing of redevelopment and the implementation of appropriate mitigation measures, as described under the No Action Alternative for the Planned Action Study Area above, construction would not cause significant adverse impacts.

Redevelopment within the subarea under the Alternative 3 would be similar to but more extensive than Alternative 2. Alternative 3 would provide about 479 more dwelling units than existing conditions in a mixed-use development that integrates commercial and civic spaces. This alternative would provide roughly between 170 and 300 more dwelling units and roughly between 7,000 and 39,000 square feet more commercial space than Alternatives 2 and 1, respectively. Under Alternative 3, a larger part of the subarea would be transformed by redevelopment and it would be more in keeping with the City's vision of mixed-use development than other alternatives. Further, this redevelopment of the subarea would serve as an incentive for other redevelopment opportunities near the study area.

Infrastructure improvements planned for the subarea include streetscape improvements within and adjacent to the subarea to create a more pedestrian- and transit-friendly environment, and the closure of Harrington Avenue NE between Glenwood Avenue and Sunset Lane to create a public gathering space. As described under the Planned Action Study Area above, the closure of a portion of Harrington Avenue would have an impact on vehicular traffic within the subarea. However, nearby streets provide alternate routes for access and circulation, and the street closure in conjunction with

redevelopment plans for Sunset Terrace are not anticipated to have significant land use impacts. Similar to discussion of streetscape improvements under Alternative 3 in the Planned Action Study Area, the greater degree of improvements anticipated under this alternative would involve larger amounts of partial property acquisitions (up to 13 feet) within and adjacent to the subarea. Streetscape improvements could potentially impact both existing structures and proposed structures identified in conceptual plans for the Sunset Terrace housing development along the following street frontages where smaller building setbacks exist or are proposed:

- Sunset Lane NE;
- Glenwood Avenue NE (fewer impacts on existing buildings than proposed buildings);
- NE 10th Street; and
- Harrington Avenue NE between Sunset Boulevard and Sunset Lane NE.

Refinements to the Sunset Terrace development design and the streetscape design will be coordinated to minimize impacts of the streetscape design on future redevelopment of Sunset Terrace.

Alternative 3 provides the greatest degree of consistency with the City's land use element goals and policies of all alternatives. In particular, redevelopment of the public housing community with a larger mixed-income development is consistent with Policies LU-149 and H-29, which discourage the creation of socioeconomic enclaves and encourage dispersion of low-income housing. Alternative 3 also does more to develop the Center Village as envisioned in Objective LU-XX. Development in the subarea under this alternative has a similar consistency as the Planned Action Study Area for other City goals and policies, providing a greater degree of consistency with those goals and policies than other alternatives.

4.8.2 Mitigation Measures

4.8.2.1 Planned Action Study Area

Under all alternatives, the City will require developers to implement appropriate construction mitigation measures, including but not limited to dust control and construction traffic management.

Under Alternatives 2 and 3, the City will make efforts to minimize property acquisition that affects buildings as part of its refinement of study area streetscape designs while balancing Complete Streets standards.

Under Alternatives 2 and 3, the City will need to amend its Comprehensive Plan's Transportation and Capital Facilities elements to ensure that planned public investments and their funding sources are accounted for and programmed.

There are no other specific mitigation measures required to address identified land use impacts. All alternatives implement the City's plans and zoning for the study area to varying degrees.

4.8.2.2 Potential Sunset Terrace Redevelopment Subarea

Construction mitigation would be the same as described under the Planned Action Study Area.

Under Alternatives 2 and 3, the City and RHA will coordinate on future Sunset Terrace redevelopment and Planned Action Study Area streetscape improvements to ensure that property acquisition that affects buildings is minimized.

The following measures are components of RHA's conceptual designs for Alternatives 2 and 3 and address land use issues.

- Locate the majority of the most intensive non-residential development along or near NE Sunset Boulevard, where possible.
- Implement proposed open space and landscape features to offset the proposed intensification of land uses on the site.
- Provide new opportunities for public open space area through the proposed street vacation in Alternative 3.
- As part of site design, emphasize transitions in density, with less intense densities where abutting lower-intensity zones.

4.8.3 Significant Unavoidable Adverse Impacts

Although intensification of land uses in the Planned Action Study Area, including the Potential Sunset Terrace Redevelopment Subarea, would occur and density would increase, this change would be consistent with applicable plans, zoning, and land use character. Plan consistency can be addressed by comprehensive plan amendments using the City's legislative process. Therefore, there would be no significant adverse impacts.

4.9 Socioeconomics

4.9.1 Impacts

Impacts on socioeconomics, both beneficial and adverse, are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

4.9.1.1 Alternative 1: No Action

Planned Action Study Area

Construction Impacts

Construction activities are not anticipated to result in any changes in the population characteristics of the Planned Action Study Area. Construction in the study area would result in beneficial impacts related to the creation of jobs and increased spending; however, with limited civic investment redevelopment would likely occur at a slower rate than the other alternatives, and the benefits associated with new employment and income would be more limited. Some products used during construction of a project would be purchased locally and some local firms and workers would likely be involved in construction. The number of jobs created would depend on type and size of buildings being constructed. Construction employment would be temporary and the workers could come from anywhere in the region.

Construction activities could temporarily increase congestion and reduce parking, local access for businesses and residents, and access near the construction activities, which could negatively affect businesses, but businesses located close to construction activities could experience an increase in revenue from spending by construction workers.

Operation Impacts

The Planned Action Study Area would likely continue to develop and grow assuming realization of population and job forecasts. However, the study area would not be designated a Planned Action Area; public investment in civic uses would be limited (e.g., only community space such as for a relocated library; and elder day-health services); and no major infrastructure improvements would be made to NE Sunset Boulevard, drainage, or other facilities. This would result in a relatively lower level of private investment compared to Alternatives 2 or 3. Change would occur more slowly and to a lesser degree, and any changes in the study area's population characteristics would likely remain similar to existing conditions. Across the study area, most land is privately held, and it is likely that many of the new units on vacant or redevelopable sites would be market-rate and would be a combination of rental and ownership.

Alternative 1 would not result in any improvements along NE Sunset Boulevard; existing access across the roadway as well as existing sidewalks on both sides of the roadway would be maintained. Therefore, no barriers to interaction or access are anticipated.

In terms of relocation or loss of access to community institutions, the library is anticipated to move from its current location to a new location within the Planned Action Study Area and increase in size. It is anticipated that the library would be relocated to a more prominent and larger site with adequate access consistent with King County Library System plans. Another beneficial change in community services would be the addition of elder day-health services in the Potential Sunset Terrace Redevelopment Subarea (described below). For further discussions of community institutions and potential impacts during operation, refer to the parks and recreation analysis (Section 4.15) and public services analysis (4.16).

Alternative 1 would likely improve commercial uses by providing new space and new potential customers/employees with the denser area and the addition of new dwelling units. No adverse impacts are anticipated under this alternative. Table 4.9-1 provides information on the number of dwelling units and permanent jobs that are anticipated under each alternative, based on a land capacity analysis. Alternative 1 would add between 1,483 and 1,490 dwelling units (1,308 and 1,315 units outside the Potential Sunset Terrace Redevelopment Subarea), which (based on an average household size of 2.31) would increase the population between 3,430 and 3,442 persons (3,021 and 3,037 outside the Potential Sunset Terrace Redevelopment Subarea). With the limited redevelopment, the Planned Action Study Area is estimated to add another 611 to 914 jobs (562 to 865 jobs outside the Potential Sunset Terrace Redevelopment Subarea), based on an estimated increase of approximately 250,000 square feet of new commercial and civic/educational space. Most of the increase in employment is expected in service and retail categories (88%) and less in education (12%).

Although the specific types of jobs that would be created are currently unknown, new retail and service businesses (e.g., restaurants, coffee shops, dentists, dry cleaners) are anticipated. It is likely that new jobs would be similar to those already existing (i.e., retail, services, and education). The new jobs would be available to all residents in the Planned Action Study Area and the surrounding region.

Table 4.9-1. New Dwelling Units and Jobs by Alternative

Area	Dwelling Units/Jobs	Alternative 1	Alternative 2	Alternative 3
Planned Action Study Area (excluding Potential Sunset Terrace Redevelopment Subarea)	Dwelling units[1]	1,308–1315	1,348	2,027
	Jobs	562–865[2]	2,001	3,148
Potential Sunset Terrace Redevelopment	Dwelling units	168–175[3]	310	479
	Jobs	49[4]	164	182
Totals	Dwelling units	1,483–1,490	1,658	2,506
	Jobs	611–914	2,165	3,330

[1] Includes 217 dwellings and approximately 8 jobs associated with Harrington Square constructed in Summer 2010.

[2] The lower figure shown is based on an employment rate of 400 square feet per employee for retail and service jobs. If applying an employment rate of 250 square feet per employee, the employment would equal the upper range. This latter figure is more similar to Renton Transportation Zone assumptions.

[3] The lower range represents proposed concepts on two vacant sites based on funding applications currently in process. The upper range represents the results of a land capacity analysis.

[4] The estimate is based on a 90%/10% housing/employment split between residential and service uses; the housing/employment share based on example developments prepared for RHA's two vacant sites in the Potential Sunset Terrace Redevelopment Subarea.

Displacements would occur during redevelopment as properties are acquired and redeveloped. If residents or businesses are renting or leasing the space, they would be required to relocate. As described in Section 3.9, the majority of the Planned Action Study Area is non-minority, in smaller households, and with incomes lower than the surrounding region, and these are the populations most likely to be affected. If rental properties are acquired and redeveloped, those renting would be displaced. In general, no mitigation is required as long as the tenants are provided adequate notice. Many of the renters, both residential and business, likely entered into rent or lease agreements for a specified length of time, and the property owner would not have to renew the terms once the agreed upon timeframe has expired. Relocation assistance would be required where persons are displaced as a result of a federal action or an undertaking involving federal funds.

Indirect Impacts

Construction spending would result in positive indirect effects on employment and income in the Planned Action Study Area and in the broader regional economy. Businesses that support the construction effort with building materials (e.g., cement, lumber, flooring) and equipment would likely see increased revenue.

The benefits associated with new retail and commercial space as well as a mixture of affordable and market-rate dwelling units would be smaller compared to the other alternatives. It would also take longer for housing to be redeveloped or new housing constructed in the Planned Action Study Area, and the study area would maintain existing housing characteristics for a longer duration, because of the slower growth under this alternative.

Exact types of businesses that would move to the study area or the new businesses that would be started are not known at this time. It is likely that many of the unemployed residents in the study area could apply for the new jobs. As the study area redevelops, existing businesses could see an increase in business as more people move to the study area and new jobs are created.

Redevelopment is anticipated to make the study area a more attractive place to live and work, and, consequently, could result in increases in rents for both residents and businesses. Some residents and businesses could be unable to afford the rent increases and could need to relocate elsewhere. It is assumed that new development on private properties would be market-rate; thus, the owners would be able to set the rate and any increase would be dependent on the local economy and vacancy rate in the surrounding area. In addition, if any occupied businesses or residential units are acquired for redevelopment, tenants would receive proper notice and would likely remain until their current lease expires. For non-federal actions or undertakings, these businesses or residents would not be compensated and would be required to cover their own expenses for relocating either within the study area or elsewhere.

Cumulative Impacts

If the study area is not designated as a Planned Action Area, all individual future development projects would be subject to threshold determinations under the Washington State Environmental Policy Act (SEPA), which could result in slower permitting and development compared to Alternatives 2 and 3. Combined with a lower level of growth, a lower level of civic and infrastructure investment, and lack of a strong catalyst for redevelopment, Alternative 1 would likely realize smaller economic benefits related to employment, spending, and property value. The existing socioeconomic conditions would be maintained for a longer period of time.

Potential Sunset Terrace Redevelopment Subarea

Impacts for the Potential Sunset Terrace Redevelopment Subarea under Alternative 1 would be similar to those described above for the study area as a whole; however, there would be some short-term economic benefits related to the construction of new affordable housing on the vacant land adjacent to the Sunset Terrace public housing complex. It is anticipated that between 168 to 175 new affordable dwelling units would be added, increasing population by 388 to 404 persons and creating 49 new jobs. The additional dwelling units would be affordable units based on income levels; income characteristics described for this subarea would not change substantially compared to existing conditions, because the units would be affordable and not market-rate. A greater number of senior citizens would reside in the subarea with the construction of the senior housing; daytime use for non-resident seniors would also increase with the addition of the day-health program. The elder day-health proposal would provide a beneficial service beyond the subarea to the Planned Action Study Area and the broader Renton community.

One RHA-owned duplex on the Edmonds-Glenwood site would be removed and replaced with townhouse-style units; residents have already been notified regarding relocation assistance. Housing conditions would not change for the tenants within the existing Sunset Terrace complex. The existing units would likely continue to degrade incrementally over time and require additional maintenance. The subarea would not be physically integrated with the surrounding community and it is likely that the goals and objectives stated in Chapter 2 for the Sunset Terrace public housing community would not be achieved.

Residents of the subarea would not receive any benefits associated with the new community facilities or the improvements along NE Sunset Boulevard that would be incorporated under Alternatives 2 and 3, all of which would help to improve the cohesion in the neighborhood.

4.9.1.2 Alternative 2

Planned Action Study Area

Construction Impacts

Construction impacts would be similar to those described above under Alternative 1, but the intensity would be greater due to the adoption of the Planned Action, and the greater public investment in civic and infrastructure uses, which would lead to increased, but still moderate private investment. Roadway improvements along NE Sunset Boulevard could result in access issues that require mitigation measures prior to construction to ensure that business access is maintained during construction. If the construction of improvements to NE Sunset Boulevard results in any changes to access to current businesses that do not allow the businesses to remain in their current location, or if any required acquisition would negatively affect the business, compensation would be provided under the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended, and state law. The roadway improvements would result in additional temporary construction jobs beyond those related to redevelopment in the Planned Action Study Area.

Operation Impacts

Future dwelling estimates for Alternative 2 are about 11% greater than Alternative 1 (only 3% higher without the Potential Sunset Terrace Redevelopment Subarea), and there is a greater

emphasis on jobs at a 137% increase over Alternative 1 (131% increase without the Potential Sunset Terrace Redevelopment Subarea).

The types of effects on jobs and residents in the Planned Action Study Area would be similar to those described above under Alternative 1, but the extent would be greater. In addition, Alternative 2 would improve NE Sunset Boulevard and would include a new trail and wider sidewalks, but all access points would be maintained. The addition of new community facilities including parks and open space would also benefit the study area and provide new opportunities for residents to gather and interact.

Many of the population characteristics in Table 3.9-1 would likely continue to mirror Renton as a whole, but median household income would likely increase with the greater number of affordable and market-rate units attracting residents of all ages and incomes. As described for Alternative 1, the addition of new market-rate units could result in the study area becoming less affordable to current residents. It is likely that many of the new units would be a combination of rental and ownership. The new dwelling units would increase the percentage of newer housing and the housing densities in the study area, including apartments, condominiums, and townhome units, and would decrease the percentage of lower-density forms of housing (e.g., duplexes).

Although the number of dwelling units is similar to Alternative 1, the number of new jobs would be much greater. The increase in employment would result from new public and private investment in the study area, and the estimated growth and land use capacity anticipated under Alternative 2; as described in Chapter 2, Alternative 2 is anticipated to result in a total of approximately 845,000 square feet of new commercial and educational space (93% and 7%, respectively), approximately 600,000 square feet of additional space beyond the amount estimated for Alternative 1. The addition of new jobs could decrease the unemployment rate. The study area would be revitalized to a greater degree and likely sooner than under Alternative 1, resulting in greater related benefits of the updated infrastructure and civic improvements as well as the Planned Action.

Improvements in the streetscape along NE Sunset Boulevard and the other infrastructure improvements would make the study area more desirable to investment, which could lead to additional opportunities for employment as more businesses are attracted to the study area.

Impacts on community institutions related to the library relocation and senior health services would be similar to those described for Alternative 1.

Indirect Impacts

Indirect construction impacts would generally be the same as those described for Alternative 1. However, additional public and private investment would increase spending and the degree of economic benefits. More diverse housing stock would lead to positive changes in the community and interaction of the residents. The new development would improve the cohesion of the Planned Action Study Area with the planned housing and employment growth as well as the planned amenities, which would act as a gathering place. These improvements in cohesion would act as additional draws for the study area, attracting new residents and visitors, thereby improving the economics by generating additional sales and sales tax revenues. Due to added market-rate units, some new households may have higher incomes and would likely increase spending in the study area; the improvements would likely contribute to an increase in property values in the study area. In addition, the infrastructure improvements and new development would attract more investment and may extend beyond the boundaries of the Planned Action Study Area. The increased

attractiveness of the study area would likely result in increases in real estate and market-rate dwelling units, making the study area unaffordable for some and resulting in unwanted relocations.

Cumulative Impacts

Cumulative construction impacts would depend on when construction activities occur over the life of the 20-year planning period. If projects overlap or development continues at an even pace, the economic benefits would occur over a longer duration. If construction occurs quickly and a number of projects overlapped, issues related to skilled labor shortages could result.

During operation, cumulative effects would be positive with the addition of new development that would continue to enhance the study area and improve its vitality. Civic investment would result in ongoing improvements in community cohesion and spur the growth of the study area as it becomes a more desirable place to live and work.

Potential Sunset Terrace Redevelopment Subarea

The Potential Sunset Terrace Redevelopment Subarea would realize many of the construction and operation impacts identified above under the Planned Action Study Area. Specific differences are discussed below.

Construction Impacts

The demolition of the Sunset Terrace complex to allow for redevelopment would require relocation of the tenants. Some local businesses could lose sales during construction, if the tenants are relocated outside of the immediate area. Since the total number of relocations represents a small portion of the overall population, any impact would likely be small in scale. As described under Alternative 1, it is likely that construction workers would frequent businesses, reducing potential negative impacts on local businesses. The relocation of the tenants would have short-term impacts on the cohesion of the subarea and the social interactions of the tenants depending on where residents are located.

Depending on the reconstruction timeframe of NE Sunset Boulevard, tenants could experience noise, dust, visual, and congestion impacts. Access points across NE Sunset Boulevard would be maintained during construction, avoiding negative access impacts for the tenants.

Tenants of the Sunset Terrace complex would be relocated prior to demolition of the complex and, as described in Section 3.9, the majority of the tenants (based on 2010 RHA data) are minority and lower income, and have larger household sizes. With federal funds being used to redevelop Sunset Terrace, the tenants will be offered relocation assistance in compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended. The purpose of this Act is to ensure that those affected by property acquisitions acquired by a project funded by the federal government are treated fairly, consistently, and equitably, and that they do not suffer disproportionate injuries. Tenants will be provide certain relocation services and payments, which can include moving costs reimbursement, assistance finding comparable housing, and other assistance needed to minimize impacts associated with moving. Section 8 vouchers will be used for the relocation of tenants. Once the reconstruction is complete, relocated tenants would be offered spaces in the new development.

Operation Impacts

It is anticipated that an additional 310 dwelling units, beyond the 102 replacement units, and 164 new jobs would be created. The new dwelling units would be a combination of public, affordable, and market-rate units, and would include senior housing. The added population within the subarea is estimated to be 716 persons, based on an average household size of 2.31.

Population characteristics of the subarea would change to a greater degree than in the Planned Action Study Area, because additional affordable and market-rate units would be available. It is likely the average household size would slightly decrease as smaller families and seniors relocate to the subarea and that the median household income would increase with the addition of market-rate housing and lower the percentage of individuals below the poverty level. The addition of townhomes, which could create ownership opportunities, could slightly increase the percentage of owners; however, the percentage of renters is likely to continue to dominate.

Housing characteristics in the subarea would be similar to those in the Planned Action Study Area, and these subarea improvements would improve cohesion and catalyze private reinvestment in the Planned Action Study Area. The new dwellings would substantially increase the percentage of newer housing stock in the subarea making it more attractive for renters and owners.

The new community facilities would improve cohesion for the residents, as tenants may feel more a part of the redeveloped community, and provide new locations for residents to gather and interact.

Under Alternative 2, the library could be relocated and expanded within community service space in the subarea. If located in the subarea, the library would be situated in a more prominent visual location than its current site, serving the subarea as well as the Planned Action Study Area and the broader Renton community.

Similar to Alternative 1, another beneficial service would be the addition of elder day-health services serving the subarea, Planned Action Study Area, and broader Renton community.

The reconstruction of NE Sunset Boulevard would include a number of benefits for the residents by improving access along and across the roadway.

Indirect Impacts

Increased spending is anticipated with the mixture of affordable and market-rate units, which would result in positive impacts on the businesses in the subarea and on local tax revenues.

Cumulative Impacts

Cumulative construction impacts would be similar to those described for Alternative 1, but would be greater with the increased level of development. As the subarea changes and new housing is provided, no existing public units would be lost and improvements in the neighborhood would likely continue as new developments are constructed.

4.9.1.3 Alternative 3

Planned Action Study Area

Construction, operation, indirect, and cumulative impacts would be similar to those described above for Alternative 2. The higher number of dwelling units and jobs under Alternative 3 would result in

greater intensities in development and economic benefits. There would be a 68% dwelling unit increase and 264% job increase relative to Alternative 1.

Alternative 3 would include just over 2,500 dwelling units and approximately 1,310,000 square feet of commercial space (a difference of approximately 460,000 square feet compared to Alternative 2 and 1,060,000 square feet compared to Alternative 1). The additional dwelling units would result in a total population of 5,789, based on an average household size of 2.31, within the Planned Action Study Area. (Exclusive of the Potential Sunset Terrace Redevelopment Subarea, this alternative would result in 2,027 dwellings, 3,148 jobs, and 4,684 persons.)

In addition to the facilities that would be added under Alternative 2, Alternative 3 includes a family village and a wider reconstruction of NE Sunset Boulevard. The family village would include housing, education, recreation, and supportive services that would be designed to promote a healthy and walkable neighborhood. The family village would likely result in improved cohesion of the surrounding area, by providing areas for the residents to gather and interact. The addition of the family village would likely attract families, resulting in a change in demographics in the study area; consequently, this could increase the average household size. The reconstruction of NE Sunset Boulevard would include wider sidewalks, similar to Alternative 2, and bicycle lanes in both directions. Similar to Alternative 2, these improvements would revitalize the study area and improve the overall cohesion. Although Alternative 3 would widen the roadway, the access points would be maintained and no new barriers to access would be created.

Potential Sunset Terrace Redevelopment Subarea

Construction, operation, indirect, and cumulative impacts would be similar to those described for the subarea under Alternative 2. Increased densities under this alternative would provide the greatest number of dwelling units and jobs of the alternatives considered. Under Alternative 3, 479 net dwelling units would be constructed, resulting for an estimated population of 1,106 (based on an average household size of 2.31); an additional 18 jobs would be created compared to Alternative 2. The redevelopment would be phased and the vacant sites developed first, followed by the Sunset Terrace redevelopment. For the relocation of tenants, Section 8 vouchers would be used and the relocated tenants would be offered spaces in the new development after construction, as described under Alternative 2.

4.9.2 Mitigation Measures

4.9.2.1 Planned Action Study Area

Mitigation measures to minimize dust, noise, aesthetics, and transportation impacts during construction are identified in Sections 4.2, 4.6, 4.12, and 4.14, respectively. These measures would address many of the construction-related impacts that could negatively affect study area businesses. In addition, with the reconstruction of NE Sunset Boulevard or with any of the new development, if access to businesses is affected, the following measures may be included to minimize the impacts.

- Provide detour, open for business, and other signage, as appropriate.
- Provide business cleaning services on a case-by-case basis, as needed.
- Establish promotions or marketing measures to help affected businesses maintain their customer base during construction.

- Maintain access, as much as possible, to each business and, if access needs to be limited, coordinate with the affected businesses.

No mitigation measures for operation are identified, because operation would result in beneficial impacts.

Mitigation measures to address indirect impacts on housing affordability are addressed in Section 4.10.

4.9.2.2 Potential Sunset Terrace Redevelopment Subarea

Mitigation measures would be the same as described for the Planned Action Study Area. As described above under Alternative 2, public housing tenants would be provided relocation assistance under the Uniform Relocation Act. In addition, mitigation measures could be developed to address the demolition of the Sunset Terrace complex, including the phased demolition and reconstruction to minimize the need to relocate all the residents at the same time and/or the new affordable housing development could be constructed prior to demolition to provide opportunities to relocate tenants within the subarea.

No mitigation measures for operation are identified, because operation would result in beneficial impacts.

4.9.3 Significant Unavoidable Adverse Impacts

No long-term significant unavoidable adverse impacts are anticipated under Alternatives 2 and 3. Both of these alternatives would encourage new development in the both the Planned Action Study Area and the Potential Sunset Terrace Redevelopment Subarea that would result in beneficial changes in socioeconomic conditions. Under Alternative 1, the study area would not benefit from the changes identified for the action alternatives. Instead, the study area would redevelop more slowly, and, in turn, economic conditions would improve more slowly. Connectivity would not be improved along NE Sunset Boulevard and the Sunset Terrace tenants would remain in the existing structures that would continue to degrade.

Under Alternatives 2 and 3, relocation of the tenants of the Sunset Terrace complex would result in short-term impacts; however, these impacts would be mitigated. The creation of new jobs and spending in the subarea during construction of new developments would result in short-term benefits.

4.10 Housing

4.10.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

For the purposes of this section, these terms are defined as follows:

- **Public Housing** denotes replacement Sunset Terrace public housing units, managed by the RHA and subject to U.S. Department of Housing and Urban Development (HUD) restrictions. Rent is based on household income, and units typically serve 0% to 30% Area Median Income (AMI).
- **Affordable** denotes housing which requires some type of public sector subsidy. Rents are typically set lower than market rate, units typically serve 30% to 60% AMI and eligibility includes income restrictions.
- **Market** denotes housing developed completely with private sector funds, with no restrictions on pricing or income eligibility.

4.10.1.1 Alternative 1: No Action

Planned Action Study Area

Construction Impacts

Construction of commercial, residential, and civic uses in the Planned Action Study Area would create temporary noise, dust, and construction traffic, which would affect current residents. Through City permit review and mitigation (e.g., traffic control plans, construction site erosion control, and enforcement of City noise regulations), coordinated construction plans can be developed to minimize effects.

Operation Impacts

There are 1,289 current dwelling units in the study area. The City's plans and zoning in effect allow for residential, commercial, and mixed uses at higher densities than presently exist. Under Alternative 1, it is possible that current properties would redevelop. Some properties are more likely to change in the future than others. Multiplexes or single-family dwellings that are in higher intensity zones (e.g. Center Village) would be more likely to redevelop given their location in higher traffic areas and with incentives in zoning for greater density. Multifamily complexes are less likely to change due to the greater level of investment in the site and the greater cost to redevelop. Single-family dwellings in the R-8 zone are more likely to remain.

To estimate the potential for redevelopment under Alternative 1, a land capacity analysis (Appendix B) was completed, and it is estimated that about 16% of the parcels could redevelop over the next 20 years due to the relationship of the land value and building value, the low floor area of structures, etc. It is estimated that on these buildable land parcels about 54 dwellings could be replaced with

other development, principally new dwellings; about five dwellings are located along NE Sunset Boulevard and may change to commercial uses.

Most properties in the study area are relatively more low cost than in other parts of Renton, and new dwellings could be built at market rates, though some are planned to be affordable and public, particularly in the Potential Sunset Terrace Redevelopment Subarea (addressed in more detail below). It is expected that most of the 54 dwellings would be replaced on site with the redevelopment of the properties, except for about five single-family homes that are located on NE Sunset Boulevard that have the potential to convert to commercial uses. There are some vacant properties and the redevelopment is expected to be at densities more closely aligned with zoning, allowing a net increase in units that could serve as replacement units.

The No Action Alternative would add up to approximately 1,489 new dwellings, which would more than double present dwellings. As with existing conditions, most new units would be multifamily. About 175 units would be built for affordable units. See Table 4.10-1.

Table 4.10-1. Current and Proposed Dwellings[1]—No Action Alternative

	Existing Land use		2030 Alt 1 (No Action)		2030 Alt 1 (No Action): Net	
Dwelling Type	Planned Action Study Area (total)	Potential Sunset Terrace Redevelopment (total)	Planned Action Study Area (total)	Potential Sunset Terrace Redevelopment (total)	Planned Action Study Area (net)	Potential Sunset Terrace Redevelopment (net)
Single-family home	117	0	128	0	11	0
Multifamily unit in small building (1–4)	389	10	422	14	33	4
Multifamily unit in large building (≥ 5)	783	100	2,229	271	1,446	171
Total	1,289	110	2,778	285	1,489	175

[1] Due to formulas and rounding, totals may slightly differ from estimates in Chapter 2.

Indirect Impacts

As noted in Chapter 2, a 2005 economic study indicated that businesses could be more viable if there was more housing and population that could increase demand and spending for local goods and services. Thus, increased housing could increase local resident spending at businesses in the study area.

Increased housing could also create an increased demand for parks and recreation, public services, and utilities. Those topics are addressed in individual sections of Chapter 4.

Cumulative Impacts

Growth in the study area would be consistent with the City's Comprehensive Plan and its growth targets for the year 2022. It would contribute to meeting growth targets for the City's next Comprehensive Plan Update for the year 2031.

Potential Sunset Terrace Redevelopment Subarea

Construction Impacts

Construction of residential and civic uses would create temporary noise, dust, and construction traffic, which would affect adjacent residents to the north, east, and south of the subject properties. As noted for the study area as a whole, through City permit review and mitigation (e.g., traffic control plans, construction site erosion control, and enforcement of City noise regulations), coordinated construction plans can be developed to minimize effects.

Operation Impacts

As the proposed dwellings in the subarea would largely occur on vacant sites there would be minimal displacement; only one duplex would be demolished and replaced with townhomes on the Edmonds-Glenwood site owned by RHA. RHA has notified the residents of the pending proposal and has offered relocation assistance. (Gropper pers. comm.)

Under the No Action Alternative, 175 dwellings would be added (Table 4.10-1). All dwellings added would be affordable, either to families (Edmonds-Glenwood site) or to seniors (Piha site).

Indirect Impacts

The potential for residents to help support local businesses as well as to create a demand for services is as noted for the study area as a whole.

Cumulative Impacts

The support of the new dwellings to assist the City in meeting growth targets is similar to the study area as a whole.

4.10.1.2 Alternative 2

Planned Action Study Area

Construction Impacts

The potential for construction impacts in the Planned Action Study Area under Alternative 2 is the same as for Alternative 1, except that there would be a greater amount of construction and a greater potential for impacts on surrounding land owners.

Operation Impacts

Alternative 2 assumes that about 32% of the Planned Action Study Area acreage would infill or redevelop, and this would lead to replacement of about 231 dwellings, half of which are located in the North, Central, and South subareas (combined total of 103), followed by the Potential Sunset Terrace Redevelopment Subarea (102), and lastly the Sunset Mixed Use subarea (about 26).

As described under Alternative 1, most properties in the study area are relatively more low cost than other parts of Renton, and new dwellings could be built at market rates, though some are planned to be affordable and public, particularly in the Potential Sunset Terrace Redevelopment Subarea (addressed in more detail below). It is expected that most of the 231 dwellings would be replaced on site with the redevelopment of the properties, with the same exception noted under

Alternative 1 for about five single-family dwellings along NE Sunset Boulevard that are likely to be converted to commercial uses. Also similar to Alternative 1, there are some vacant properties and the redevelopment is expected to be at densities more closely aligned with zoning, allowing a net increase in units that could serve as replacement units.

Alternative 2 would add up to approximately 1,658 new dwellings, about 11% more than Alternative 1 and 129% more than current dwellings. See Table 4.10-2. Most new units would be multifamily. While future dwellings on private sites would potentially be built as affordable, the only probable proposal is in the Sunset Terrace public housing redevelopment where about 326 units would be built as public or affordable units (occurring in the Potential Sunset Terrace Redevelopment Subarea except for 12 units likely to be built in the Sunset Mixed Use Subarea).

Table 4.10-2. Current and Proposed Dwellings—Alternative 2

	Existing Land use		2030 Alternative 2		2030 Alternative 2: Net	
Dwelling Type	Planned Action Study Area (total)	Potential Sunset Terrace Redevelopment (total)	Planned Action Study Area (total)	Potential Sunset Terrace Redevelopment (total)	Planned Action Study Area (net)	Potential Sunset Terrace Redevelopment (net)
Single-family home	117	0	127	0	10	0
Multifamily unit in small building (1–4)	389	10	2,332	409	1,549	309
Multifamily unit in large building (≥ 5)	783	100	488	11	99	1
Total	1,289	110	2,947	420	1,658	310

Indirect Impacts

The potential for residents to help support local businesses as well as to create a demand for services is similar to but greater than under the No Action Alternative, due to the increased number of dwellings under Alternative 2. Depending on the success of public and private reinvestment, another indirect impact could be additional pressure on existing housing to redevelop, beyond what's indicated in land capacity analysis and projections. However, the City monitors growth regularly through its Comprehensive Plan that is required to be reviewed every seven to 10 years. Over the 20-year period of the Planned Action, the City would review trends at least two to three times.

Cumulative Impacts

Growth in the study area would be slightly greater than previously planned under the No Action Alternative, but this slight increase of 11% would contribute to meeting the City's higher growth targets for the year 2031, to be addressed in the City's next Comprehensive Plan Update.

Potential Sunset Terrace Redevelopment Subarea

Construction Impacts

As noted in Section 2.7.2.2, the redevelopment of the Potential Sunset Terrace Redevelopment Subarea would be accomplished in two phases. Construction of residential, commercial, and civic uses would create temporary noise, dust, and construction traffic, which would affect current residents, particularly those residents that remain during the construction of the first phase. As noted for the study area as a whole, through City permit review and mitigation (e.g., traffic control plans, construction site erosion control, and enforcement of City noise regulations), coordinated construction plans can be developed to minimize effects.

Operation Impacts

The number of units eliminated would include 102 public housing and duplex dwellings. However, all public housing units would be replaced with about 88 redeveloped in the subarea and 12 developed in the study area, likely on a site in the Sunset Mixed Use Subarea where RHA owns three vacant parcels, or in the North Subarea where RHA also owns additional residential land.

The number of units added would be 310 above existing dwellings, for a total of 420 units. Of these about 75% would be public or affordable, and 24% would be market rate.

Indirect Impacts

The potential for residents to help support local businesses as well as to create a demand for services is as noted for the study area as a whole.

Cumulative Impacts

The support of the new dwellings to assist the City in meeting growth targets is similar to the study area as a whole.

4.10.1.3 Alternative 3

Planned Action Study Area

Construction Impacts

The potential for construction impacts in the Planned Action Study Area under Alternative 3 is the same as for Alternatives 1 and 2, except that there would be a greater amount of construction and a greater potential for impacts on surrounding land owners.

Operation Impacts

Alternative 3 assumes 40% of the study area acreage would infill or redevelop. This would result in the greatest number of dwellings replaced at 299 located in: the North, Central and South subareas (combined total of 163), followed by the Potential Sunset Terrace Redevelopment Subarea (110), and lastly the Sunset Mixed Use subarea (about 26). The higher number of dwellings compared to Alternative 2 are due largely to the inclusion of the family village concept in the North Subarea.

As described under Alternatives 1 and 2, most properties in the study area are relatively more low cost than in other parts of Renton, and new dwellings could be built at market rates, though some

are planned to be affordable or public, such as with the family village in the North Subarea as well as in the Potential Sunset Terrace Redevelopment Subarea (addressed in more detail below). It is expected that most of the 299 dwellings would be replaced on site with the redevelopment of the properties. There is a similar exception, noted under Alternative 1, for about five single-family dwellings along NE Sunset Boulevard that would likely be converted to commercial uses. Also similar to Alternatives 1 and 2, there are some vacant properties and the redevelopment at higher densities could serve as replacement units.

Alternative 3 would add up to approximately 2,507 new dwellings, about 194% more than current dwellings, 68% more than Alternative 1, and 51% more than Alternative 2 (Table 4.10-3). Most new units would be multifamily. Some units, as described under Construction Impacts, would be public or affordable.

Table 4.10-3. Current and Proposed Dwellings[1]—Alternative 3

	Existing Land use		2030 Alt 3		2030 Alt 3: Net	
Dwelling Type	Planned Action Study Area (total)	Potential Sunset Terrace Redevelopment (total)	Planned Action Study Area (total)	Potential Sunset Terrace Redevelopment (total)	Planned Action Study Area (net)	Potential Sunset Terrace Redevelopment (net)
Single-family home	117	0	127	0	10	0
Multifamily unit in small building (1–4)	389	10	2,952	575	2,169	475
Multifamily unit in large building (≥ 5)	783	100	716	14	327	4
Total	1,289	110	3,796	589	2,507	479

[1] Due to formulas and rounding, totals may slightly differ from estimates in Chapter 2.

Indirect Impacts

The potential for residents to help support local businesses as well as to create a demand for services is similar to but greater than Alternative 1 and Alternative 2, due to the increased number of dwellings in Alternative 3 (the greatest of all the studied alternatives). Depending on the success of public and private reinvestment, which is anticipated to be greatest under Alternative 3, another indirect impact could be additional pressure on existing housing to redevelop, beyond what is indicated in land capacity analysis and projections. However, as noted for Alternative 2, the City monitors growth regularly through its Comprehensive Plan, and over the 20-year period of the Planned Action, the City would review trends at least two to three times.

Cumulative Impacts

Growth in the study area would be greater than previously planned in the No Action Alternative, but this increase of 68% would contribute to meeting the City's higher growth targets for the year 2031, to be addressed in the City's next Comprehensive Plan Update.

Potential Sunset Terrace Redevelopment Subarea

Construction Impacts

The redevelopment of the subarea would likely occur in phases as described in Section 2.7.2.2. Construction of residential, commercial, and civic uses would create temporary noise, dust, and construction traffic, which would affect current residents, particularly those residents that remain during the construction of an earlier phase(s). Mitigation would be required to minimize effects as noted for Alternatives 1 and 2 (e.g., traffic control plans, construction site erosion control, and enforcement of City noise regulations).

Operation Impacts

In this subarea, 110 public housing and duplex dwellings would be eliminated. All public housing units would be replaced, although the percentage replaced on site versus elsewhere in the Planned Action Study Area is not defined. It may be similar to Alternative 2, which replaces 88 units on site and 12 offsite.

The number of units added would be 479 above existing dwellings, for a total of 589 units. Of these, approximately 74% would be either affordable or public and 26% would be market-rate dwelling units.

Indirect Impacts

The potential for residents to help support local businesses as well as to create a demand for services is as noted for the Planned Action Study Area as a whole.

Cumulative Impacts

The support of the new dwellings to assist the City in meeting growth targets is similar to the study area as a whole.

4.10.2 Mitigation Measures

4.10.2.1 Planned Action Study Area

Renton Municipal Code (RMC) 4-4-030(C) identifies construction hours intended to address noise in sensitive time periods. See Section 4. 6, Noise, regarding other noise mitigation measures for construction periods.

When federal funds are being used for a proposal, displaced tenants will be offered relocation assistance in compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended.

The City and RHA could apply for federal, state, and local funding programs described in Section 3.10 to promote new housing opportunities for low and very low-income housing in the Planned Action Study Area.

RHA could establish a local preference for rental assistance. For example, RHA could establish a priority list for Section 8 vouchers for displaced low-income tenants in the in the Planned Action Study Area (in addition to the relocation assistance to be provided by RHA to the Sunset Terrace residents).

It is expected that, under Alternative 3, unit replacement and relocation assistance for the family village would be the same as described for the Potential Sunset Terrace Redevelopment Subarea below.

4.10.2.2 Potential Sunset Terrace Redevelopment Subarea

Construction mitigation would be as described for the Planned Action Study Area.

For Alternatives 2 and 3, RHA has committed to replacement housing at a 1:1 ratio for the Sunset Terrace public housing units, consistent with the existing proportion of units by number of bedrooms. Such replacement housing could occur on site and/or off site, as described above. During the time replacement housing is under construction, Section 8 vouchers would be used to relocate tenants. Relocation assistance would only be needed for two units in association with Alternative 1.

4.10.3 Significant Unavoidable Adverse Impacts

Housing in the Planned Action Study Area would likely redevelop to some degree to take advantage of adopted plans and zoning. However, the alternatives would allow for the construction of new dwelling units to replace those that are eliminated. Lower cost housing could be replaced with more costly housing. Implementation of City regulatory incentives and use of federal, state, and local housing funds and programs could reduce potential affordability impacts. Through its regular Comprehensive Plan review cycles, the City could monitor housing trends in the neighborhood and adapt measures to promote affordability.

During construction and in the short-term, residents would be subject to construction activities and the tenants of the Sunset Terrace complex would be required to relocate during demolition and construction. However, relocation assistance mitigation measures for RHA units would mitigate impacts.

4.11 Environmental Justice

This section analyzes the impacts (beneficial and adverse) of the proposal alternatives on environmental justice populations in the Planned Action Study Area, generally, and the Potential Sunset Terrace Redevelopment Subarea, specifically, to determine if they would result in disproportionately high and adverse impacts on environmental justice populations. Please see Appendix I regarding a review of public health in land use planning and community design for additional analysis.

4.11.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. In the Planned Action Study Area growth consistent with City plans and zones is expected, but the exact types of development are not known. Thus, the impact analysis is based generally on the types of impacts that would be expected with construction and operation. However, for the Potential Sunset Terrace Redevelopment Subarea conceptual plans have been prepared (See Figures 2-9 and 2-10) and are evaluated.

4.11.1.1 Alternative 1: No Action

Planned Action Study Area

Construction Impacts

Because public investment in the Planned Action Study Area would be low under the No Action Alternative, private redevelopment and related construction activities would be limited and dispersed. Residents near construction activities would likely be affected by temporary noise, dust, and visual impacts due to construction; these impacts would be short-term in nature and would be minimized through implementation of mitigation measures. In addition, the population of the Planned Action Study Area is predominately non-minority and non-low-income and any negative impacts would likely occur on these populations to a greater degree than the minority and low-income populations.

Operation Impacts

The exact extent and timing of any project development that would be included under Alternative 1 is not known, but it is anticipated that approximately 1,490 dwelling units and between 611 to 914 jobs would be added to the Planned Action Study Area. Without the pedestrian- and transit-oriented improvements to NE Sunset Boulevard under this alternative, the benefits to low-income populations, who may rely on these forms of travel, would not occur. This would not result in any adverse impacts since the existing roadway contains sidewalks and access points to cross. In addition, no new park facilities would be added under this alternative. Consequently, residents would not realize any related benefits in improved community cohesion and improved aesthetics, or potential health benefits from increases in physical activity from the new parks or from the added

bike lanes along NE Sunset Boulevard for bicycles. However, this is not anticipated to result in any adverse impacts that could be disproportionately high and adverse.

Indirect Impacts

With limited investment in the Planned Action Study Area under the No Action Alternative, any indirect benefits of redevelopment and associated growth (e.g., new housing, increased employment opportunities, and improved aesthetics) would be low. The new dwellings that would be constructed outside of the Potential Sunset Terrace Redevelopment Subarea may not include any affordable housing for low-income populations. Temporary increases in employment related to construction would occur within the Planned Action Study Area, but these jobs may or may not directly benefit residences of the Planned Action Study Area, because of necessary skills related to construction jobs (i.e., electrician, plumber, truck driver, and equipment operator).

The introduction of new retail and commercial space within the Planned Action Study Area would increase employment opportunities. These opportunities would benefit all study area populations, but could benefit minority and low-income populations to a greater degree. Also, minority and low-income populations would have access to the jobs to the same degree as the non-minority and non-low-income populations. However, because the types of jobs and wages are not known, it cannot be determined if these would be living-wage jobs or if they would be lower-wage jobs that would not improve household incomes, especially for lower-income households. This is not anticipated to result in any adverse impacts that could be disproportionately high and adverse.

Cumulative Impacts

Cumulative impacts would depend on the type of development planned in the Planned Action Study Area. There would be beneficial effects on all populations with the addition of new housing and jobs. The type of housing is not known for most of the study area (i.e., affordable or market rate), but if the majority is market rate, there would be no beneficial impact on the lower-income populations; as described above, if the jobs do not provide a living wage they would not likely result in any positive impacts on lower-income households or in their household income. This is not anticipated to result in any adverse impacts that could be disproportionately high and adverse.

Potential Sunset Terrace Redevelopment Subarea

Construction Impacts

Because the existing Sunset Terrace complex would not be redeveloped under the No Action Alternative, relocation of existing Sunset Terrace public housing tenants would not occur. However, the RHA-owned duplex at the Edmonds-Glenwood site would redevelop, and relocation services for tenants of the two units would be provided.

Residents in close proximity to NE Sunset Boulevard could be affected by construction. Impacts would be the same as those described above under the Planned Action Study Area. Construction of new affordable housing adjacent to the Sunset Terrace complex including the northwestern and eastern vacant sites would result in short-term impacts related to noise and dust on nearby residents. Because the subarea population is predominately minority and low-income, the construction impacts would affect this population to a greater degree. However, these impacts would be short-term in nature and would be minimized through implementation of mitigation

measures, so they are not considered to be adverse and, therefore, would not result in any disproportionately high and adverse impacts on minority or low-income populations.

Operation Impacts

Development of additional affordable housing on vacant properties in this subarea would be beneficial to lower-income populations; however, development of public housing, which would be beneficial for the low-income populations, would not occur under this alternative. The existing tenants of the Sunset Terrace complex, however, would not benefit from the new housing directly; they would remain living in the current housing complex that is antiquated and dilapidated. Residents would not benefit from the public amenities proposed under the action alternatives: community gathering space or a community center, senior center, public library, new park/open space, and additional retail shopping and commercial space.

Alternative 1 does not result in the creation of any barriers to access for any populations including minority and low-income populations. Even without improvements to NE Sunset Boulevard, residents would still have access across the roadway.

Impacts described above under the Planned Action Study Area would be the same for subarea residents, related to community cohesion, improved aesthetics, and potential health benefits.

Indirect Impacts

New retail and commercial space would be outside of the subarea, but the new employment opportunities could be seen as more beneficial to subarea residents who may be unemployed or not have their own vehicle and would, therefore, benefit more from the proximity. Because the types of businesses that would be located in the subarea and the corresponding wages of the jobs they would provide are unknown, the extent of benefits to low-income individuals cannot be determined. The new job opportunities could provide health-care benefits for those who were formerly unemployed; however, if newly employed individuals were not offered health benefits or decided not to participate due to the costs associated with the health care plan, they would lose access to public assistance. In this case, the potential loss of access to health care would be an adverse impact.

Cumulative Impacts

New housing would consist of affordable family and senior housing; this could benefit environmental justice populations.

4.11.1.2 Alternative 2

Planned Action Study Area

Construction Impacts

Under Alternative 2, mixed-use development at strategic nodes in addition to residential uses and local-serving commercial development throughout the Planned Action Study Area would result in dust, noise, and visual impacts on nearby residents from construction activities. Residents in close proximity to construction on NE Sunset Boulevard would also be affected by dust, noise, visual, and traffic impacts. Because the Planned Action Study Area population is predominately non-minority and non-low-income, these impacts would not be considered disproportionately high and adverse impacts on minority or low-income populations.

Operation Impacts

Residential, commercial, and recreational development and civic and infrastructure improvements under Alternative 2 would improve the overall neighborhood, making it a more cohesive and desirable place to live. Residents would have new areas to interact, and the redevelopment would improve the overall visual quality of the Planned Action Study Area with the addition of new development. This would benefit all populations within the Planned Action Study Area, including minority and low-income populations. The improvements on NE Sunset Boulevard would improve access across the roadway and would include a trail resulting in improvements for those who walk or bicycle. The addition of new park facilities and the improvements on NE Sunset Boulevard could provide health benefits. This benefit would apply to all populations within the Planned Action Study Area.

Indirect Impacts

Although additional development would occur in the Planned Action Study Area, the indirect impacts would be the same as those identified under Alternative 1.

Cumulative Impacts

Cumulative impacts would primarily be beneficial. As the Planned Action Study Area continues to redevelop with new investments, public and private, it would become more desirable for the residents and would continue to create new jobs. The new development and addition of more market-rate units could cause the Planned Action Study Area to become less affordable to lower-income populations, which could result in these populations needing to relocate outside of the Planned Action Study Area.

Potential Sunset Terrace Redevelopment Subarea

This section discusses the impacts on environmental justice populations that are specific to the Sunset Terrace redevelopment.

Construction Impacts

Residents in close proximity to NE Sunset Boulevard could be affected by construction. Impacts would be the same as those described above for the Planned Action Study Area.

The demolition of the Sunset Terrace complex and construction of the proposed Alternative 2 conceptual plans would require the relocation of the tenants of the Sunset Terrace complex likely through Section 8 vouchers. Because the tenants are low-income and predominately minority, this would constitute a greater impact on these populations than other populations. The relocation of the tenants potentially outside of the immediate area could also result in additional temporary impacts related to being further from their jobs, social services, transit, and community. Relocated tenants would be compensated through the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. This act establishes uniform, fair, and equitable treatment of displaced individuals and businesses. With this compensation, these impacts are not considered disproportionately high and adverse on minority or low-income populations.

Tenants would be relocated prior to construction of each new housing phase; those tenants remaining during the construction of early redevelopment phases would be subject to impacts related to noise and dust anticipated during demolition. However, no adverse impacts are

anticipated as demolition activities would need to comply with all local, state, federal regulations, which could include removal of lead-based paint and ACMs. During construction, there are no impacts that would be considered disproportionately high and adverse impacts, because the relocated tenants would be provided assistance, as described above. In addition, impacts associated with construction activities would be temporary and mitigation measures would be included to minimize any impacts.

Operational Impacts

Under Alternative 2, the 100 existing Sunset Terrace public housing units would be replaced at a 1-to-1 ratio. Of these, 88 units would be replaced on the existing Sunset Terrace complex site and 12 units would be located on vacant or redevelopable lots currently owned by RHA elsewhere in the Planned Action Study Area. Current tenants would be offered the opportunity to move into these new units, which would occur in a rebuilt setting with new landscaping and pedestrian facilities, and a new library and/or community service facility. There would be beneficial health effects associated with the new housing, especially if the old housing (constructed in 1959) contains any lead-based paint or ACMs.

Alternative 2 would have a number of beneficial effects for minority and low-income populations in the subarea, including the redevelopment of the existing dwelling units, construction of additional units, transportation improvements, and the addition of other community facilities (i.e., senior center, parks). These changes would result in improvements to public health and to the aesthetics of the subarea. These would all improve community cohesion for subarea residents. Since no adverse impacts are anticipated, there are no impacts that would be considered disproportionately high and adverse impacts.

In addition, subarea residents would realize the beneficial effects associated with the improvements in the Planned Action Study Area. These beneficial effects would accrue to all populations including minority and low-income populations, in particular, the improvements along NE Sunset Boulevard related to wider sidewalks, the eastbound bicycle facilities, and transit for those who rely on other modes of travel, and the addition of new parks and open space. Additionally civic facilities would be a benefit for the entire Renton community including those outside of the subarea and would serve as gathering places that would enhance community cohesion.

Indirect Impacts

Although additional development would occur in the subarea, the indirect impacts would be the same as those identified under Alternative 1. Increasing the variety of residential unit types and affordability levels would reduce the concentration of low-income households in the subarea, and thereby reduce or eliminate some of the social consequences of such concentrations.

Cumulative Impacts

The cumulative impacts identified above under the Planned Action Study Area are not anticipated within the Potential Sunset Terrace Redevelopment Area as the new dwelling units would be affordable and public units. The beneficial cumulative impacts identified above under the Planned Action Study Area would be similar.

4.11.1.3 Alternative 3

Planned Action Study Area

Construction Impacts

Impacts related to the construction NE Sunset Boulevard improvements would be the same as those described above under Alternative 2. The demolition of the Sunset Terrace complex and construction of the proposed Alternative 3 conceptual plans would require the relocation of the tenants of the Sunset Terrace complex likely through Section 8 vouchers. Under Alternative 3, a higher level of growth and major public investment in infrastructure and public services throughout the Planned Action Study Area would result in construction impacts similar to but more widespread than the other alternatives.

Operation Impacts

Residential, commercial, and recreational development and civic and infrastructure improvements under Alternative 3 would improve the overall neighborhood, making it a more cohesive and desirable place to live for all populations in the Planned Action Study Area, including minority and low-income populations. Alternative 3 includes similar improvements along NE Sunset Boulevard, but would provide eastbound and westbound bicycle lanes on the roadway. These additions would be beneficial for those who rely on nonmotorized modes of travel. Alternative 3 also includes the addition of new parks and open space, where residents could gather and interact thereby strengthening community cohesion.

Beyond benefits described in Alternative 2, the creation of a family village in the North Subarea would provide opportunities for housing, education, recreation, and supportive services. The family village would improve cohesion for all residents as well by providing a new gathering location. The family village would be beneficial for all populations in the Planned Action Study Area, but these benefits could accrue to a greater degree for minority and low-income populations due to the close proximity, especially for those without access to a vehicle. In addition, depending on the supportive services provided, these benefits would accrue to the minority and low-income populations in the Planned Action Study Area, especially if the services are focused on providing support to environmental justice populations.

Similar to Alternative 2, the addition of the new civic facilities would be a benefit for the entire community and act as a gathering place that would enhance community cohesion. In addition, the subarea residents would realize the beneficial effects associated with the improvements in the Planned Action Study Area. The roadway improvements would also be beneficial to all populations. Overall, the changes would improve community cohesion for the same reasons identified above under Alternative 2.

Since the improvements would result in beneficial effects, no adverse impacts and, therefore, no disproportionately high and adverse impacts are anticipated during operation.

Indirect Impacts

Although additional development would occur in the Planned Action Study Area beyond what is planned for in Alternative 2, the indirect impacts would be similar to those identified under Alternative 1.

Cumulative Impacts

Cumulative impacts would primarily be beneficial as noted for Alternative 2. As the Planned Action Study Area continues to redevelop with new investments, public and private, it would become more desirable for the residents and would continue to create new jobs. Also, similar to Alternative 2, but with a greater potential due to greater growth, the new development and addition of more market-rate units could cause the Planned Action Study Area to become less affordable to lower-income populations, which could result in these populations needing to relocate outside of the Planned Action Study Area.

Potential Sunset Terrace Redevelopment Subarea

Construction Impacts

Construction impacts on minority and low-income populations would be similar to those described for Alternative 2. Construction impacts could occur for a longer duration due to the additional amount of development associated with Alternative 3, but it is not anticipated any relocations of the tenants would be for a longer duration and impacts associated with relocation would be the same as those identified under Alternative 2.

Operational Impacts

Under Alternative 3, the 100 existing Sunset Terrace public housing units would be replaced at a one-to-one ratio on site or in the surrounding neighborhood. Current tenants would be offered the opportunity to move into these new units which would occur in a rebuilt mixed-use setting with additional public facilities beyond those described for Alternative 2, including a new park/open space as well as retail shopping and commercial space. Similar to Alternative 2, there would be beneficial health effects associated with the new housing especially if the old housing (constructed in 1959) contains any lead-based paint or ACMs. These changes would all be considered beneficial to the minority and low-income populations of this subarea.

These changes would result in the same benefit as discussed above in Alternative 2, including improvements in community cohesion as a result of new public gathering places, the improvements in aesthetics associated with the new buildings, and the improvements along NE Sunset Boulevard that would also improve cohesion.

Since the improvements would result in beneficial effects, no adverse impacts and, therefore, no disproportionately high and adverse impacts are anticipated during operation.

Indirect Impacts

Although additional development would occur in the subarea beyond what is planned for in Alternative 2, the indirect impacts would be similar to those identified under Alternative 1.

Also, similar to Alternative 2, increasing the variety of residential unit types and affordability levels would reduce the concentration of low-income households in the subarea, and thereby reduce or eliminate some of the social consequences of such concentrations.

Cumulative Impacts

The cumulative impacts identified above under the Planned Action Study Area are not anticipated within the Potential Sunset Terrace Redevelopment Subarea, because the public housing units would be replaced and other affordable, public, and market-rate units would be developed. Public units would be administered by RHA. The beneficial cumulative impacts identified above under the Planned Action Study Area would be similar.

4.11.2 Mitigation Measures

4.11.2.1 Planned Action Study Area

There are no specific mitigation measures related to environmental justice during construction or operation. During construction, mitigation measures related to noise, dust, traffic congestion, and visual quality would be applicable to all populations. These measures are described in Draft EIS sections 4.2, 4.6, 4.12, and 4.14.

Since the implementation of a planned action is anticipated to result in beneficial effects on all populations, no mitigation measures are required.

4.11.2.2 Potential Sunset Terrace Redevelopment Subarea

Mitigation measures during construction would include the need for replacement housing for the residents of Sunset Terrace. It is likely that the tenants would be relocated under a potential Section 8 voucher strategy during construction. Additional information on the likely sequence of events implemented for the relocation of the Sunset Terrace tenants is provided in Section 4.9, Socioeconomics.

Mitigation measures during operation would not be required as the build alternatives would result in positive and beneficial impacts on all populations including minority and low-income populations through improvements in housing, civic amenities, and economic climate.

4.11.3 Significant Unavoidable Adverse Impacts

There are no long-term significant unavoidable adverse impacts related to environmental justice as the action alternatives would result in primarily beneficial impacts associated with new dwelling units, new civic facilities and parks, improvements in nonmotorized transportation, and new employment opportunities in the surrounding area.

During construction and in the short-term residents would be subject to construction activities and the tenants of the Sunset Terrace complex would be required to relocate during demolition and construction. However, construction mitigation and relocation assistance mitigation measures (for the RHA units) would minimize impacts.

4.12 Aesthetics

4.12.1 Impacts

Impacts that are common to all alternatives are described first, followed by a description of impacts under each alternative. Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

4.12.1.1 Impacts Common to All Alternatives

Construction Impacts

Under all alternatives, demolition of existing structures and construction of new buildings would expose nearby residents to visual impacts, including dust, the presence of construction equipment, stockpiles of construction materials, localized increases in vehicular traffic, and on-site construction activities. For each alternative, these activities would occur sporadically at various locations throughout the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, would be localized to the construction site, and would be temporary in nature. Due to the low level of catalyzing public investment, the No Action Alternative would result in the lowest levels of temporary construction impacts, whereas Alternative 3 would result in the highest.

Indirect and Cumulative Impacts

Approval of any of the alternatives for redevelopment of the Planned Action Study Area and the Potential Sunset Terrace Redevelopment Subarea would result in cumulative changes to the overall aesthetic character of these areas. As described in Chapter 2, the No Action Alternative would feature the least public investment, while Alternative 3 would include the most. Redevelopment of the Sunset Terrace housing facility would be a localized action under Alternatives 2 and 3, but additional private development is anticipated to occur in response to this public investment, and each private development project would contribute to the overall transformation of the Planned Action Study Area's aesthetic character. In contrast, under Alternative 1, development in the Potential Sunset Terrace Redevelopment Subarea would occur on largely vacant properties but is not anticipated to change the Sunset Terrace public housing community itself and would be less of a catalyst for change in the broader Planned Action Study Area.

While redevelopment of the public facilities discussed under the various alternatives would be a coherent effort, private development throughout the study area would occur piecemeal, and these individual private developments, which are likely to be of higher density, greater height, and a different architectural style than existing development, have the potential to create temporary aesthetic conflicts where they are located adjacent to older structures. Over time, as more properties redevelop, the temporary conflicts would be less frequent and less noticeable. This effect would be least pronounced under the No Action Alternative and most pronounced under Alternative 3.

The introduction of higher-density development to the Planned Action Study Area under any of the alternatives also has the potential to increase levels of ambient light and glare, particularly along

major roadways and at nodes of commercial development. Commercial and mixed-used development would contribute more heavily to increased light and glare through increased need for exterior building illumination, lighting for parking areas, and the potential for increased usage of illuminated signs. Higher-density development also has the potential to generate higher levels of vehicular traffic, which would increase light and glare levels during nighttime hours. As described previously, private development throughout the Planned Action Study Area would occur piecemeal, and each additional development would potentially contribute to a cumulative increase in levels of ambient light and glare. This effect would be least pronounced under the No Action Alternative and most pronounced under Alternative 3.

While allowed maximum building heights would not increase under any of the alternatives, redevelopment of the Planned Action Study Area would result in taller building heights compared to existing conditions. These localized increases in heights would potentially interfere with the territorial views available at various points throughout the study area. As described in Section 3.12, these views are mostly available at the western and southern edges of the Planned Action Study Area, and along NE Sunset Boulevard, west of Harrington Avenue NE. While redevelopment of properties south of NE Sunset Boulevard would potentially affect southern territorial views, the general increase in building height is likely to create additional upper-story views that are not currently available. This is particularly true in the Potential Sunset Terrace Redevelopment Subarea. Redevelopment in this subarea would increase the availability of territorial views to the south, as well as create new views to the west, which are currently blocked by the presence of vegetation and other development.

4.12.1.2 Alternative 1: No Action

Planned Action Study Area

Visual Character

Because public investment in the Planned Action Study Area would be lower under the No Action Alternative, private redevelopment would be limited, and occasional changes would occur to the visual character of the study area compared to Alternatives 2 and 3. While some residential and mixed-use, pedestrian-oriented development may occur as infill or redevelopment on 16% of the parcel acreage, most of the existing older housing stock would not be replaced by new construction. Most of the projected change would occur along NE Sunset Boulevard in the Sunset Mixed Use Corridor with less change in all other subareas (See section 2.7.2.1, Figures 2-7 and 2-8). There would be small areas of residential redevelopment in the north, central, and south subareas, with the addition of educational space at McKnight Middle School in the north subarea.

Thus, the Planned Action Study Area as a whole would retain more of its current low-density, auto-oriented character than with Alternatives 2 and 3.

Height and Bulk

Under the No Action Alternative, private redevelopment would occur more sporadically, and building heights would change at fewer locations in the Planned Action Study Area, with more change anticipated in the Sunset Mixed Use Subarea. In areas where redevelopment does occur, building heights would remain limited to 50 feet for residential-only development and 60 feet for buildings with ground-floor retail. Mixed-use development fronting NE Sunset Boulevard east of Harrington Avenue NE would likely reach 60 feet, because the requirement of residential buildings

in this area to include ground-floor retail uses (RMC 4-2-080A73) comes with the allowance for this height increase. While height or bulk impacts are not anticipated to be significant for the majority of the Planned Action Study Area, localized conflicts of scale could result where new development occurs adjacent to existing development. Differences in height, particularly in the CV zone, could require the application of design standards, such as increased setbacks adjacent to residential zoning.

Shade and Shadow

Because large increases in building height would not occur in the Planned Action Study Area under the No Action Alternative, shading impacts are not anticipated to be significant. Isolated shading impacts could occur where new development is located adjacent to older buildings of lower height, though environmental and design review of such projects would occur at the time of permit application. Public areas, such as parks and plazas, are particularly sensitive to shading effects. CV zone development on the south side of NE 12th Street would potentially shade the southern edge of the McKnight Middle School playfields, though the effect would be relatively minor, given the width of the street separating them. Sunset Court Park, located north of Potential Sunset Terrace Redevelopment Subarea on Harrington Avenue NE, is currently surrounded by parcels zoned CV, though existing heights are low. Redevelopment at the allowed 50 to 60 feet on these adjacent parcels could produce adverse shading effects on the park property.

Potential Sunset Terrace Redevelopment Subarea

Visual Character

Under the No Action Alternative, the visual character of this subarea would undergo limited change. RHA would construct a new affordable family housing facility on the two vacant parcels in the northwest corner of the subarea, and a senior housing and day health center on a vacant parcel to the northeast, but the existing Sunset Terrace public housing property would not be redeveloped. Overall, the visual character of the subarea from NE Sunset Boulevard would remain very similar to existing conditions, but there would be some change along interior streets such as Sunset Lane NE.

Townhomes proposed along Glenwood Avenue NE se would serve as a buffer between the lower-density duplexes immediately to the east and south and higher-density development to the west and north. Two new multifamily buildings would be located along Edmonds Avenue NE just north of an office development and south of a multifamily complex, and the intervening townhomes would provide a transitional area between this development and the duplexes to the east.

The senior housing development would abut commercial development and a multifamily condominium development. Generally, with the intensity of the adjacent uses and with the application of City design standards, compatibility is expected.

Height and Bulk

Under the No Action Alternative, heights in the subarea would remain similar to current conditions along NE Sunset Boulevard, with some changes along interior streets up to four stories on two vacant parcels to the northwest and one vacant parcel to the northeast. RHA would construct a new affordable housing facility on the two vacant parcels in the northwest corner of the subarea, which would be approximately four stories in height. While taller than the nearby duplex homes along Glenwood Avenue NE, the building would be of similar height to the apartment buildings located

immediately to the north at the intersection of Edmonds Avenue NE and NE 12th Street. Townhomes would be proposed closest to the duplexes, which is anticipated to result in a transitional height of three stories near abutting duplex units. A four-story senior housing and day health center would abut single-story commercial to the south and a three-story condominium development to the north. With the intensity of nearby commercial and multifamily uses, as well as application of City design standards, significant height and bulk impacts are not anticipated.

Shade and Shadow

Under the No Action Alternative, height increases in the subarea would be limited to the new RHA housing facilities, which would have the potential to increase shading of adjacent properties to the north, though the effect would be minor due to similarity in height. Shading impacts could be minimized through the application of buffers or upper-story setbacks adjacent to existing development.

4.12.1.3 Alternative 2

Planned Action Study Area

Visual Character

Under Alternative 2, visual character in the Planned Action Study Area would undergo some changes, concentrated at strategic nodes of mixed-use development, primarily in the Sunset Mixed Use Subarea and the Potential Sunset Terrace Redevelopment Subarea with less growth planned for the North, Central, and South subareas. Overall, about 32% of the Planned Action Study Area acreage would infill or redevelop, which would lead to a greater change in character to a mixed-use, pedestrian-oriented community. Redevelopment in the Planned Action Study Area would also replace aging housing stock with newer, higher-quality construction.

Institutional changes in the north subarea would include an expanded early childhood educational center and an addition to McKnight Middle School. Joint use of recreational facilities is anticipated at the Hillcrest Early Childhood Center and North Highlands Park, thus rearranging the location of these uses on two-thirds of the superblock and allow for greater connectivity.

Improvements along NE Sunset Boulevard would create a more pedestrian-oriented character, in keeping with the City's Complete Streets standards. The incorporation of natural stormwater infrastructure into street improvements would also add vegetation and green space to the study area, though this would primarily be limited to public properties and rights-of-way. While these changes in visual character would occur in limited locations, they would result in an overall improvement of the visual environment in the Planned Action Study Area.

Height and Bulk

Height and bulk in the Planned Action Study Area would moderately increase under Alternative 2. Private redevelopment would be concentrated near areas of public reinvestment, such as the Potential Sunset Terrace Redevelopment Subarea and along NE Sunset Boulevard. The height of new development would be limited by current zoning at 50 feet, or 60 feet for mixed-use buildings with ground-floor retail, which is taller than the one to two stories typically seen throughout much of the Planned Action Study Area. It is anticipated that mixed-use development fronting NE Sunset Boulevard east of Harrington Avenue NE would reach 60 feet, as residential buildings in this area

are required to include ground-floor retail uses (RMC 4-2-080A73), as described for Alternative 1. Localized conflicts of scale could occur between new and existing development, particularly at transitions between the CV zone, which allows heights of 50 to 60 feet, and the R-14 zone, which limits heights to between 20 and 30 feet. The application of mitigation measures, such as adopted standards for increased setbacks adjacent to residential zoning (RMC 4-2-120A), would be necessary where new development is located adjacent to existing development to reduce visual impacts on existing residents.

Shade and Shadow

As described above under "Height and Bulk," Alternative 2 has the potential to result in localized height increases. Also, shading impacts could occur where new structures are adjacent to existing development of two stories or lower, such as along Glenwood Avenue NE, requiring the application of mitigation measures, such as upper-story setbacks or ground-level buffers, to minimize shading effects. Effects on parks would be similar to those described for the No Action Alternative.

Potential Sunset Terrace Redevelopment Subarea

Visual Character

Under Alternative 2, the visual character of the Potential Sunset Terrace Redevelopment Subarea would change from its current state to a pedestrian-oriented community with a mix of residential, ground-floor commercial, and community uses surrounding an approximately 0.89-acre park. As depicted in Figure 2-9, the eastern end of the subarea would contain several mixed-use buildings containing civic/community facilities, as well as a mix of retail and residential development. The application of currently adopted development regulations, as well as the replacement of aging housing stock with newer, higher-quality construction, would result in an overall improvement of the visual environment in this subarea.

Height and Bulk

Under Alternative 2, this subarea would experience moderate increases in height and bulk over existing conditions. Heights would range from two to four stories. While this would make buildings more visually prominent for pedestrians in the subarea, the conceptual redevelopment plan calls for an increase in public open space in the subarea in the form of a park, with townhome development located around it and residential buildings containing flats beyond (Figure 2-9). No changes would be made to the height limits contained in the existing zoning code; development would remain limited to 50 feet for residential-only buildings and 60 feet for buildings with ground-floor commercial uses. As a result, visual bulk in the subarea would change moderately from the present two-story scale.

Shade and Shadow

Under Alternative 2, increases in building heights in the subarea would be likely to affect shading conditions. Taller buildings along NE Sunset Boulevard would cast longer shadows on the interior of the subarea to the north, potentially shading sidewalks along Sunset Lane NE at various times of the day. Additional landscaping, such as street trees, also has the potential to increase shading of pedestrian areas, though the effect would be seasonal. Shading effects on adjacent development are anticipated to be limited, due to buffers in the form of open areas and streets. The proposed interior park, shown in Figure 2-9, could be partially shaded by adjacent townhome development on the

north side of Sunset Lane NE. These interior shading effects could be minimized through the application of design standards, such as upper-story setbacks and roof form modulation.

4.12.1.4 Alternative 3

Planned Action Study Area

Visual Character

The extensive public investment under Alternative 3 would result in widespread changes to the visual character of the Planned Action Study Area affecting about 40% of parcel acres. Private development would take full advantage of the current development regulations, resulting in a transition to a mixed-use, pedestrian-oriented neighborhood. In addition to the greater development in the Sunset Mixed Use and Potential Sunset Terrace Redevelopment subareas, development would greatly increase in the North Subarea with the family village, containing an expanded early childhood education center, new parks facilities, and a townhome development.

The right-of-way for NE Sunset Boulevard would be expanded to make room for additional pedestrian amenities such as bike lanes, planted medians, and enlarged sidewalks, all of which would provide increased aesthetic appeal to the area. While the urban density anticipated to result from Alternative 3 would be a substantial increase over existing conditions, the application of adopted design standards, as well as the replacement of aging housing stock with newer, higher-quality construction, would result in the overall improvement of the visual environment in the Planned Action Study Area.

Height and Bulk

Alternative 3 would result in redevelopment of the Planned Action Study Area to take greater advantage of currently allowed uses and heights. In most areas zoned CV, this would result in building heights of four to five stories, which is a moderate increase over current conditions, which range from 1 to 3 stories. In particular, heights along NE Sunset Boulevard east of Harrington Avenue NE are very likely reach 60 feet, because residential buildings in this area are required to include ground-floor retail uses (RMC 4-2-080A73), as described for Alternative 1. This would make buildings more visually prominent to both pedestrians and motorists in the area and generally increase the visual bulk of development. The increased landscaping, pedestrian amenities, and green infrastructure created by public investment in the study area would help reduce visual bulk, but the application of mitigation measures would be necessary to ensure that private development is conducted in a manner that maintains a human scale, such as façade modulation, upper-story setbacks, inclusion of ground-level details to generate visual interest, and variety of roofline forms.

Unlike under Alternatives 1 and 2, Alternative 3 would include the family village—a mixed housing and services redevelopment—north of 16th Street NE, which would introduce multistory townhomes to the area as well as larger square footages of institutional uses.

Shade and Shadow

Because heights in the Planned Action Study Area would generally increase under Alternative 3, shading effects would also become more pronounced, though only to a moderate degree. Increased building heights within the Planned Action Study Area could result in increased shading of pedestrian areas and public spaces, particularly along NE Sunset Boulevard, which is likely to see

some of the most intense commercial and mixed-use development. Highlands Park, North Highlands Park, and McKnight Middle School, where there are large tracts of public open space, could also potentially be shaded by increased nearby development heights, though land adjacent to these parks is primarily zoned R-8 and R-14; heights would remain limited to 30 feet for residential and commercial uses and 20 feet for commercial development. One exception is Sunset Court Park, located north of Sunset Terrace on Harrington Avenue NE, which is currently surrounded by parcels zoned CV, though existing heights are low. Redevelopment at the allowed 50-60 feet on these adjacent parcels could produce adverse shading effects on the park property similar to other studied alternatives. The application of development regulations and mitigation measures, such as upper-story setbacks and roof-form modulation, will be necessary to minimize shading impacts at these locations.

Potential Sunset Terrace Redevelopment Subarea

Visual Character

Under Alternative 3, the visual character of the Potential Sunset Terrace Redevelopment Subarea would change from its current state to a pedestrian-oriented community with a mix of residential, ground-floor commercial, and community uses linked by public spaces and landscaped pedestrian pathways. The eastern end of the subarea, where the commercial and community uses would be located, would undergo the greatest change from current conditions. As depicted in Figure 2-10, lot coverage near the intersection of NE Sunset Boulevard and NE 10th Street would increase, making the development more publicly oriented and more closely connected to the sidewalk. The application of currently adopted development regulations, as well as the replacement of aging housing stock with newer, higher-quality construction, would result in an overall improvement of the visual environment in the subarea.

Height and Bulk

Under Alternative 3, the subarea would experience moderate increases in height and bulk over existing conditions. As shown in Figure 2-10, heights would range from two to four stories, and buildings would generally be located closer to the street than under current conditions. While this would make buildings more visually prominent for pedestrians in the subarea, the conceptual redevelopment plan calls for an increase in public open space in the subarea, as well as more extensive landscaping throughout the subarea. No changes would be made to the height limits contained in the existing zoning code, so development would remain limited to 50 feet for residential-only buildings and 60 feet for buildings with ground-floor commercial uses, so visual bulk in the Sunset Terrace Redevelopment Subarea would remain relatively low.

Shade and Shadow

Due to the anticipated increases in building height and lot coverage in the subarea, shading conditions are also likely to change. Taller buildings along NE Sunset Boulevard would cast longer shadows on the interior of the subarea to the north, potentially shading sidewalks along Sunset Lane NE and Glenwood Avenue NE at various times of the day. The central park proposed in the Harrington Avenue NE right-of-way could potentially be shaded in the early morning and late afternoon hours by the adjacent residential buildings and community center, but the effects are anticipated to be minor, given the north-south orientation of the park and the low height of the

adjacent buildings. Interior shading effects could be minimized through the application of design standards, such as upper-story setbacks and roof form modulation.

Additional landscaping, such as street trees, also has the potential to increase shading of pedestrian areas, though the effect would be seasonal. Shading effects on adjacent development are anticipated to be limited, as the conceptual redevelopment plan provides generous buffer areas along the north edge of the subarea.

4.12.2 Mitigation Measures

4.12.2.1 Adopted Regulations

In both the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, mitigation measures will be necessary to minimize impacts associated with increased height, bulk, and shading. Future development occurring under any of the alternatives should conform to the following sections of the Renton Municipal Code, as applicable.

- RMC 4-2-115F1. Site Design:
  - Lot Configuration
  - Garages
- RMC 4-2-115F2. Open Space
- RMC 4-2-115F3. Residential Design:
  - Primary Entry
  - Façade Modulation
  - Windows and Doors
  - Scale, Bulk, and Character
  - Roofs
  - Eaves
  - Architectural Detailing
  - Materials and Color
- RMC 4-3-100E1. Site Design and Building Location:
  - Building Location and Orientation
  - Transition to Surrounding Development
- RMC 4-3-100E3. Pedestrian Environment:
  - Pedestrian Circulation
  - Pedestrian Amenities
- RMC 4-3-100E5. Building Architectural Design:
  - Building Character and Massing
  - Ground Level Details

  - Building Roof Lines
- RMC 4-4-075. Lighting, Exterior On-Site

4.12.2.2 Other Potential Mitigation Measures

As described in RMC 4-3-100B3, portions of the Planned Action Study Area do not currently lie within an established Urban Design District, most notably those properties north of NE 16th Street and west of Kirkland Avenue NE, where the family village proposed under Alternative 3 would be located. To ensure that future redevelopment exhibits quality urban design, the City should consider either including this area in Design District D or creating a new design district for this purpose.

4.12.3 Significant Unavoidable Adverse Impacts

With the application of adopted development regulations and recommended mitigation measures, no significant unavoidable adverse aesthetic impacts are anticipated.

4.13 Historic and Cultural Resources

4.13.1 Impacts

Impacts on cultural resources are discussed at two levels for each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

This historic and cultural resources analysis is based on records and field review intended to determine the presence or lack of cultural resources. Efforts to identify cultural resources in the Planned Action Study Area consisted of:

- conducting a review of records at the Washington State Department of Archaeology and Historic Preservation (DAHP), the City, and RHA to identify properties previously listed in, or determined eligible for listing in, the National Register of Historic Places (NRHP) or the Washington Heritage Register (WHR);
- conducting archaeological investigations of the Potential Sunset Terrace Redevelopment Subarea, including a pedestrian survey of the ground surface and, in areas where project-related ground-disturbance is expected, excavation of a series of shovel test pits to reveal the nature of the subsurface deposits and whether or not buried cultural materials are present; and
- conducting a reconnaissance-level historic resources survey of the Potential Sunset Terrace Redevelopment Subarea and parcels with frontage on NE Sunset Boulevard focusing on resources 45 years of age or older.

A review of the development proposed within the Potential Sunset Terrace Redevelopment Subarea under the three alternatives was conducted in compliance with the Section 106 of the National Historic Preservation Act and consultation initiated with the Washington State Historic Preservation Officer (SHPO) and affected tribes. The *Sunset Terrace Redevelopment Subarea Cultural Resources Survey Report* (Appendix J) describes field methods, results, and findings of this review in more detail. Appendix J also includes correspondence, including the SHPO's concurrence with the determinations of eligibility and findings of no adverse effect.

The Section 106 review focused on locations in the Planned Action Study Area that likely would receive federal funding and that would be under construction in the near term (the Potential Sunset Terrace Redevelopment Subarea and parcels with frontage on NE Sunset Boulevard). Given the life of the proposed Planned Action over 20 years, this Draft EIS assumes the Planned Action Study Area may contain additional archaeological resources and historic resources that have not been identified at this time.

4.13.1.1 Research and Analysis

Planned Action Study Area

Record Search and Literature Review

A record search was conducted using the Washington Information System for Architectural and Archaeological Records Database (WISAARD) to identify previously documented archaeological, ethnographic, and historic resources within 1 mile of the Planned Action Study Area. WISAARD contains all records and reports on file with the DAHP recorded since 1995. No previously completed cultural resources studies and no previously documented archaeological sites are located in the study area. Only one historic resource, the building at 2615 NE Sunset Boulevard, was previously recorded in the Planned Action Study Area. However, the building's NRHP eligibility was not previously evaluated, and is evaluated in this Draft EIS. Ten previously completed cultural resources surveys and one archaeological site were identified outside the study area, but within a 1-mile radius of its boundary. A summary of these cultural resources studies and the archaeological site is provided in Table 4.13-1.

Table 4.13-1. Cultural Resources Survey and Archaeological Sites within 1 Mile of the Planned Action Study Area

NADB #	Authors/Year	Report Title	Description	Cultural Resources
1339887	Juell 2001	*Cultural Resources Inventory of the proposed Washington Light Lanes Project*	Literature search and windshield survey of I-405 corridor	None
1352447	Bundy 2008	*Interstate 405 Corridor Survey: Phase I Interstate 5 to State Route 169 Improvements Project*	Survey of I-405 corridor and shovel testing	None
1351994	Goetz 2008	*Archaeological Assessment, Dayton Avenue NE/NE 22nd Street Stormwater System Project*	Excavation of six shovel probes	None
1353126	Chatters 2009	*Recovery of Two Early 20th Century Graves from Renton, WA*	Exhumation of remains of young male and older probable female from residential area	Site 45KI686; NRHP eligible, but site completely removed through excavation
1348842	Hodges 2007a	*Cultural Resources Assessment for the Proposed Lowe's of Renton*	Monitoring of 20, 4-inch bore holes through fill	None
1349666	Stipe 2007	*Verizon Wireless SEA Renton Voc-Tech Cellular Tower Cultural Resources Review*	Records search and pedestrian archaeological survey	None
1349929	Miss 2007	*Archaeological Monitoring for the South Lake Washington Roadway Improvement*	Monitoring of excavated trenches	None

NADB #	Authors/Year	Report Title	Description	Cultural Resources
		Project		
1349789	Hodges 2007b	*Archaeological Resource Assessment for the South Lake Washington Roadway Improvement Project*	Excavation of 29 backhoe trenches through fill	None
1340681	Cooper 2001	*Antennae on an Existing Transmission Tower 12612 Southeast 96th Street*	Survey around footprint of transmission tower and one shovel test	None

Historic Resources Survey

A historic resources survey was completed for the Potential Sunset Terrace Redevelopment Subarea and parcels with frontage on NE Sunset Boulevard, which involved examining and photographing buildings and structures in these areas determined to be 45 years of age or older. Properties identified as 45 years of age or older were evaluated to determine their eligibility for listing in the NRHP and recorded in the Washington State Historic Property Inventory Database, per DAHP reporting standards. One resource, in the Sunset Mixed Use Subarea, the building at 2825 NE Boulevard Sunset, was identified as eligible for inclusion in the NRHP.

Potential Sunset Terrace Redevelopment Subarea

Archaeological Investigation

Archaeologists conducted an archaeological survey of the Potential Sunset Terrace Redevelopment Subarea, using standard DAHP-accepted methods appropriate for finding and recording cultural resources. The field survey included walking transects across the subarea and excavating shovel tests. The purpose of this survey was to identify any visible archaeological materials and to characterize the subsurface portion of the subarea. Shovel test pits (50 centimeters in diameter) were excavated in areas not covered in asphalt, concrete, buildings, or other features. The pits were excavated to the depth of Pleistocene sediments or dense gravel deposits of obstructing rocks, when encountered. All shovel test pits were excavated by hand and sediments were screened through 6-millimeter (0.25-inch) mesh hardware cloth. Each shovel test pit was photographed using a digital camera, mapped using a Trimble GeoXM global positioning system (GPS) unit, then backfilled. No archaeological materials were identified in the subarea.

Historic Resources Survey

A historic resources survey was completed for the Potential Sunset Terrace Redevelopment Subarea using methods as described in the Planned Action Study Area. No resources were identified as potentially NRHP eligible due to lack of integrity as documented in Appendix J.

4.13.1.2 Significance Thresholds

Determining whether a proposed action has the potential to impact a significant cultural resource is dependent on the existing integrity and nature of those elements that contribute to the resource's historic or cultural significance, and the sensitivity of the resource's current or historic use. Any future development project in the Planned Action Study Area that would cause a substantial adverse

change in the significance of a cultural resource (see NRHP criteria under Regulatory Context in Section 3.13) would represent a significant impact on cultural resources.

In the State of Washington, historical archaeological resources and historic structures are assessed using the minimum NRHP (36 CFR 60) age threshold of 50 years of age or older. This 50-year age threshold must be considered when assessing future development as well. For example, a structure that is presently 45 years old may be eligible for the NRHP when development commences in 5 years. Thus, to account for proposals that may be constructed in the near term, such as NE Sunset Boulevard, a more conservative 45-year timeframe was considered.

4.13.1.3 Impacts Common to All Alternatives

Planned Action Study Area

All studied alternatives accommodate different levels of growth and development in coming years: the No Action Alternative accommodates growth in fewer portions of the study area (about 16% of parcel acreage); Alternative 2 accommodates moderate growth (about 32% of parcel acreage); and Alternative 3 accommodates a relatively high level of growth (about 40% of parcel acreage). The likelihood that any of this development would affect cultural resources is dependent on the proximity of the proposed development to any identified cultural resources. Any future development projects located on or in the proximity of known cultural resources in the study area could have impacts on the cultural resource. Any future development project in the study area that would cause a substantial adverse change in the significance of a cultural resource would represent a significant impact related to cultural resources.

No significant cultural resources are known to exist in the Planned Action Study Area, except for the identified NRHP-eligible property at 2825 NE Sunset Boulevard. Future development in the study area would not impact any known NRHP-eligible archaeological or historic properties, unless it occurred on the same parcel as this property. With the exception of the Potential Sunset Terrace Redevelopment Subarea, however, no archaeological or historic resource surveys have been conducted in the study area and the potential for impacts on unknown cultural resources cannot be measured (see Unknown Resources below).

Archaeological Resources

Review of existing archaeological records within 1 mile of the Planned Action Study Area reveals that all known archaeological sites are located in areas for which the geomorphology indicates a high probability for containing precontact archaeological sites (e.g., floodplains and lake margins). In contrast, the study area itself is located on a glacial till plain, which has a low probability for precontact archaeological sites. Moreover, archaeological inventory survey and landform analysis within the Potential Sunset Terrace Redevelopment Subarea reveals that much of the sediments and soils deposited and formed prior to the modern period during the Holocene epoch have been removed. Because there is only evidence of human occupation in the Puget Sound area during the Holocene epoch, the modern removal of sediments and soils from this period result in a very low probability for encountering intact archaeological deposits. Only a small percentage of the Potential Sunset Terrace Redevelopment Subarea surface provided access to subsurface sediments for archaeological analysis; however, it is possible that soils and sediments deposited during the Holocene epoch, and potential archaeological resources, exist within the Planned Action Study Area.

Historic Resources

Only one NRHP-eligible resource is known to exist within the Planned Action Study Area. The building at 2825 NE Sunset Boulevard was identified during the reconnaissance-level historic resources survey of parcels with frontage on NE Sunset Boulevard. The building is an excellent example of a 1960s era supermarket, has good integrity, and is likely the design of a master architect. It is considered eligible for the NRHP under criterion C at the local level of significance, because it embodies the distinctive characteristics of a type and style of construction and may represent the work of a master.

Unknown Resources[1]

The specific impacts on unknown cultural resources cannot be discussed in detail without identifying and defining the characteristics or significance of the archaeological sites and historic resources. However, typical project impacts that could disrupt or adversely affect cultural resources include:

- demolition, removal, or substantial alteration without consideration of historic and archaeological sites and/or features;
- incompatible massing, size, scale, or architectural style of new development adjacent to properties containing cultural resources;
- obstruction or extensive shading of significant views to and from a cultural resource by new development;
- incompatible use of an existing building or structure identified as a cultural resource;
- disruption of integrity of a cultural resource's setting; and
- long-term loss of access to property containing a cultural resource.

All alternatives accommodate future growth in the Planned Action Study Area, which could occur on any property in the Planned Action Study Area and have the potential to impact unknown cultural resources. Therefore, potential impacts on unknown cultural resources would be the same under any alternative, although the rate and timing of these impacts would vary.

Potential Sunset Terrace Redevelopment Subarea

No significant cultural resources are known to exist in the Potential Sunset Terrace Redevelopment Subarea.

Archaeological excavations revealed mixed, imported, or absent sediments or soils that would have the potential to contain archaeological resources. Concrete and asphalt also covered much of the ground surface along NE Boulevard Sunset. At the vacant eastern lot where enriched senior housing is proposed (parcel number 7227801785), buried native "A" horizon sediment was identified between 84 and 94 centimeters below surface. This sediment is considered a buried native surface,

[1] At the time of this Draft EIS, RHA is considering the addition of a community and laundry building on its Hillcrest Terrace site north of NE 16th Street and west of Kirkland Avenue NE. As an independent action, it is undergoing its own NEPA environmental review process. There is a potential that Hillcrest Terrace would be considered a historic resource when it reaches 50 years of age; review is ongoing at the time of this writing. Until such time as eligibility is determined the site would be considered an unknown resource.

which would have been exposed during the Holocene epoch. Because it is located within the lot, ground-disturbing activities would potentially encounter sediments containing archaeological deposits. The potential for the discovery of archaeological deposits in the rest of this subarea in general is considered low.

The historic resources survey evaluated the Sunset Terrace public housing complex and several residences along Glenwood Avenue NE and Harrington Avenue NE in this subarea. None of these resources is considered NRHP-eligible. The Sunset Terrace public housing complex, which resulted from federal investment in housing during the postwar period, is associated with a well-known Seattle architect, but the individual buildings were substantially altered by renovations in the 1970s such that the property no longer retains sufficient integrity to convey historical significance. Furthermore, the individual residences along Glenwood Avenue NE and Harrington Avenue NE do not appear to embody characteristics or a method of construction that would warrant special recognition.

Based on the cultural resources investigations, future development in the subarea would have no impact any known NRHP-eligible archaeological or historic properties, and the likelihood of impact on unknown cultural resources is considered low based on the results of the archaeological investigations and the historic resources survey completed for the subarea. Development in the subarea would have the same low potential to impact cultural resources under any alternative either through infill development on vacant sites or through redevelopment of the subarea.

4.13.1.4 Alternative 1: No Action

The "Impacts Common to All Alternatives" section identifies the likely impacts on cultural resources associated with the No Action Alternative. Under the No Action Alternative, development would proceed under the City's current Comprehensive Plan and development regulations and could occur on or near parcels in the Planned Action Study Area that contain previously identified or unknown cultural resources. This development would likely involve ground disturbance and modifications to buildings and structures, which could result in a potentially significant impact on cultural resources. Because the study area would experience less growth and related development than under Alternatives 2 or 3, impacts on cultural resources are likely to occur with less frequency under the No Action Alternative. Because of the potential to impact unknown cultural resources, a detailed review of potential impacts on cultural resources would be required on a project-specific basis.

4.13.1.5 Alternative 2

The "Impacts Common to All Alternatives" section identifies the likely impacts on cultural resources associated with Alternative 2. Alternative 2 supports a higher level of growth in the study area than the No Action Alternative, necessitating a corresponding higher level of development. Therefore, Alternative 2 is more likely to have impacts on cultural resources. Development would proceed in fewer locations than Alternative 3, but would still likely involve ground disturbance and modifications to buildings and structures that could result in a potentially significant impact on cultural resources. Under this alternative, there would be more opportunities to encounter cultural resources over time than under the No Action Alternative, but fewer than under Alternative 3. Because of the potential to impact unknown cultural resources, detailed review of potential impacts on cultural resources would be required on a project-specific basis.

4.13.1.6 Alternative 3

The "Impacts Common to All Alternatives" section identifies the likely impacts on cultural resources associated with Alternative 3. Alternative 3 supports the highest level of growth in the study area considered in this Draft EIS. Therefore, Alternative 3 would provide the highest frequency of opportunities to encounter cultural resources over time. Because of the potential to impact unknown cultural resources, detailed review of potential impacts on cultural resources would be required on a project-specific basis.

4.13.2 Mitigation Measures

Planned Action Study Area

The following mitigation measures are recommended for all future development projects in the Planned Action Study Area.

- In the event that a proposed development site within the study area contains a building at least 50 years of age that is not listed in or determined eligible for listing in the NRHP or WHR, the project would be required to undergo review to determine if the property is considered eligible for listing.
- It is recommended that the City adopt a historic preservation ordinance that considers the identification and treatment of historic resources listed in or determined eligible for listing in the NRHP or WHR or locally designated. Until such time an ordinance is adopted, the City must enter into consultation with DAHP regarding potential impacts on historic resources in the study area that are listed in or determined eligible for listing in the NRHP or WHR.
- For future projects that involve significant excavation in the study area, the City must enter into consultation with DAHP to determine the likelihood of and recommendations for addressing potential archaeological resources. It may be necessary to complete archaeological testing prior to significant excavation in the study area, such as digging for footings or utilities. Archaeological project monitoring may be recommended for subsurface excavation and construction in high probability areas.
- In the event that a future development project in the study area is proposed on or immediately surrounding a site containing an archaeological resource, the potential impacts on the archaeological resource must be considered and, if needed, a study conducted by a qualified archaeologist to determine whether the project would materially impact the archaeological resource. If the project would disturb an archaeological resource, the City will impose any and all measures to avoid or substantially lessen the impact. If avoidance of the archaeological resource is not possible, an appropriate research design must be developed and implemented with full data recovery of the archaeological resource prior to the development project. The avoidance of archaeological resources through selection of project alternatives and changes in design of project features in the specific area of the affected resource(s) would eliminate the need for measuring or mitigating impacts.

Non-site-specific mitigation could include developing an educational program, interpretive displays, and design guidelines that focus on compatible materials, and professional publications.

Potential Sunset Terrace Redevelopment Subarea

Since no native "A" horizon was identified at the Edmonds-Glenwood site and throughout the Sunset Terrace public housing complex, no further archaeological investigations are recommended for these areas. Although a buried, native "A" horizon was identified on RHA's Piha site (east of Harrington Avenue NE), the potential for an archaeological discovery is very low. The project should proceed with no further archaeological investigations. If archaeological materials are discovered during ground-disturbing excavations, it is recommended that the contractor halts excavations in the vicinity of the find and contact DAHP. For DAHP contact information, see Unanticipated Discovery Plan in Appendix J.

If human skeletal remains are discovered, the King County Sheriff and DAHP should be notified immediately. If during excavation archaeological materials are uncovered, the proponent will immediately stop work and notify the City, DAHP, and affected Indian tribes, as outlined in the Unanticipated Discovery Plan provided in Appendix J. If the project would disturb an archaeological resource, the City will impose any and all measures to avoid or substantially lessen the impact. If avoidance of the archaeological resource is not possible, an appropriate research design must be developed and implemented with full data recovery of the archaeological resource prior to the development project. The avoidance of archaeological resources through selection of project alternatives and changes in design of project features in the specific area of the affected resource(s) would eliminate the need for measuring or mitigating impacts.

4.13.3 Significant Unavoidable Adverse Impacts

The impacts on cultural resources caused by new development associated with any alterative could be significant and unavoidable, depending on the nature and proximity of the proposed development project. Implementation of mitigation measures set forth in Section 4.13.2 would identify potential impacts on cultural resources, at which point measures to reduce them to less than significant could be taken.

4.14 Transportation

4.14.1 Impacts

Future-year traffic impacts with and without project improvements are evaluated in this section. The analysis evaluates the No Action Alternative, which assumes existing lane geometry on traffic study area roadways remain as they are today, and only background traffic growth occurs within the Planned Action Study Area. The action alternatives assume the proposed improvements and developments within the Planned Action Study Area are in place, and that traffic generated by these developments are on the street network.

The future conditions analysis is conducted for the same peak hour analyzed for the existing conditions (Section 3.14), and for the same study intersections. Future conditions are analyzed for two horizon years: 2015 and 2030.

4.14.1.1 Alternative 1: No Action

Planned Action Study Area

Background Growth

The City's version of the PSRC regional travel forecasting model was used to develop Alternative 1 background traffic volumes for both 2015 and 2030. Within the Planned Action Study Area, background traffic increases represent gradual growth in employment and increased dwellings and households. No major planned, proposed, or known transportation development projects were included in Alternative 1, and none were identified by the City for inclusion in the forecast models. The future model network resembles the existing condition street system within the Planned Action Study Area. Outside of the Planned Action Study Area, the forecast model includes an improvement to I-405. This improvement assumes I-405 between SR 167 and I-90 is widened from the existing lane configuration to four lanes in each direction. In the forecast model, this improvement provides additional regional capacity, and could influence traffic within the study area since NE Sunset Boulevard is a direct connection to the interstate.

Traffic produced by the future-year Alternative 1 models was compared with existing year model traffic to calculate growth rates throughout the Planned Action Study Area. In 2015, background traffic is expected to be approximately 15% greater than existing, while in 2030, background traffic could be approximately 20% greater than existing levels. These growth rates were applied to existing traffic volumes at each intersection to develop future volumes.

Operational Analysis

The future-year operational results were reported from the Synchro analysis generated from the 2000 Highway Capacity Manual (HCM). Under Alternative 1, traffic patterns and signal timing were assumed to remain the same as existing. Results indicate that all but two of the study intersections are expected to operate at the LOS D threshold or better.

In 2015, the all-way-stop-controlled intersection at Edmonds Avenue NE and NE 12th Street could operate at LOS E (down from the existing LOS C) due to increases in background traffic growth on

the southbound approach. The Harrington Avenue NE and NE 12th Street intersection operates at LOS D, and although the LOS standard is met, the results indicate it is nearing capacity. In 2030, this intersection could be expected to worsen to LOS E, while the adjacent intersection on Edmonds Avenue NE at NE 12th Street could operate at LOS F due to increases in southbound delay. The LOS and delay results for Alternative 1 are presented in Table 4.14-1.

Table 4.14-1. Intersection Operations—Alternative 1 (No Action)

			Alternative 1 PM Peak			
			2015		2030	
Int #	Intersection	Control	LOS	Delay(s)	LOS	Delay(s)
1	NE Sunset Blvd & NE Park Dr	Signalized	A	8.8	A	9.4
2	NE Sunset Blvd & Edmonds Ave NE	Signalized	B	12.0	B	12.6
3	NE Sunset Blvd & Harrington Ave NE	Signalized	A	6.9	A	7.2
4	NE Sunset Blvd & NE 10th St	Signalized	B	13.3	B	14.4
5	NE Sunset Blvd & Kirkland Ave NE	OWSC	C	18.7	C	21.2
6	NE Sunset Blvd & NE 12th St	Signalized	C	21.4	C	22.8
7	NE Sunset Blvd & Monroe Ave NE	OWSC	B	14.7	C	15.1
8	Edmonds Ave NE & NE 12th St	AWSC	**E**	**43.1**	**F**	**57.3**
9	Harrington Ave NE & NE 12th St	AWSC	D	27.7	**E**	**35.7**
10	Kirkland Ave NE & NE 12th St	AWSC	B	12.4	B	12.9

OWSC = one-way stop control; AWSC = all-way stop control; LOS = level of service
Delay is measured in average seconds per vehicle.
Bold type indicates results worse than City LOS D threshold.

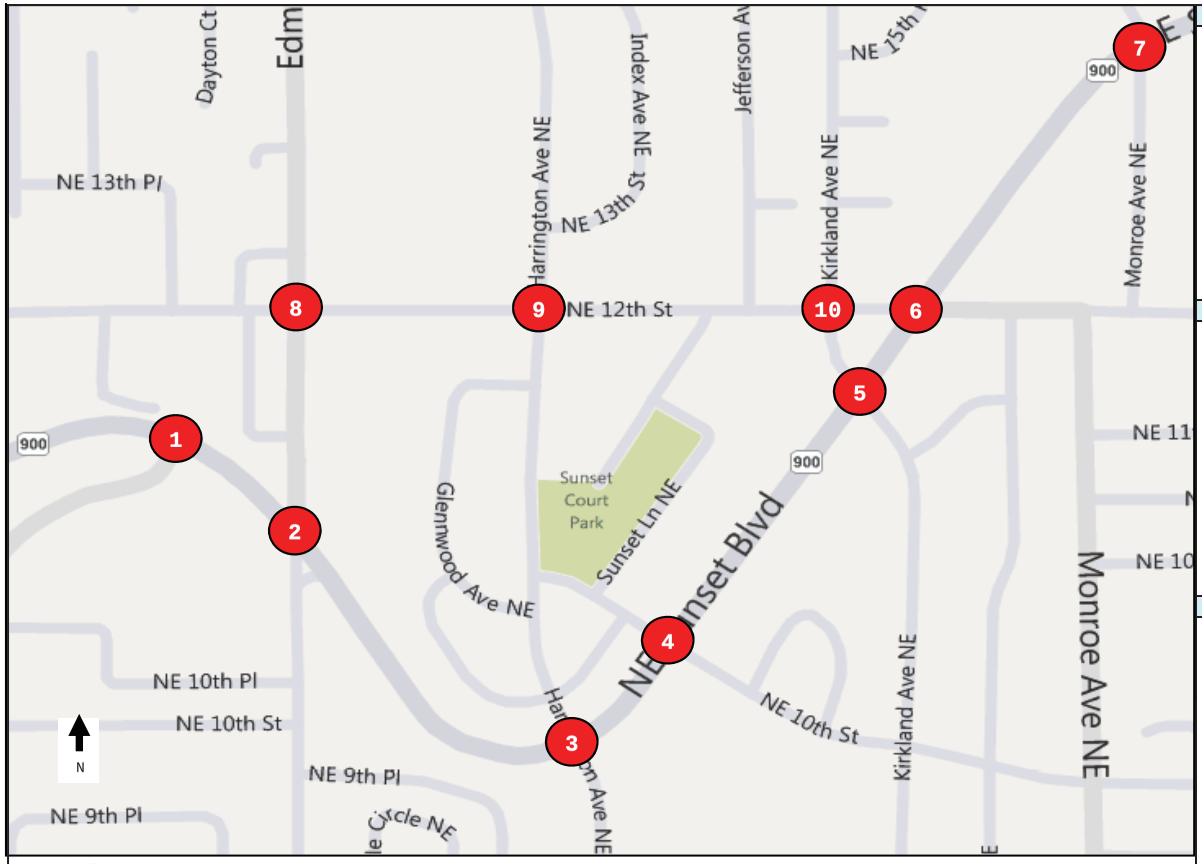
Figures 4.14-1 and 4.14-2 depict the Alternative 1 turning-movement volumes, along with their anticipated intersection delay and LOS values, for 2015 and 2030. Appendix F provides the detailed HCM-generated Synchro reports for each study intersection.

Other Impacts

Alternative 1 is not expected to result in construction impacts as no roadway improvements are planned. Growth would be consistent with adopted Comprehensive Plan land use estimates; alternative 1 operational analysis is based on model that addresses growth cumulatively on the City's current and planned roadway system.

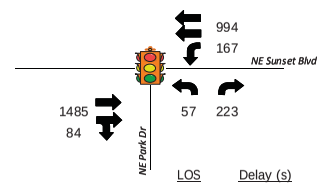
No changes to nonmotorized facilities or transit are expected except for those nonmotorized improvements identified in the *Renton Trails and Bicycle Master Plan* adopted in May 2009 (City of Renton 2009).

Alternative 1 is not measured in terms of sustainability principles, because no improvements are proposed.



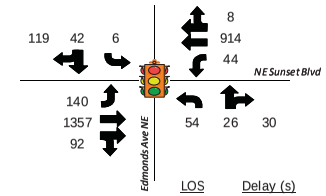
Not to Scale

1 NE Sunset Blvd & NE Park Dr



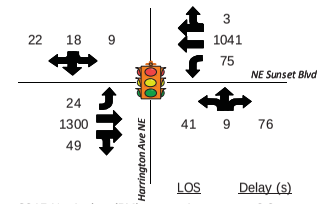
	LOS	Delay (s)
2015 No Action (PM)	A	8.8

2 NE Sunset Blvd & Edmonds Ave NE



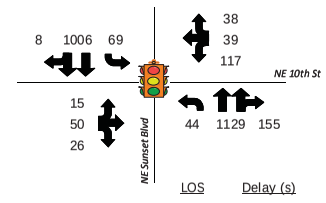
	LOS	Delay (s)
2015 No Action (PM)	B	12.0

3 NE Sunset Blvd & Harrington Ave NE



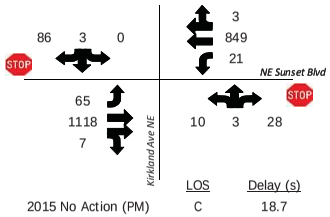
	LOS	Delay (s)
2015 No Action (PM)	A	6.9

4 NE Sunset Blvd & NE 10th St



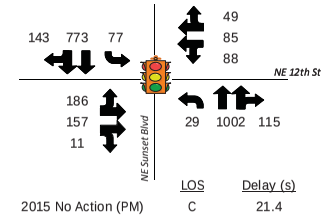
	LOS	Delay (s)
2015 No Action (PM)	B	13.3

5 NE Sunset Blvd & Kirkland Ave NE



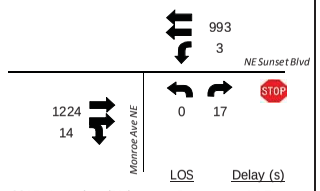
	LOS	Delay (s)
2015 No Action (PM)	C	18.7

6 NE Sunset Blvd & NE 12th St



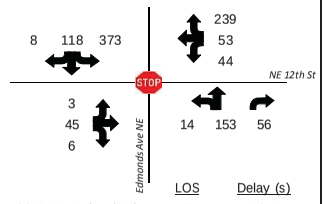
	LOS	Delay (s)
2015 No Action (PM)	C	21.4

7 NE Sunset Blvd & Monroe Ave NE



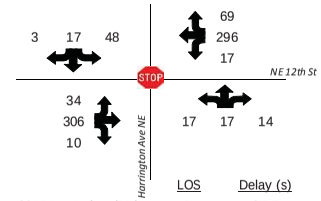
	LOS	Delay (s)
2015 No Action (PM)	B	14.7

8 Edmonds Ave NE & NE 12th St



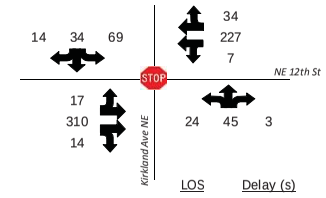
	LOS	Delay (s)
2015 No Action (PM)	E	43.1

9 Harrington Ave NE & NE 12th St



	LOS	Delay (s)
2015 No Action (PM)	D	27.7

10 Kirkland Ave NE & NE 12th St



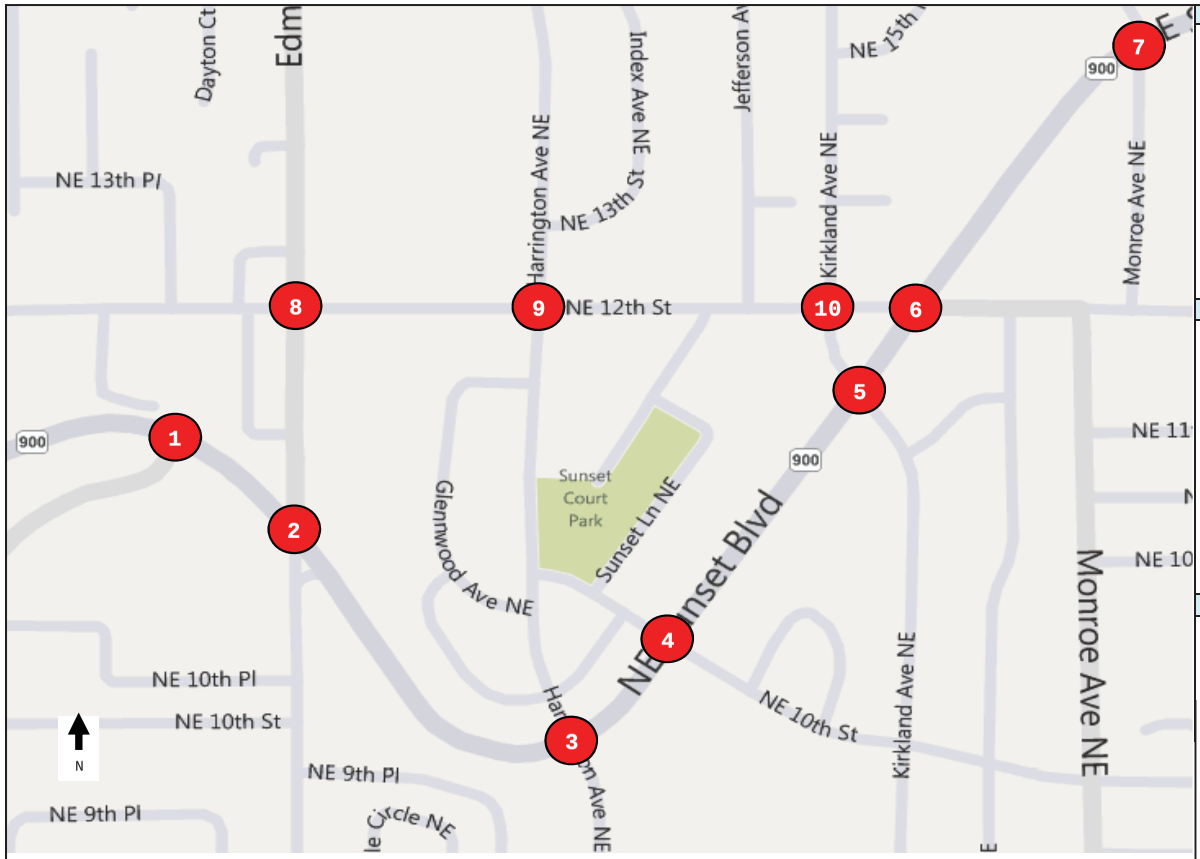
	LOS	Delay (s)
2015 No Action (PM)	B	12.4

LEGEND

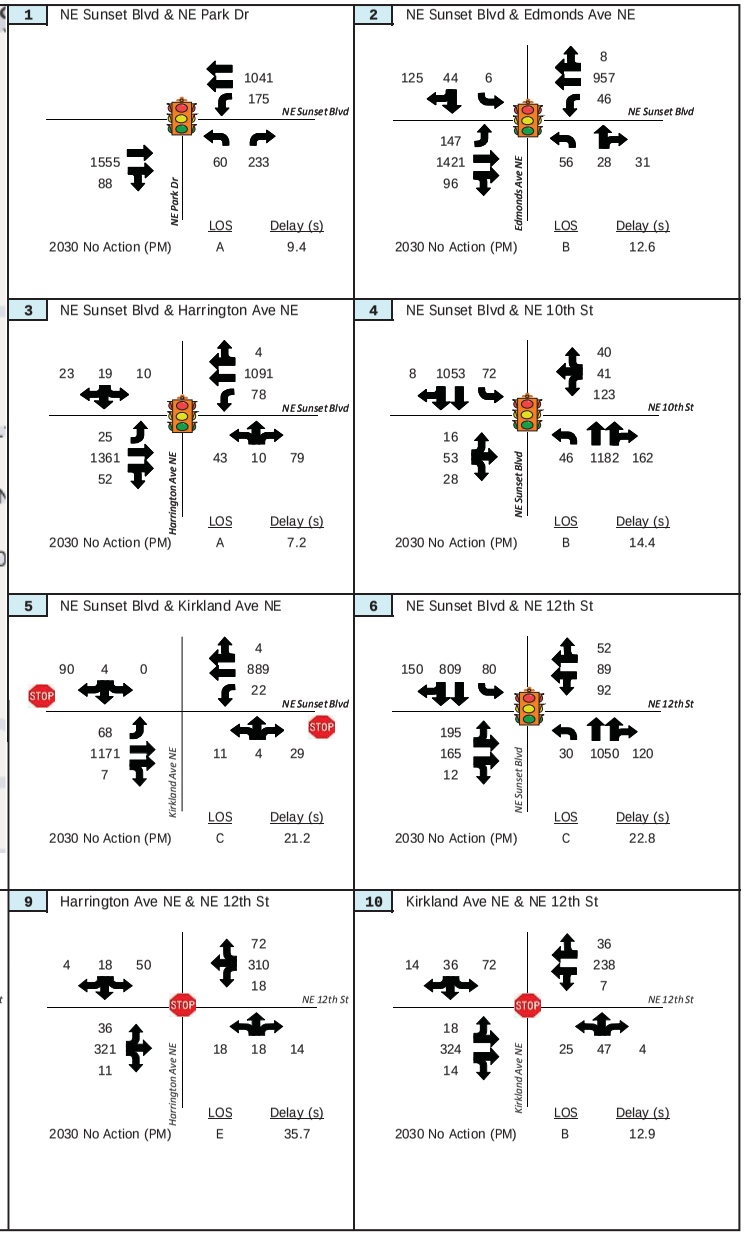
- **1** Study Intersection Number
- 1 Study Intersection Location
- Signalized Instersection
- STOP Stop Controlled Intersection/Approach
- Turning Movement Direction
- 125 Turning Movement Volume
- LOS Level of Service
- Delay Intersection Delay in seconds (Overall delay for signalized locations, worst approach for stop-controlled locations)

CH2MHILL

Figure 4.14-1
2015 Alternative 1 (No Action) PM Peak-Hour Traffic
Sunset Area Community Planned Action Draft NEPA/SEPA EIS



Not to Scale



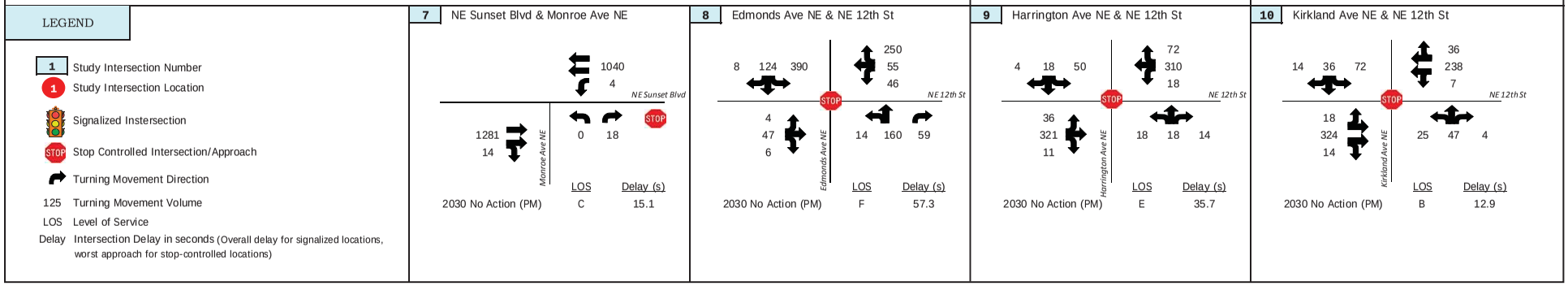


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Figure 4.14-2
2030 Alternative 1 (No Action) PM Peak-Hour Traffic
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Potential Sunset Terrace Redevelopment Subarea

Within the Potential Sunset Terrace Redevelopment Subarea, background traffic volumes are expected to grow at similar percentages described above for the Planned Action Study Area. Two intersections along NE Sunset Boulevard are located in the southern portion of the subarea and are expected to operate well within the City's operational LOS D standard. As shown in Table 4.14-1, NE Sunset Boulevard at Harrington Avenue NE is expected to operate at LOS A and NE Sunset Boulevard at 10th Avenue NE would operate at LOS B. These are likely the highest volume intersections within the subarea because they provide direct access to a state facility. Therefore, although traffic volumes were not analyzed at residential intersections in the subarea, the LOS on Harrington Avenue NE at NE 10th Street, Glenwood Avenue NE, and Sunset Lane NE, as well as Glenwood Avenue NE at Sunset Lane NE, are expected to operate at LOS D or better. Increases in residential volumes and future delays are not expected to adversely impact traffic within the subarea because of the lower volumes and ample capacity.

Transit

Under Alternative 1, transit services are expected to be similar to existing conditions. No increases to service area or timeframe are planned. Bus stops and other transit amenities would remain as they are today. Modest increases in land use developments could include transit-oriented features, such as higher-density retail in close proximity to existing bus stops, but transit operations would be relatively similar to current conditions.

Nonmotorized Facilities

Similar to transit, nonmotorized facilities under Alternative 1 would remain the same as existing conditions. Marked crosswalks and sidewalks on NE Sunset Boulevard and within the traffic study area would remain in place, but no new facilities would be provided.

4.14.1.2 Alternative 2

Planned Action Study Area

Trip Generation and Distribution

Trips generated by development in the Planned Action Study Area were estimated using the future-year regional travel forecasting model with applied proposed land uses. In 2030, approximately 180 additional households (compared to Alternative 1) are planned within the Planned Action Study Area, and approximately 1,200 additional employment positions would be created. Roughly half of these increases would be expected by 2015.

With proposed development, traffic produced by the future-year Alternative 2 forecasting models was compared with existing year model traffic to calculate an overall growth rate for the Planned Action Study Area. The expected increases in the number of dwellings and households, as well as the focused increase of employment due to development resulted in approximately 17% growth in traffic in 2015 (when compared to existing traffic). Traffic in 2030 would likely be 25% higher than existing volumes.

Future traffic patterns are assumed to be similar to existing patterns, except at the intersection of NE Sunset Boulevard and Kirkland Avenue NE. This intersection currently allows access to and from

all approaches. As part of the proposed Alternative 2 design, a dedicated eastbound left-turn pocket on NE Sunset Boulevard would be created to provide refuge for vehicles headed northbound on Kirkland Avenue NE. This turn pocket would restrict westbound vehicles on NE Sunset Avenue from making a left turn onto Kirkland Avenue NE, and vehicles on Kirkland Avenue NE would no longer be able to cross NE Sunset Boulevard. Kirkland Avenue NE would be restricted to right-in, right-out access only. The proposed design is intended to increase mobility along NE Sunset Boulevard and improve safety for motorists by reducing the number of vehicle conflict movements.

Traffic displaced by the proposed turn pocket would be routed through adjacent study intersections to their intended destinations.

Operational Analysis

Under Alternative 2, signal timing was assumed to remain the same as existing. Although optimization of traffic signals along NE Sunset Boulevard could occur with future developments, the existing signal timing and phasing provides a conservative analysis of future operations.

Alternative 2 is expected to have higher average vehicle delay times compared to Alternative 1. In 2030, the average delay at Edmonds Avenue NE and NE 12th Street is expected to be approximately 74 seconds per vehicle approaching the intersection. This is 17 seconds per vehicle greater than Alternative 1. At Harrington Avenue NE and NE 12th Street, the average vehicle delay would be approximately 13 seconds greater than Alternative 1. Although vehicle delay would increase, the LOS between Alternative 1 and Alternative 2 would remain similar. Both intersections described would operate at LOS E or F in the future due to increased trip demand, with or without implementation of Alternative 2.

Table 4.14-2 presents the LOS and delay expected with Alternative 2.

Table 4.14-2. Intersection Operations—Alternative 2

			Alternative 2 PM Peak			
			2015		2030	
Int #	Intersection	Control	LOS	Delay(s)	LOS	Delay(s)
1	NE Sunset Blvd & NE Park Dr	Signalized	A	9.1	B	10.2
2	NE Sunset Blvd & Edmonds Ave NE	Signalized	B	12.3	B	13.1
3	NE Sunset Blvd & Harrington Ave NE	Signalized	A	7.0	A	8.1
4	NE Sunset Blvd & NE 10th St	Signalized	B	14.6	B	16.5
5	NE Sunset Blvd & Kirkland Ave NE	OWSC	B	10.1	B	10.6
6	NE Sunset Blvd & NE 12th St	Signalized	C	23.3	C	29.0
7	NE Sunset Blvd & Monroe Ave NE	OWSC	B	14.9	C	15.3
8	Edmonds Ave NE & NE 12th St	AWSC	**E**	**49.8**	**F**	**74.2**
9	Harrington Ave NE & NE 12th St	AWSC	D	32.3	**E**	**48.3**
10	Kirkland Ave NE & NE 12th St	AWSC	B	12.6	B	13.5

OWSC = one-way stop control; AWSC = all-way stop control; LOS = level of service
Delay is measured in average seconds per vehicle.
Bold type indicates results worse than City LOS D threshold.

At the intersection of NE Sunset Boulevard and Kirkland Avenue NE, the average delay and LOS would improve under Alternative 2, because the left-turn and through movements would no longer be allowed on Kirkland Avenue NE. The intersection delay time represents delay for right-turning

vehicles only as they wait for a safe gap in traffic on NE Sunset Boulevard. Figures 4.14-3 and 4.14-4 show the turning-movement volumes, intersection delay, and LOS values for Alternative 2 in both 2015 and 2030. Detailed intersections reports are located in Appendix F.

Construction Impacts

Potential impacts that could result from Alternative 2 construction activities include increased traffic volumes, increased delays, detour routes, and road closures. During construction, vehicles would be necessary to bring equipment and materials to the Planned Action Study Area. Large, oversized trucks could require pilot vehicles as they travel to and from the freeway with large loads. These trucks may also require flaggers to manually divert or control traffic as they enter or exit roadways (due to large turning radii). This traffic maintenance would cause delays for motorists.

Lane closures in both directions of NE Sunset Boulevard could be required during construction of Alternative 2. This reduction in capacity would likely increase travel times, and may force reroutes through lower volumes local streets. Depending on the necessary workforce, an increase in personnel vehicles may also impact traffic operations within the Planned Action Study Area, especially during the PM peak when construction ends for the day.

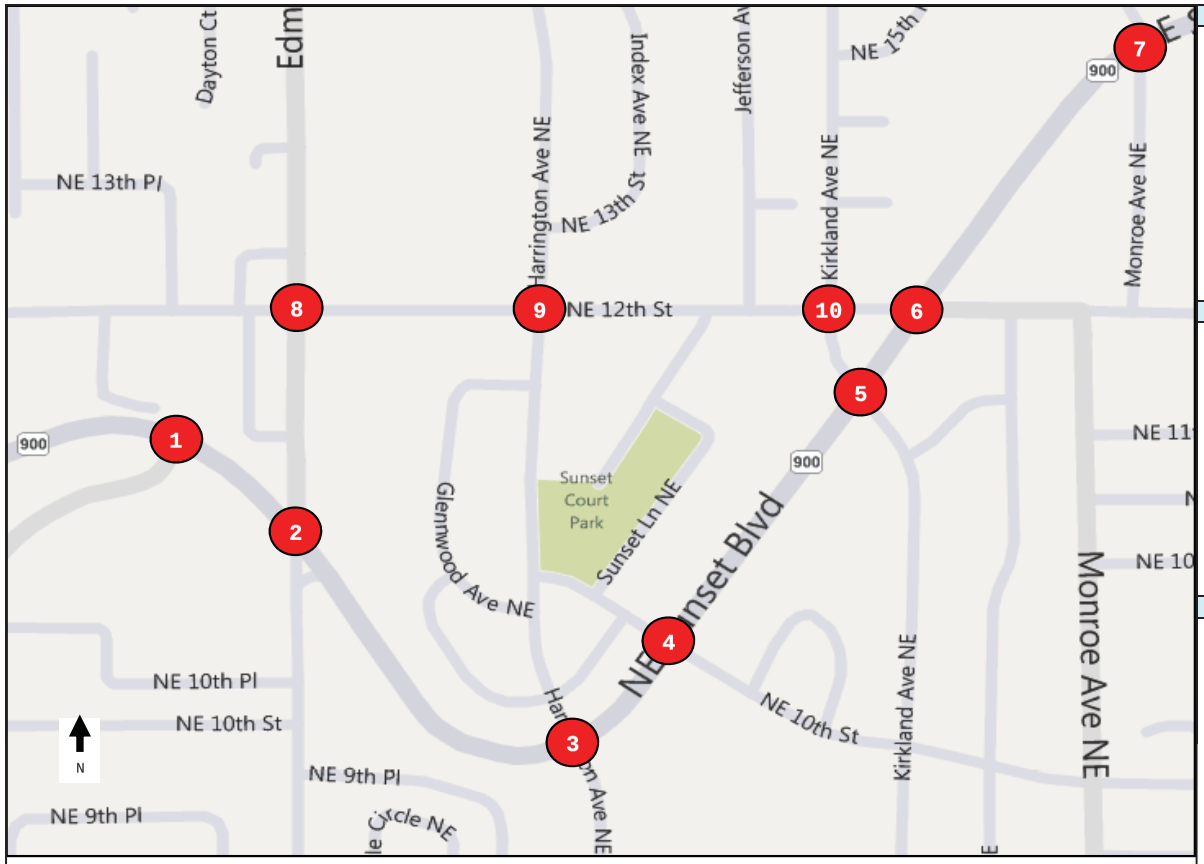
Transit

Alternative 2 includes improved transit amenities along NE Sunset Boulevard, and Harrington Avenue NE. Along NE Sunset Boulevard at NE 10th Street and at Edmonds Avenue NE and on Harrington Avenue NE south of NE Sunset Boulevard, expanded bus zones are proposed on both sides of the road. These bus zones would provide a safe, well-lit waiting area for transit users, and are conveniently located near proposed retail or residential land uses. At existing bus stop locations where expanded bus zones are not proposed, covered bus shelters, improved lighting, and street furniture and benches would be provided to make transit an attractive travel option. All bus stops within the Planned Action Study Area will be upgraded to meet ADA accessibility requirements.

Nonmotorized Facilities

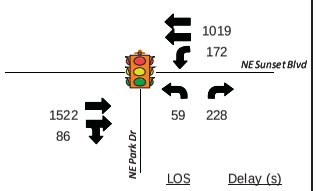
Nonmotorized facilities under Alternative 2 would be improved compared to existing conditions. Alternative 2 includes a new 5-foot-wide designated bicycle lane in the eastbound direction of NE Sunset Boulevard from NE Park Drive to NE 10th Street. East of NE 10th Street, the bicycle lane transitions to a paved, multi-use shared bicycle and pedestrian pathway. This pathway is buffered from vehicular traffic by landscaping and a planter strip.

Pedestrian improvements under Alternative 2 would also include reconstructed sidewalks and planter strips or landscaping buffers along NE Sunset Boulevard and all traffic study area roadways. These continuous sidewalks aligned at a comfortable distance from the roadway and marked crosswalks at intersections would improve pedestrian connectivity and promote a walkable community. In some locations, existing chain-link fence would be replaced with a vegetated trellis on top of walls at the back of sidewalks to create a more inviting environment for pedestrians. Sidewalk connections from NE Sunset Boulevard to side streets would be improved, strengthening the connectivity between the residential areas and NE Sunset Boulevard. Pedestrian-supportive signals such as count-down heads and audible signals are included in Alternative 2 to improve safety for pedestrians crossing the roadways at signalized intersections. Other pedestrian-level design amenities such as benches, trash receptacles, wayfinding signs, and art would be incorporated to encourage pedestrian activity in the Planned Action Area.



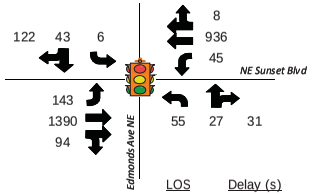
Not to Scale

1 NE Sunset Blvd & NE Park Dr



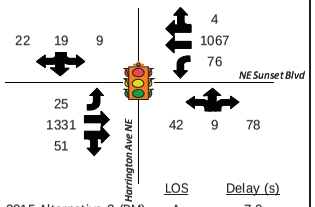
	LOS	Delay (s)
2015 Alternative 2 (PM)	A	9.1

2 NE Sunset Blvd & Edmonds Ave NE



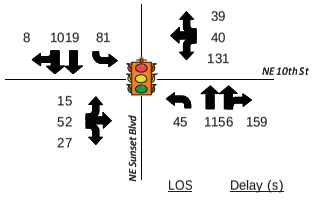
	LOS	Delay (s)
2015 Alternative 2 (PM)	B	12.3

3 NE Sunset Blvd & Harrington Ave NE



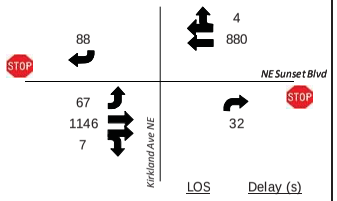
	LOS	Delay (s)
2015 Alternative 2 (PM)	A	7.0

4 NE Sunset Blvd & NE 10th St



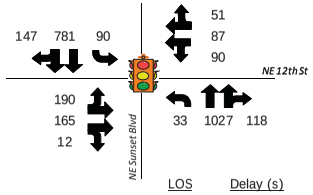
	LOS	Delay (s)
2015 Alternative 2 (PM)	B	14.6

5 NE Sunset Blvd & Kirkland Ave NE



	LOS	Delay (s)
2015 Alternative 2 (PM)	B	10.1

6 NE Sunset Blvd & NE 12th St

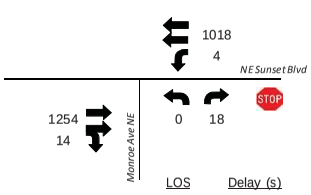


	LOS	Delay (s)
2015 Alternative 2 (PM)	C	23.3

LEGEND

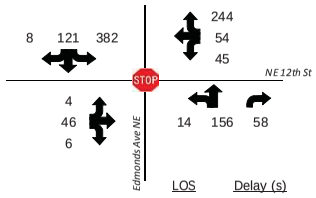
- 1 Study Intersection Number
- 1 Study Intersection Location
- Signalized Instersection
- STOP Stop Controlled Intersection/Approach
- Turning Movement Direction
- 125 Turning Movement Volume
- LOS Level of Service
- Delay Intersection Delay in seconds (Overall delay for signalized locations, worst approach for stop-controlled locations)

7 NE Sunset Blvd & Monroe Ave NE



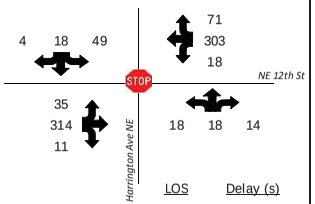
	LOS	Delay (s)
2015 Alternative 2 (PM)	B	14.9

8 Edmonds Ave NE & NE 12th St



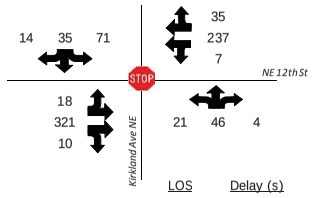
	LOS	Delay (s)
2015 Alternative 2 (PM)	E	49.8

9 Harrington Ave NE & NE 12th St



	LOS	Delay (s)
2015 Alternative 2 (PM)	D	32.3

10 Kirkland Ave NE & NE 12th St



	LOS	Delay (s)
2015 Alternative 2 (PM)	B	12.6

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Figure 4.14-3
2015 Alternative 2 PM Peak-Hour Traffic
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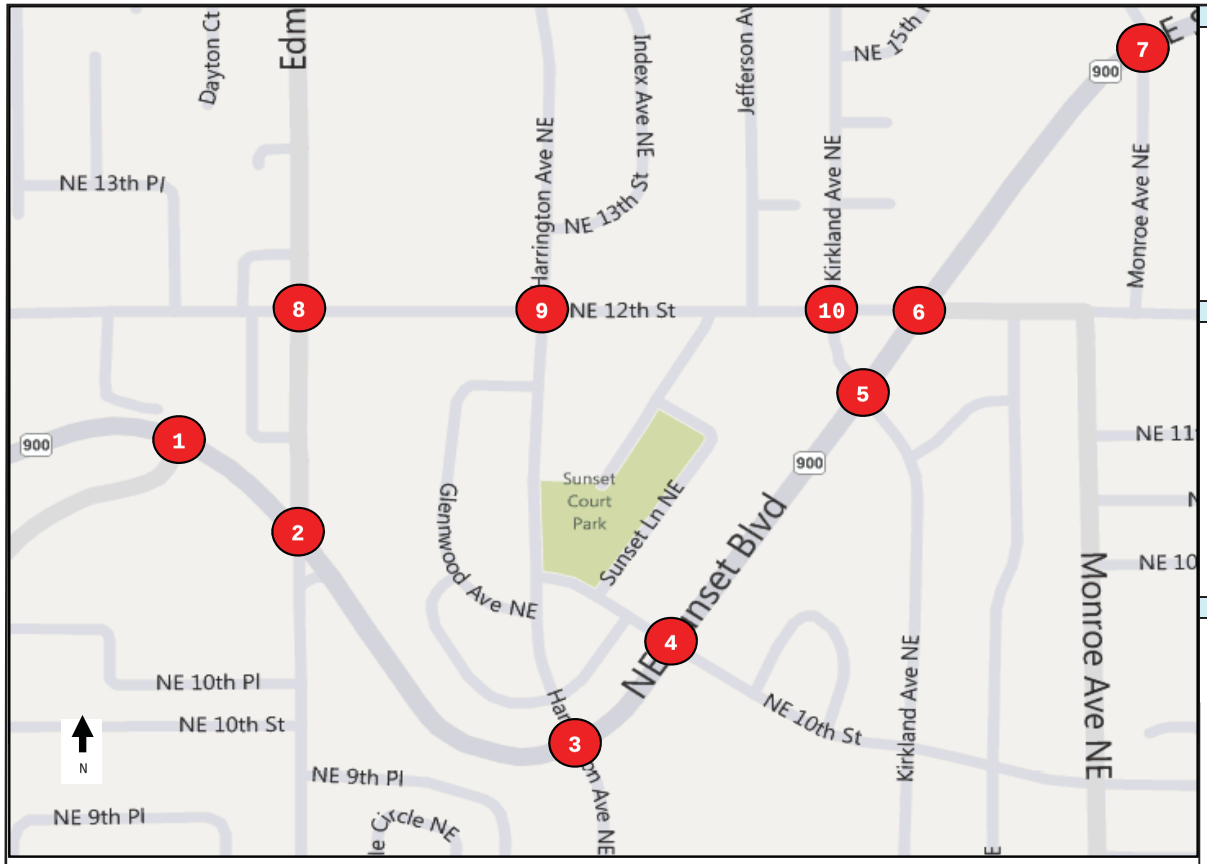

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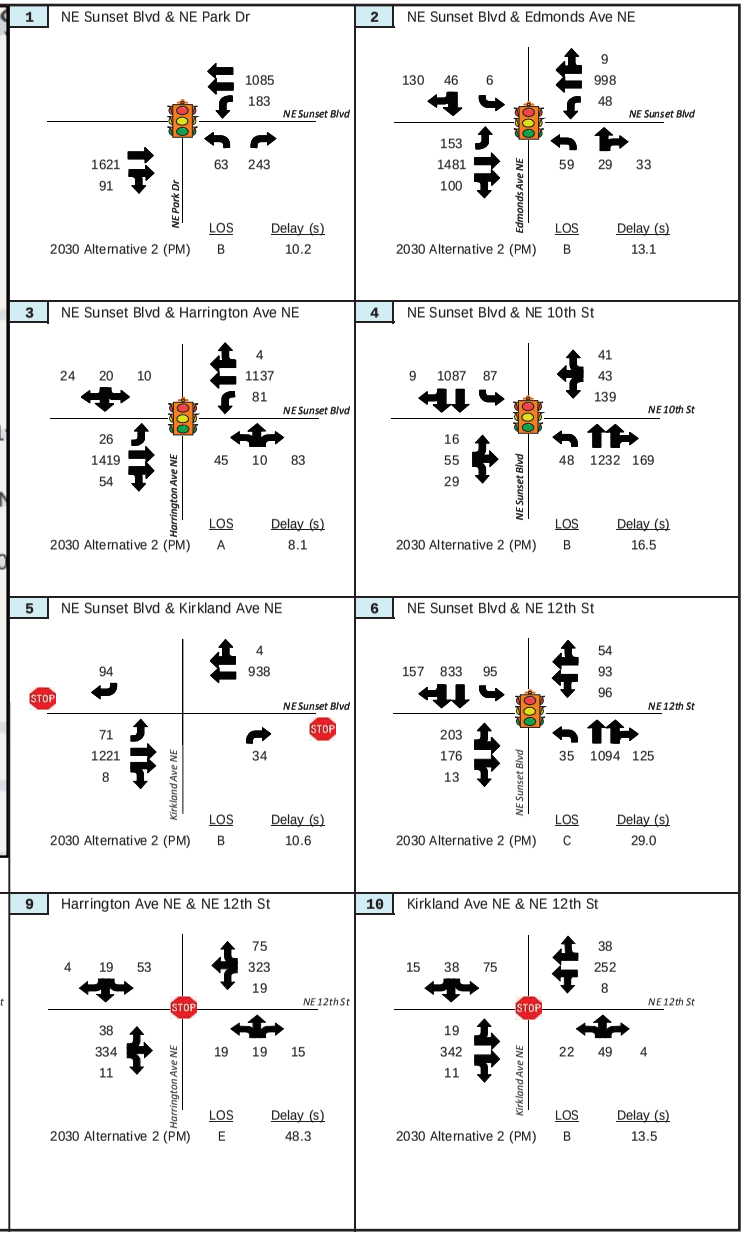

LEGEND

- 1 Study Intersection Number
- 1 Study Intersection Location
- Signalized Instersection
- STOP Stop Controlled Intersection/Approach
- Turning Movement Direction
- 125 Turning Movement Volume
- LOS Level of Service
- Delay Intersection Delay in seconds (Overall delay for signalized locations, worst approach for stop-controlled locations)

CH2MHILL

Figure 4.14-4
2030 Alternative 2 PM Peak-Hour Traffic
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Sustainability

In consideration of emerging best practices in the U.S. for addressing sustainability at the municipal level, sustainability metrics were used to evaluate the alternatives. The Greenroads rating system (Muench et al. 2010) is a sustainability evaluation metric to certify the "sustainability" of roadways, similar to LEED certification for building projects and Energy Star certification for appliances. A Greenroad is defined as a roadway project that has been designed and constructed to a level of sustainability that is substantially higher than current common practice.

The concept of ensuring sustainability by integrating economic and equity objectives with environmental objectives is commonly described as the "triple bottom line." Integration of these three broad policy themes should be regarded as a best practice in terms of general definitions of sustainability. For the purposes of municipal projects, it is useful to focus on those arenas that are within the actual purview of municipal governments. These fall in the following categories:

- energy,
- local and regional economics,
- pollution,
- public health,
- community identity and character, and
- equity.

The Greenroads rating system considers best practices applied in these general categories. For more information on Greenroads, the reader is encouraged to view the website at www.greenroads.us. The Greenroads evaluation for Alternative 2 is found in Appendix F. Scoring criteria were scored in four responses: "Included," "Not Included," "To Be Included," and "To Be Determined." Many of the evaluation metrics apply to construction methods or final design elements; therefore, the inclusion of these best practices will be determined as the project progresses. Alternative 2 scores a minimum of 33 with a maximum of up to 99 out of 118 points in the Greenroads metric; therefore, Alternative 2 meets the minimum Greenroads certification level and could achieve the highest level of certification (Evergreen).

In the Greenroads evaluation, Alternative 2 scores most strongly in the "Access and Equity" section, based on its improvements to access for pedestrians, bicyclists, and transit users. Energy is currently the most urgent of the sustainability issues, because it is at the root of so many other major issues. Climate change, air pollution, public health, and economic vitality are all driven to a significant extent by the way we produce and consume energy. Improving walkability, pedestrian connections, and transit facilities as part of Alternative 2 is likely to contribute to lower consumption of energy by encouraging more pedestrian activity and less vehicle travel.

Indirect and Cumulative Impacts

Growth would increase in comparison to Comprehensive Plan land use estimates; however, Alternative 2 operational analysis is based on model that addresses growth cumulatively on the City's current and planned roadway system. Results are similar to Alternative 1.

Potential Sunset Terrace Redevelopment Subarea

Traffic operations in the Potential Sunset Terrace Redevelopment Subarea would be similar to operations under Alternative 1. Within the subarea, traffic growth from existing conditions would be similar to that outside the subarea. Trips generated by specific subarea land uses would likely travel to and from NE Sunset Boulevard via the signalized intersections at Harrington Avenue NE and at NE 10th Street. These intersections would likely facilitate the majority of traffic into and out of the subarea, while still operating better than the LOS D threshold. As shown in Table 4.14-2, NE Sunset Boulevard at Harrington Avenue NE and NE 10th Street would operate at LOS A and LOS B, respectively, in both 2015 and 2030. Stop-controlled intersections within the subarea on Harrington Avenue NE, Glenwood Avenue NE, and Sunset Lane NE are likely to operate better than LOS D as well because of the lower volume and ample capacity. Queues and delays resulting from subarea-generated traffic under Alternative 2 are expected to be similar to those resulting from background growth alone.

4.14.1.3 Alternative 3

Planned Action Study Area

Trip Generation and Distribution

In 2030, Alternative 3 would have approximately 1,000 more households or dwellings as Alternative 1, and approximately 2,400 additional employment positions. Roughly 40% of these would be in place by 2015. Using the City's version of the PSRC future-year regional travel forecasting model to evaluate these increases, an overall growth rate for traffic in the Planned Action Study Area was calculated for both 2015 and 2030. Compared to existing volumes, traffic under Alternative 3 would be approximately 20% higher in 2015 and approximately 32% higher in 2030.

Future traffic patterns in Alternative 3 would be different from existing conditions at multiple intersections along NE Sunset Boulevard. The proposed design of Alternative 3 includes closing Harrington Avenue NE between NE Sunset Lane and NE 10th Street. This closure would likely reduce the number of vehicles that use Harrington Avenue NE to reach NE Sunset Boulevard, because the direct connection would be severed. Vehicles that head southbound on Harrington Avenue NE would be diverted to NE 10th Street to access NE Sunset Boulevard.

The signalized intersection at NE Sunset Boulevard and Harrington Avenue NE would essentially provide a connection for local residential traffic only, whereas the signal at NE 10th would likely become the main access for local traffic destined for points north of NE 12th Street. Approximately 80% of traffic to and from the north leg of NE Sunset Boulevard and Harrington Avenue NE were shifted to the NE 10th Street intersection to account for the closure.

Similar to Alternative 2, the design of Alternative 3 at NE Sunset Boulevard and Kirkland Avenue NE would restrict vehicles from crossing NE Sunset Boulevard. The all-way movements allowed today would be restricted to right-in, right-out access to and from Kirkland Avenue NE, and eastbound left turns from NE Sunset Boulevard only. This design reduces the number of possible conflict points between opposing directions of traffic, and would likely improve safety along the corridor. With fewer conflict points, the design would likely improve mobility within the traffic study area. Vehicles affected by the turn restrictions would be rerouted to either of the adjacent signalized intersections.

Operational Analysis

Traffic operations were analyzed for Alternative 3 assuming the same signal timing as currently employed by the City. This existing signal timing and phasing provides a conservative analysis of future operations.

In 2030, two intersections would operate at LOS F under Alternative 3. Edmonds Avenue NE and NE 12th Street would have approximately 42 additional seconds of delay per vehicle compared to Alternative 1. Harrington Avenue NE and NE 12th Street would see 33 additional delay seconds over Alternative 1 and would degrade to LOS F (from LOS E under Alternative 1).

In 2015, the average vehicle delay at Edmonds Avenue NE and NE 12th Street would increase by approximately 13 seconds over Alternative 1, and would result in a one-level drop to LOS F.

The expected operational LOS and delay results from Alternative 3 are presented in Table 4.14-3.

Table 4.14-3. Intersection Operations—Alternative 3

			Alternative 3 PM Peak			
			2015		2030	
Int #	Intersection	Control	LOS	Delay(s)	LOS	Delay(s)
1	NE Sunset Blvd & NE Park Dr	Signalized	A	9.3	B	11.9
2	NE Sunset Blvd & Edmonds Ave NE	Signalized	B	12.4	B	13.7
3	NE Sunset Blvd & Harrington Ave NE	Signalized	A	6.7	A	8.3
4	NE Sunset Blvd & NE 10th St	Signalized	B	16.2	C	20.6
5	NE Sunset Blvd & Kirkland Ave NE	OWSC	B	10.3	B	11.1
6	NE Sunset Blvd & NE 12th St	Signalized	C	24.3	D	38.8
7	NE Sunset Blvd & Monroe Ave NE	OWSC	B	15.0	C	15.6
8	Edmonds Ave NE & NE 12th St	AWSC	**F**	**55.8**	**F**	**99.6**
9	Harrington Ave NE & NE 12th St	AWSC	D	35.0	**F**	**68.9**
10	Kirkland Ave NE & NE 12th St	AWSC	B	12.8	B	14.4

OWSC = one-way stop control; AWSC = all-way stop control; LOS = level of service
Delay is measured in average seconds per vehicle.
Bold type indicates results worse than City LOS D threshold.

LOS at the two intersections highlighted above under Alternative 3 is worse than under Alternative 1 and worse than the City's LOS D threshold as a result of the increase in trips generated by Alternative 3 development. The additional trip demand on the traffic study area network during the PM peak exceeds capacity at the affected intersections. Intersection turning-movement volumes, delay, and LOS are presented in Figures 4.14-5 and 4.14-6, while the detailed intersection analysis results are included in Appendix F.

Construction Impacts

Potential construction impacts under Alternative 3 would be almost identical to under Alternative 2. Large, heavy slow-moving trucks carrying materials and equipment would likely need to access the site via NE Sunset Boulevard. These additional vehicles, as well as potential lane closures or detour routes, would likely cause delays for motorists traveling through the Planned Action Study Area.

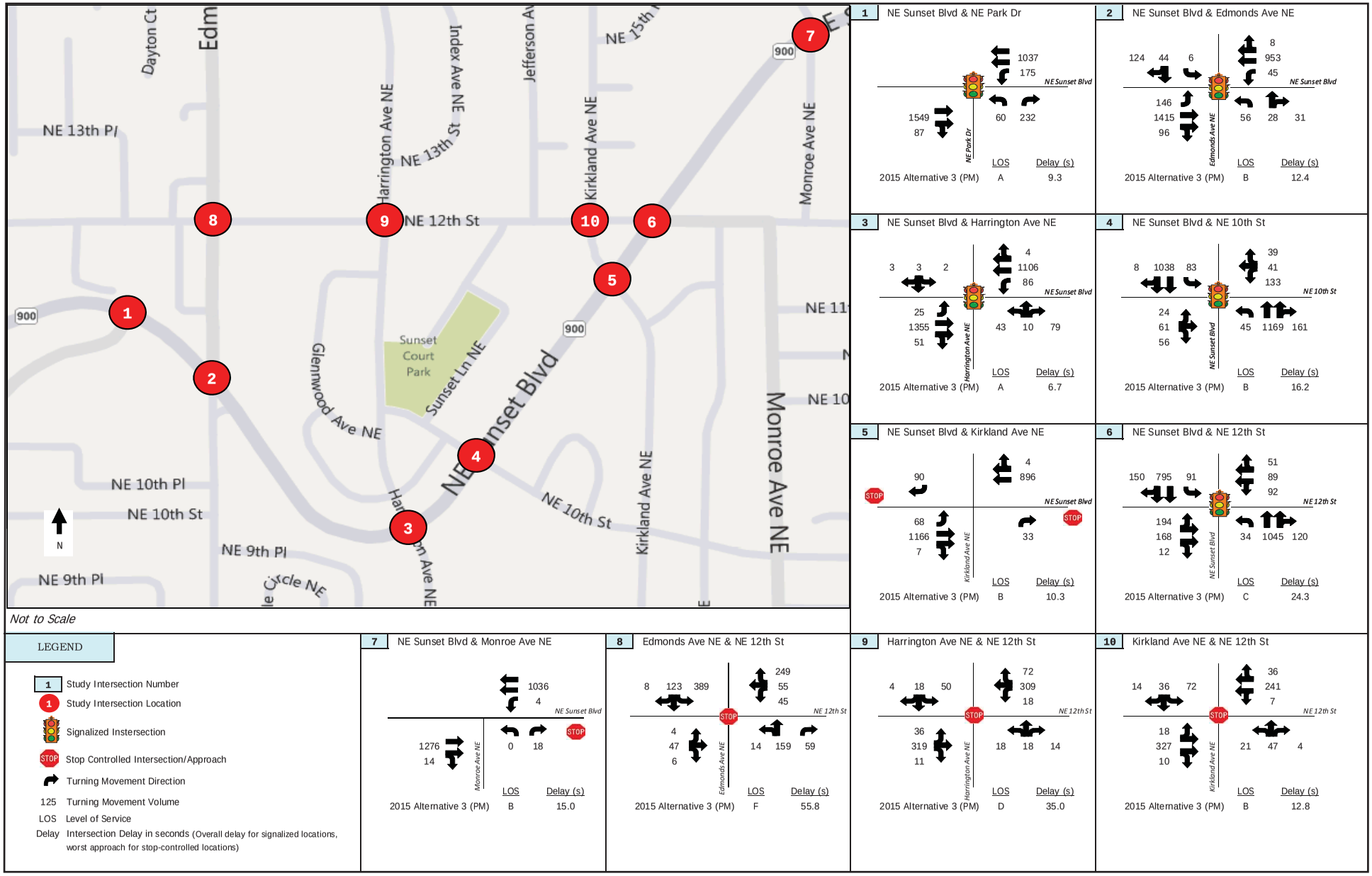

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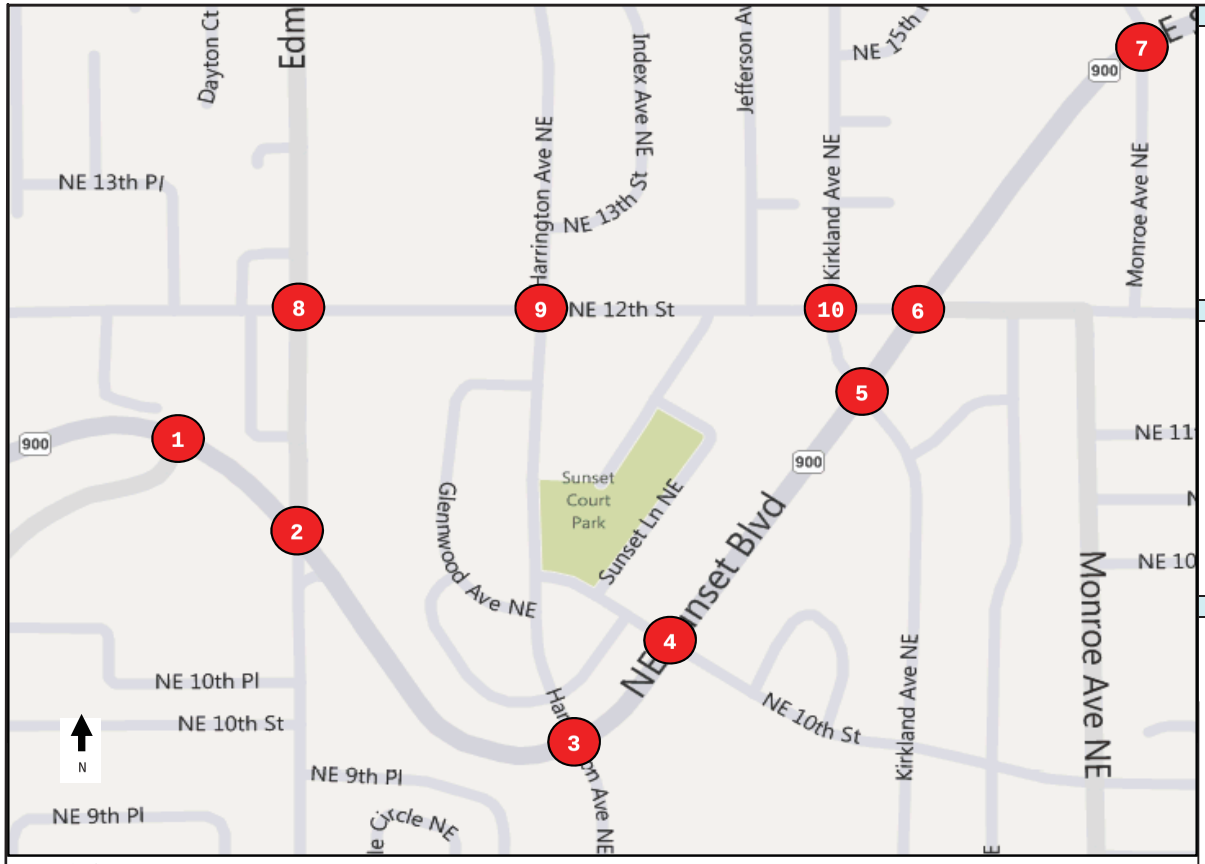
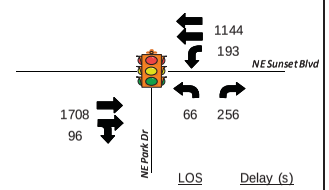
Figure 4.14-5
2015 Alternative 3 PM Peak-Hour Traffic
Sunset Area Community Planned Action Draft NEPA/SEPA EIS



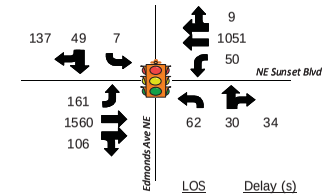
Not to Scale

1 NE Sunset Blvd & NE Park Dr



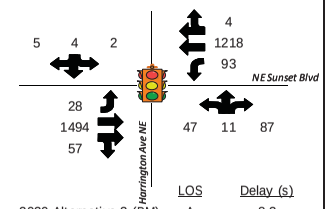
	LOS	Delay (s)
2030 Alternative 3 (PM)	B	11.9

2 NE Sunset Blvd & Edmonds Ave NE



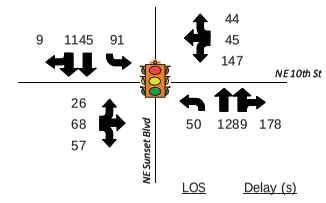
	LOS	Delay (s)
2030 Alternative 3 (PM)	B	13.7

3 NE Sunset Blvd & Harrington Ave NE



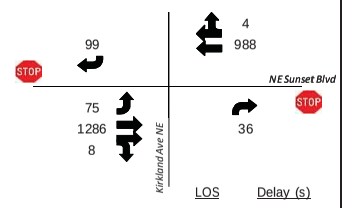
	LOS	Delay (s)
2030 Alternative 3 (PM)	A	8.3

4 NE Sunset Blvd & NE 10th St



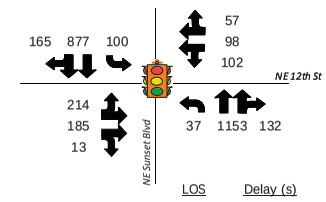
	LOS	Delay (s)
2030 Alternative 3 (PM)	C	20.6

5 NE Sunset Blvd & Kirkland Ave NE



	LOS	Delay (s)
2030 Alternative 3 (PM)	B	11.1

6 NE Sunset Blvd & NE 12th St

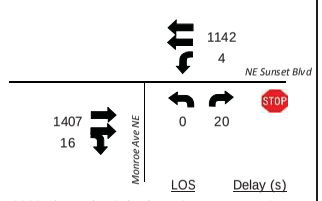


	LOS	Delay (s)
2030 Alternative 3 (PM)	D	38.8

LEGEND

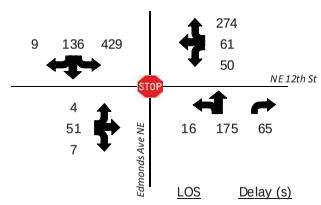
- **1** Study Intersection Number
- 1 Study Intersection Location
- Signalized Intersection
- STOP Stop Controlled Intersection/Approach
- Turning Movement Direction
- 125 Turning Movement Volume
- LOS Level of Service
- Delay Intersection Delay in seconds (Overall delay for signalized locations, worst approach for stop-controlled locations)

7 NE Sunset Blvd & Monroe Ave NE



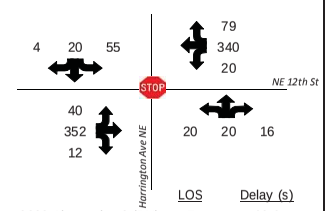
	LOS	Delay (s)
2030 Alternative 3 (PM)	C	15.6

8 Edmonds Ave NE & NE 12th St



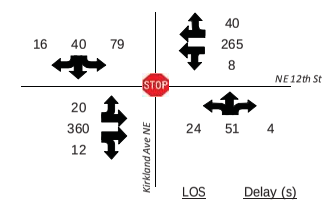
	LOS	Delay (s)
2030 Alternative 3 (PM)	F	99.6

9 Harrington Ave NE & NE 12th St



	LOS	Delay (s)
2030 Alternative 3 (PM)	F	68.9

10 Kirkland Ave NE & NE 12th St



	LOS	Delay (s)
2030 Alternative 3 (PM)	B	14.4

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Figure 4.14-6
2030 Alternative 3 PM Peak-Hour Traffic
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

Transit

Under Alternative 3, transit amenities along NE Sunset Boulevard and Harrington Avenue NE would be improved over existing conditions. Similar to Alternative 2, at both Edmonds Avenue NE and at NE 10th Street along NE Sunset Boulevard and on Harrington Avenue NE south of NE Sunset Boulevard, expanded bus zones in both directions of travel would provide larger waiting areas for transit users and would be conveniently located near residential or retail land uses. Bus zones and existing bus stops could include shelters with adequate lighting and street furniture. All bus stops within the Planned Action Study Area will be improved to meet ADA accessibility requirements. Transit stops are located adjacent to pedestrian and bicycle facilities, which encourages the use of alternative modes of travel. Special pavement in the roadway would clearly identify transit stops on NE Sunset Boulevard.

Nonmotorized Facilities

Alternative 3 includes improved nonmotorized facilities such as bicycle lanes, sidewalks, and marked crosswalks. A 5-foot-wide designated bicycle lane is provided in both directions of NE Sunset Boulevard within the traffic study area. Design elements such as bike route signage, bike storage lockers, and bicycle detection at signalized intersections are included in Alternative 3 to promote bike ridership and safety.

Pedestrian improvements under Alternative 3 include reconstructed sidewalks and planter strips or landscaping buffers along NE Sunset Boulevard and all traffic study area roadways. An 8-foot-wide planter area separates an 8-foot-wide sidewalk from the roadway, contributing to a more comfortable environment for walking along the state highway. In some locations, the existing chain-link fence would be replaced with a vegetated trellis on top of walls at the back of sidewalks to create a more inviting environment for pedestrians.

Pedestrian-scale lighting under Alternative 3 would improve pedestrian safety and walkability.

Sidewalk connections from NE Sunset Boulevard to side streets would be improved, strengthening the connectivity between the residential areas and NE Sunset Boulevard. To improve safety for pedestrians crossing the roadways, Alternative 3 includes the use of special paving at crosswalks and intersections. Special paving can more clearly identify pedestrian areas and alert drivers to proceed with caution, which can contribute to a safer pedestrian environment. Pedestrian-supportive signals such as count-down heads and audible signals would be provided under Alternative 3 to improve safety for pedestrians crossing the roadways at signalized intersections. Other pedestrian-level design amenities such as benches, trash receptacles, way finding signs, and art would be incorporated to encourage pedestrian activity in the Planned Action Study Area.

Sustainability

The Greenroads evaluation for Alternative 3 (See Alternative 2 for a description of the Greenroads rating system) is found in Appendix F. Alternative3 scores a minimum of 33 with a maximum of up to 99 out of 118 points in the Greenroads metric; therefore, it meets the minimum Greenroads certification level and could achieve the highest level of certification (Evergreen).

Alternatives 2 and 3 score equally on the Greenroads evaluation due to the project elements common to both alternatives. Similar to Alternative 2, Alternative 3 scores most strongly in the “Access and Equity” section of the Greenroads evaluation similar to the reasons described for

Alternative 2, including improving access for pedestrians, bicyclists, and transit users. Similar to Alternative 2, improving walkability, pedestrian connections, and transit facilities as part of Alternative 3 is likely to contribute to lower consumption of energy by encouraging more pedestrian activity and less vehicle travel.

While Alternative 3 typically includes higher levels of improvements or higher quality of improvements over Alternative 2, such as wider sidewalks, wider planting areas, and special paving, the Greenroads evaluation does not take into account the quality of elements, only whether best practices are included in the project.

Indirect and Cumulative Impacts

Growth would increase in comparison to Comprehensive Plan land use estimates; however, the Alternative 3 operational analysis is based on a model that addresses growth cumulatively on the City's current and planned roadway system. Potential cumulative impacts are greater than under Alternatives 1 and 2.

Potential Sunset Terrace Redevelopment Subarea

In the Potential Sunset Terrace Redevelopment Subarea, delay times could worsen slightly due to the increase in trips generated, but intersections would likely operate better than the LOS D threshold. On the southern border of the subarea, the intersections on NE Sunset Boulevard at Harrington Avenue NE and at NE 10th Street are expected to operate better than LOS B in 2015, and better than LOS C in 2030. These intersections serve as a gateway into and out of the subarea. Stop-controlled intersections within the subarea are likely to have lower volumes and more capacity than either intersection on NE Sunset Boulevard. Since these locations likely carry low, mainly residential volume, and are not nearing their capacities, they are not expected to operate worse than LOS D.

4.14.2 Mitigation Measures

4.14.2.1 Planned Action Study Area

Operational Mitigation

In 2030, the intersections on NE 12th Street at Edmonds Avenue NE and at Harrington Avenue NE are expected to operate at LOS E or F under Alternative 2 and Alternative 3. This exceeds the LOS D mobility standard during the PM peak hour.

As mitigation at Edmonds Avenue NE and NE 12th Street, the single shared turn lane on the southbound approach could be restriped to include a separate left-turn lane and a shared through-right lane. This additional turn capacity would allow through or right-turning vehicles to make their movement without waiting behind southbound left-turning vehicles. Similarly, the single shared turn westbound approach could be striped to include a dedicated right-turn lane and a shared through-left turn lane. The westbound right-turn volume is more than double the through and left-turn volume combined. A separate right-turn lane would add capacity and would alleviate the heaviest movement. Right-turn vehicles would be able to proceed independently of the through or left-turn vehicles. An additional southbound left-turn pocket and westbound right-turn pocket would improve operations to LOS D under Alternative 2 and LOS E under Alternative 3.

Under Alternative 3, the added turn-lane capacity improvements would reduce delay at the heaviest movements to within 5 seconds of meeting the LOS D threshold. Instead of additional permanent mitigation, demand management strategies could be used to improve LOS at Edmonds Avenue NE and NE 12th Street. Pedestrian- and bicycle-oriented paths or multi-use trails could be developed between the neighborhoods north of NE 12th Street and the retail or commercial uses along NE Sunset Boulevard. Paths could include outdoor furniture and public art. Destinations could have secure bike storage areas and well-lit public spaces. Improved pedestrian and bicycle connectivity could make using nonmotorized modes into town more attractive and could encourage a shift from driving to walking or biking. This shift could reduce the number of vehicles expected on the southbound left and westbound right movements at Edmonds Avenue NE and NE 12th Street.

At the Harrington Avenue NE and NE 12th Street intersection, the eastbound approach could be restriped to have a separate left-turn lane and a shared through-right lane, instead of the single shared turn lane currently in place. The westbound approach could be restriped to include two through lanes (each with a shared turn movement) to increase capacity of the approach. Parking may need to be restricted on the westbound receiving leg during peak periods to accommodate the additional through lane of traffic. With implementation of these suggested mitigation measures, the Harrington Avenue NE and NE 12th Street intersection would operate at LOS D under Alternative 2 in 2030.

Alternative 3 would require the eastbound approach to be restriped with two shared turn through lanes to meet the LOS D threshold. Both the eastbound and westbound directions would likely require parking restrictions during the PM peak on the respective receiving legs to accommodate the additional through movement, but no apparent right-of-way take or construction would be necessary.

Construction Mitigation

Temporary mitigation during construction may be necessary to ensure safe travel and manage traffic delays. The following mitigation measures could be implemented prior to or during construction within the Planned Action Study Area.

- Prior to construction:
  - Assess pavement and subsurface condition of roadways being proposed for transport of construction materials and equipment. Ensure pavement can support loads. Adequate pavement quality would likely reduce the occurrence of potholes and would help maintain travel speeds.
  - Alert landowners and residents of potential construction. Motorists may be able to adjust schedules and routes to avoid construction areas and minimize disruptions.
  - Develop traffic control plans for all affected roadways. Outline procedures for maintenance of traffic, develop detour plans, and identify potential reroutes.
  - Place advance-warning signage on roadways surrounding construction locations to minimize traffic disturbances.
- During construction:
  - Place advance warning signage on NE Sunset Boulevard and adjacent arterials to warn motorists of potential vehicles entering and exiting the roadway. Signage could include “Equipment on Road,” “Truck Access,” or “Slow Vehicles Crossing.”

- Use pilot cars as dictated by the Washington State Department of Transportation (WSDOT).
- Encourage carpooling among construction workers to reduce traffic volume to and from the construction site.
- Employ flaggers, as necessary, to direct traffic when vehicles or large equipment are entering or exiting the public road system to minimize risk of conflicts between trucks and passenger vehicles.
- Maintain at least one travel lane at all times, if possible. Use flaggers to manage alternating directions of traffic. If lane closures must occur, adequate signage for potential detours or possible delays should be posted.
- Revisit traffic control plans as construction occurs. Revise traffic control plans to improve mobility or address safety issues if necessary.

4.14.2.2 Potential Sunset Terrace Redevelopment Subarea

No permanent mitigation measures are recommended within Potential Sunset Terrace Redevelopment Subarea. The intersection operations under either action alternative are expected to be within the LOS D threshold.

During construction, mitigation measures would be similar to those described above for the Planned Action Study Area. Flaggers, advance warning signage to alert motorists of detours or closures, and reduced speed zones would likely benefit traffic operations.

4.14.3 Significant Unavoidable Adverse Impacts

The alternatives are expected to contribute to a cumulative increase in traffic volumes within the study area, which could degrade some roadway operations. The increase in traffic volumes due to activities in the study area is considered unavoidable, but the roadway operation and LOS can be mitigated to meet applicable LOS standards.

4.15 Parks and Recreation

4.15.1 Impacts

Park and recreation impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. The basis for comparing these impacts are Renton's adopted park and recreation LOS standards, which are outlined in Section 3.15.

This section discusses the future conditions of park and recreation facilities with the Planned Action Study Area and Sunset Terrace Development Subarea under each of the three project alternatives. Study area facilities are evaluated for future conditions (year 2030) using the City's park and recreation LOS standards. Identifying the future deficiencies and surplus in park and recreation facilities is used to address what type and how much of each facility could be added to the Planned Action Study Area to meet the future demand.

Existing and future LOS conditions for park facilities were calculated using two areas: 1) park service area (0.5 mile for neighborhood park and 1 mile for community park), and 2) area of the Planned Action Study Area within each park service area. To calculate park LOS conformance, forecast population (for each alternative) within these service areas was compared to the City's LOS standards (1.2 acres/1,000 persons for neighborhood parks and 2.5 acres/1,000 persons for community parks). Table 4.15-1 summarizes the LOS for parks within the Planned Action Study Area under existing and future conditions for each alternative.

For recreation facilities LOS, two measures were calculated: 1) with school facilities[1] and 2) without school facilities. To calculate recreation facilities LOS deficiencies and surplus, the existing study area population was compared to the City's LOS standards for each facility type (refer to Table 3.15-3 for facility LOS). Table 4.15-2 summarizes the existing and future LOS for recreation facilities (fields, courts, and trails) within the Planned Action Study Area. Figure 4.15-1 shows the service areas of the park facilities within the Planned Action Study Area. Refer to Appendix G for the park and recreation LOS calculations.

Refer to Section 3.15 for a summary of current park and recreation facilities amenities and usage.

It should be noted that during the preparation of this Draft EIS, the City initiated an update to its *Parks, Recreation, Open Space, and Natural Resources Plan*. As part of the Preferred Alternative review in the Final EIS, alternative LOS standards or conditions may be addressed. This Draft EIS focuses on current adopted LOS standards and available data.

[1] The City currently does not categorize school property as parks and recreation facilities; however, in future conditions, combining park facilities with school facilities as a joint use may be considered.

Table 4.15-1. Existing and Future Level of Service for Park Facilities in Planned Action Study Area

			Existing (2006/2010)		Alternative 1 (2030)		Alternative 2 (2030)		Alternative 3 (2030)	
Name	Type		Service Area	Study Area[a]	Service Area	Study Area[a]	Service Area	Study Area[a]	Service Area	Study Area[a]
North Highlands Park and Neighborhood Center	Neighborhood Park[b]	Population	4,493	2,124	7,959	4,578	8,131	4,856	9,829	6,255
		LOS	5.39	2.55	9.55	5.49	9.76	5.83	11.79	7.51
		Surplus/Deficiency	-2.75	+0.09	-6.91	-2.85	-7.12	-3.19	-9.15	-4.87
Highlands Park and Neighborhood Center	Community Park[c, d]	Population	19,642	2,978	31,302	6,417	31,645	6,808	34,022	8,768
		LOS	49.11	7.45	78.26	16.04	79.11	17.02	85.06	21.92
		Surplus/Deficiency	-32.71	+2.96	-67.86	-5.64	-68.71	-6.62	-74.66	-11.52
Sunset Court Park	Neighborhood Park[b]	Population	5,629	2,828	10,303	6,093	10,679	6,464	12,837	8,325
		LOS	6.75	3.39	12.36	7.31	12.81	7.76	15.40	9.99
		Surplus/Deficiency	-6.25	-2.89	-11.86	-6.81	-12.31	-7.26	-14.90	-9.49

+ = facility surplus; - = facility deficiency

LOS results are in acres.

Service area population is estimated and does not account for density.

[a] Calculation includes only area of Planned Action Study Area within service area.

[b] Neighborhood Park LOS: 1.2 acres/1,000 persons, service area: 0.5 mile

[c] Community Park LOS: 2.5 acres/1,000 persons, service area: 1–2 miles

[d] Community Park LOS calculated using 2000 Census. Calculations do not account for population density. 1 mile service area used for calculating Community Park LOS.

Table 4.15-2. Existing and Future Levels of Service for Recreation Facilities in Planned Action Study Area

Type of Facility	Number of Facilities in Study area			Existing (2010) Study Area Population: 2,978		Alternative 1 (2030) Study Area Population: 6,417		Alternative 2 (2030) Study Area Population: 6,808		Alternative 3 (2030) Study Area Population: 8,768	
	Without school	With school[a]		Without school	With school[a]	Without school	With school[a]	Without school	With school[a]	Without school	With school[a]
Baseball/softball fields	1 fields	6 fields	LOS[b]	1.32		2.85		3.03		3.9	
			Surplus/Deficiency	-0.32	4.68	-1.85	3.15	-2.03	2.97	-2.9	2.1
Football/soccer fields	1 field[f]	4 fields	LOS[c]	0.99		2.14		2.27		2.92	
			Surplus/Deficiency	0	3.01	-1.14	1.86	-1.27	1.73	-1.92	1.08
Tennis courts	3 courts	6 courts	LOS[d]	1.19		2.57		2.72		3.51	
			Surplus/Deficiency	1.81	4.81	0.43	3.43	0.28	3.28	-0.51	2.49
Walking/hiking trails	0.35 mile	0.35 mile (approx.)[g]	LOS[e]	0.6		1.28		1.36		1.75	
			Surplus/Deficiency	-0.25 (-0.6)	-0.25 (-0.6)	-0.93 (-1.28)	-0.93 (-1.28)	-1.01 (-1.36)	-1.01 (-1.36)	-1.4 (-1.75)	-1.4 (-1.75)

+ = facility surplus; - = facility deficiency

[a] Currently, the City does not categorize school property at parks and recreation facilities. Under Alternative 2 and 3, potential joint-use agreements between City of Renton and Renton Schools could be implemented to combine school and park facilities and achieve the LOS standard.

[b] Baseball/softball field LOS: 1 field/2,250 persons

[c] Football/soccer field LOS: 1 field/3,000 persons

[d] Tennis court LOS: 1 court/2,500 persons

[e] Walking/hiking trails LOS: 0.2 mile/1,000 persons

[f] This (park) field is classified as a multi-use field but could likely accommodate soccer. It is unknown whether dimensions would satisfy football field standards.

[g] Total without parentheses includes trails located in park facilities. Within the Planned Action Study Area, there are no trails located in school facilities. The total within parentheses excludes trails located in park facilities.

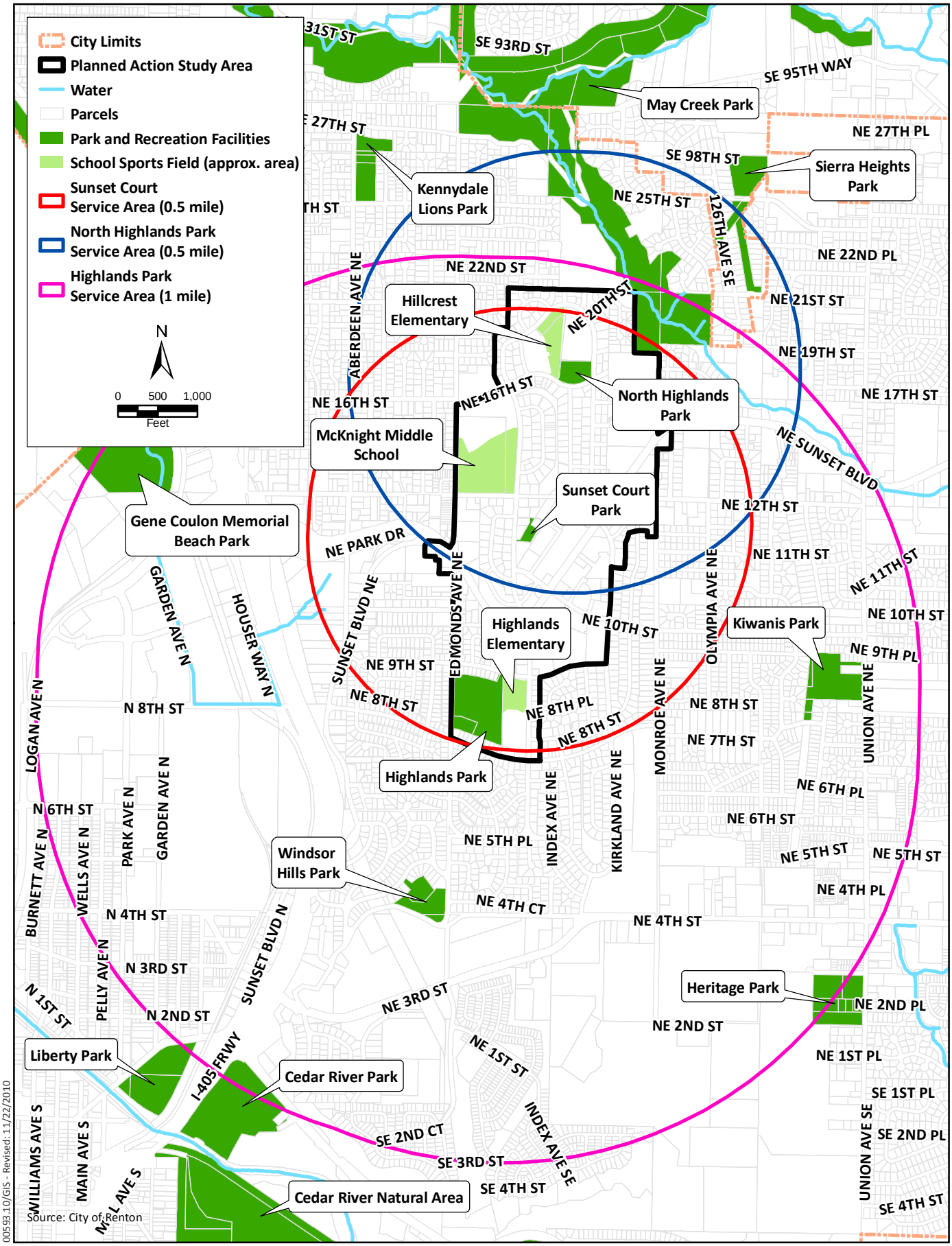

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Figure 4.15-1
Parks and Recreation Facility Service Areas
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

4.15.1.1 Alternative 1: No Action

Planned Action Study Area

Construction

Construction could temporarily disrupt pedestrian access to existing park properties. Active construction sites also represent opportunities for creative play and attractive adventure for young people in the community.

Operation

Under the No Action Alternative, no changes are planned to the parks and recreation facilities within the Planned Action Study Area; the park system would remain as it exists today. Figure 4.15-1 shows park locations). In future No Action conditions (year 2030), as shown in Table 4.15-1, there would be a deficiency in both neighborhood park and community park acreage indicating that the future forecasted population in both the study area and parks service areas would be underserved when applying the City's parks and recreation LOS standards.

Additionally, under the No Action Alternative, no pedestrian access or circulation improvements to NE Sunset Boulevard would occur. The pedestrian environment along NE Sunset Boulevard would remain as it exists today. The boulevard would continue to be a barrier to access between neighborhoods and the parks and recreation facilities in the study area.

As shown in Table 14.5-2, LOS results for future No Action conditions (not including school recreation facilities) indicate that there would be a deficiency in baseball/softball fields, football/soccer fields, and walking/hiking trails within the Planned Action Study Area. If school facilities were considered as a joint use with park facilities, as discussed in Alternatives 2 and 3, the City's current adopted standards for fields and courts would be met, but a deficiency would remain for walking/hiking trails.

Public stormwater systems in the Planned Action Study Area would remain as with existing conditions—no stormwater elements would be incorporated into the Planned Action Study Area park sites. Refer to the water resources analysis (Section 4.3) for discussions related to incorporating stormwater facilities into park land.

Potential Sunset Terrace Redevelopment Subarea

No parks and recreation facilities exist in the Sunset Terrace Redevelopment Subarea and no parks would be added under the No Action Alternative. A senior housing development on the northeast vacant parcel (RHA's Piha site on Figure 2-9) would add 12,500 square feet of senior day health services and serve on-site and off-site seniors. The Edmonds-Glenwood site (see Figure 2-9) would provide passive open space, but no active parks and recreation features would be built.

The subarea would be underserved according to the City's parks and recreation LOS standards.

NE Sunset Boulevard would remain unimproved and pedestrian access would continue to be limited between the subarea and parks and recreation facilities located south of NE Sunset Boulevard. The closest park facility to the subarea is the Sunset Court Park.

No stormwater elements would be incorporated into the subarea.

4.15.1.2 Alternative 2

Planned Action Study Area

Construction impacts would be as described for Alternative 1; however there would be a greater potential with the construction of street and drainage improvements to temporarily disrupt access to existing parks from nonmotorized routes.

With the future increase in population (an increase of 3,830 from existing conditions) in the Planned Action Study Area for Alternative 2, an increase in demand for park and recreation facilities is anticipated. Although about 0.89 acre of park 38,500 square feet of community service space are added to the Planned Action Study Area under Alternative 2 (in the Potential Sunset Terrace Redevelopment Subarea), there would be a deficiency in both neighborhood and community park land under future conditions and the population would continue to be underserved, as shown in Table 4.15-1. Without the addition of new recreation facilities, there would also be a deficiency of fields, courts, and trails within the study area, as shown in Table 4.15-2. Beyond park acres, ballfields, courts, and trails, there may also be a need for specialized facilities such as gyms, running areas, and meeting rooms. This would be further determined by City parks and recreation plans and site programming.

Opportunities to increase park land and recreation facilities within the Planned Action Study Area could include combining school recreation facilities with park facilities through joint-use agreements. An example of a joint-use development is the Hillcrest Elementary School and North Highlands Park. Coordination between the Renton School District and the City could develop a joint-use agreement so that park and recreation facilities would be shared between the two properties, maximizing resources and operational budgets. This would be possible as the Renton School District contemplates an expansion of its early childhood education facility and as the City contemplates the future of the North Highlands Community Center as additional community center space in the Potential Sunset Terrace Redevelopment Subarea. Other potential joint-use possibilities in the Planned Action Study Area include the Highlands Park and Highlands Elementary School in the southern portion of the study area, though no pending plans for either site are known at this time.

Other additional opportunities for increasing park land and recreation facilities in the study area include development of passive open space that would be distributed throughout the study area, and repurposing of public properties or acquisition of private properties in areas where recreation demand is anticipated to increase under future conditions. Development of green connections within the study area could also provide opportunities to develop pocket parks, though these connections cannot be counted toward park/recreation acreage and do not satisfy “active” park and recreation LOS standards. As described in Chapter 2 and shown in Figure 2-14, there are publicly owned properties, vacant properties, lot remnants, a sidewalk network, and proposed green connections that may allow for improvement and acquisition to create a coordinated pocket park system. Achieving this also depends on whether operational efficiencies to maintain these facilities are possible and City recognition and adoption of pocket parks, associated design standards, and LOS standards in its plans and regulations.

With the planned improvements along NE Sunset Boulevard as part of the City Complete Streets standards, nonmotorized connections between residential areas and park/recreation facilities would be improved to include expanded sidewalks, lighting, and a bike lane.

Stormwater management elements could be incorporated into public properties and streets providing additional open space, as discussed in Section 2.7.2.4.

Potential Sunset Terrace Redevelopment Subarea

Similar to the Planned Action Study Area, the Sunset Terrace Redevelopment Subarea would experience increased population under Alternative 2. With no existing park or recreation facilities located within this subarea, future demand would not be met unless park land and recreation facilities were added.

As part of Alternative 2, a new community center would be added to the subarea at the northeast corner of the intersection of NE Sunset Boulevard and Harrington Avenue NE. A 0.89-acre active park or open space would be added at the southwest corner of the Glenwood Avenue NE and Harrington Avenue NE intersection. Passive open space would also increase park acreage.

As part of the overall Planned Action Study Area, the subarea would be underserved when applying the City's parks and recreation LOS standards.

The Complete Streets improvements to NE Sunset Boulevard would improve pedestrian connections between the subarea and park and recreation facilities.

As discussed in the water resources impact analysis (Section 4.3), stormwater elements would potentially be incorporated into open space areas. Under current policy, park property with co-located or integrated stormwater management facilities cannot be counted toward park/recreation acreage for purposes of meeting parks LOS.

4.15.1.3 Alternative 3

Planned Action Study Area

Construction impacts would be similar to those described for Alternative 2; however Alternative 3 would have the greatest potential of the studied alternatives to result in growth and construction that could temporarily disrupt access to existing parks from nonmotorized routes.

Under Alternative 3, population in the Planned Action Study Area increases by 5,789 people from existing conditions. With this increase, the demand for parks and recreation facilities would increase more than under Alternative 2. Without additional park acreage, there would be a deficiency in neighborhood and community park acreage in the Planned Action Study Area (Table 4.15-1) and a deficiency in fields, courts, and trails (Table 4.15-2). Similar to Alternative 2, there may also be a need for specialized facilities such as gyms, running areas, and meeting rooms. This would be further determined by City parks and recreation plans and site programming.

Similar to Alternative 2, Alternative 3 would include the potential to create joint-use parks and recreation, combining school recreation facilities with park facilities under joint-use agreements. North Highlands Park could be combined with Hillcrest School as part of the family village concept. There may be other opportunities for joint use of facilities such as Highlands Park and Highlands Elementary School. (See Figure 3.15-1 for a location of park and school facilities.)

The addition of passive parks and pocket parks throughout the Planned Action Study Area would add open space acreage to the study area. As described in Chapter 2 and shown in Figure 2-14, there are publicly owned properties, vacant properties, lot remnants, a sidewalk network, and proposed green connections that may allow for improvement and acquisition to create a coordinated pocket park system, though green connections would not satisfy current active park and recreation LOS standards. Achieving this also depends on whether operational efficiencies to maintain these facilities are possible and City recognition and adoption of pocket parks, associated design standards, and LOS standards in its plans and regulations.

As discussed further under the Potential Sunset Terrace Redevelopment Subarea, a multi-generational community center, and, potentially, a library, totaling 42,500 square feet, and 0.25 acre of passive open space along Harrington Avenue NE would be added to the Planned Action Study Area (in the Potential Sunset Terrace Redevelopment Subarea) as part of Alternative 3. These amenities could offset some of the anticipated recreational facility deficiencies. However, libraries are not part of the City's current parks LOS standards.

Stormwater elements would potentially be incorporated into open space areas within the Planned Action Study Area under Alternative 3. Based on the current adopted *Long Range Parks, Recreation, and Open Space Plan* (City of Renton 2003), the City does not consider stormwater management features to meet the definition of public open space. Under current policy, park property with colocated or integrated stormwater management facilities cannot be counted toward park/recreation acreage for purposes of meeting parks LOS. See the water resources analysis (Section 4.3) for a discussion of combining facilities.

Potential Sunset Terrace Redevelopment Subarea

Without additional park and recreation facilities added to the Sunset Terrace Redevelopment Subarea under future conditions, the forecasted population in this subarea would remain under served in neighborhood and community parks, as well as fields, courts, and trails, as shown in Tables 4.15-1 and 4.15-2, respectively.

With Alternative 3, portions of Harrington Avenue NE right-of-way within the subarea would be converted to 0.25 acres of passive open space. A multi-generational center, and, potentially, a library would be constructed in the subarea southeast of the Harrington Avenue NE/Glenwood Avenue NE intersection and adjacent to the new passive open space along Harrington.

As part of the overall Planned Action Study Area, the subarea would be underserved according to results when applying the City's parks and recreation LOS standards.

Under Alternative 3, NE Sunset Boulevard would be improved to include bike lanes, intersection improvements, and sidewalks, providing a more walkable corridor and more direct access between residential areas and park land.

Stormwater elements would be incorporated into park and recreation facilities within the Planned Action Study Area under Alternative 3. See the water resources analysis (Section 4.3) for a discussion of combining facilities. However, stormwater management facilities cannot be counted toward park/recreation acreage for purposes of meeting parks LOS.

4.15.1.4 Indirect Impacts

Under each of the alternatives, indirect park and recreation impacts are expected to mostly fall on the City's regional and community-wide parks and recreation facilities. For example, as the population increases in the Planned Action Study Area, there will be a growing deficiency of Neighborhood and Community Parks. Due to proximity, those demands would likely be displaced to nearby regional facilities such as Gene Coulon Park as well as in surrounding communities.

Facility deficiencies in the Potential Sunset Terrace Redevelopment Subarea would also likely lead to spillover demand for active playfields for team sports in other parts of Renton as well as in surrounding communities.

Successful implementation of the Planned Action would result in higher property values and more intense competition for properties that could fulfill the Planned Action Study Area's park and recreation needs.

4.15.1.5 Cumulative Impacts

Increased demands for park and recreation facilities and services generated by the forecast population growth under each of the alternatives would add to those created by general population growth throughout the Renton community (See socioeconomics impact analysis in Section 4.9). To the extent that other Renton neighborhoods currently have or will have deficiencies in park and recreation facilities, cumulative impacts will be exacerbated.

Expanded parks and recreation facilities within the Planned Action Study Area to serve forecast population would require increased funding for land acquisition and operations. The potential joint/coordinated use of school and park facilities could create economies for both the City and the Renton School District through appropriate joint-use agreements.

4.15.2 Mitigation Measures

4.15.2.1 Planned Action Study Area

During construction, impacts adjacent to or in parks within the Planned Action Study Area, such as an increase in noise, dust, and access limitations, would be mitigated as per a construction mitigation plan.

The following four mitigation measures would help improve the availability or access to parks and recreation facilities in the Planned Action Study Area.

- The City is initiating a parks, recreation, open space, and natural resources plan for completion in 2011. That plan could identify alternative LOS standards and parks and recreation opportunities inside or outside of the Planned Action Study Area that could serve the local population.
- The City is considering amendments to its development codes that would provide for payment of a fee-in-lieu for required common open space. As proposed, the fee-in-lieu option could be executed when development sites are located within 0.25 mile of a public park and when that park can be safely accessed by pedestrians. The City's package of amendments also includes park impact fees. (City of Renton 2010.)

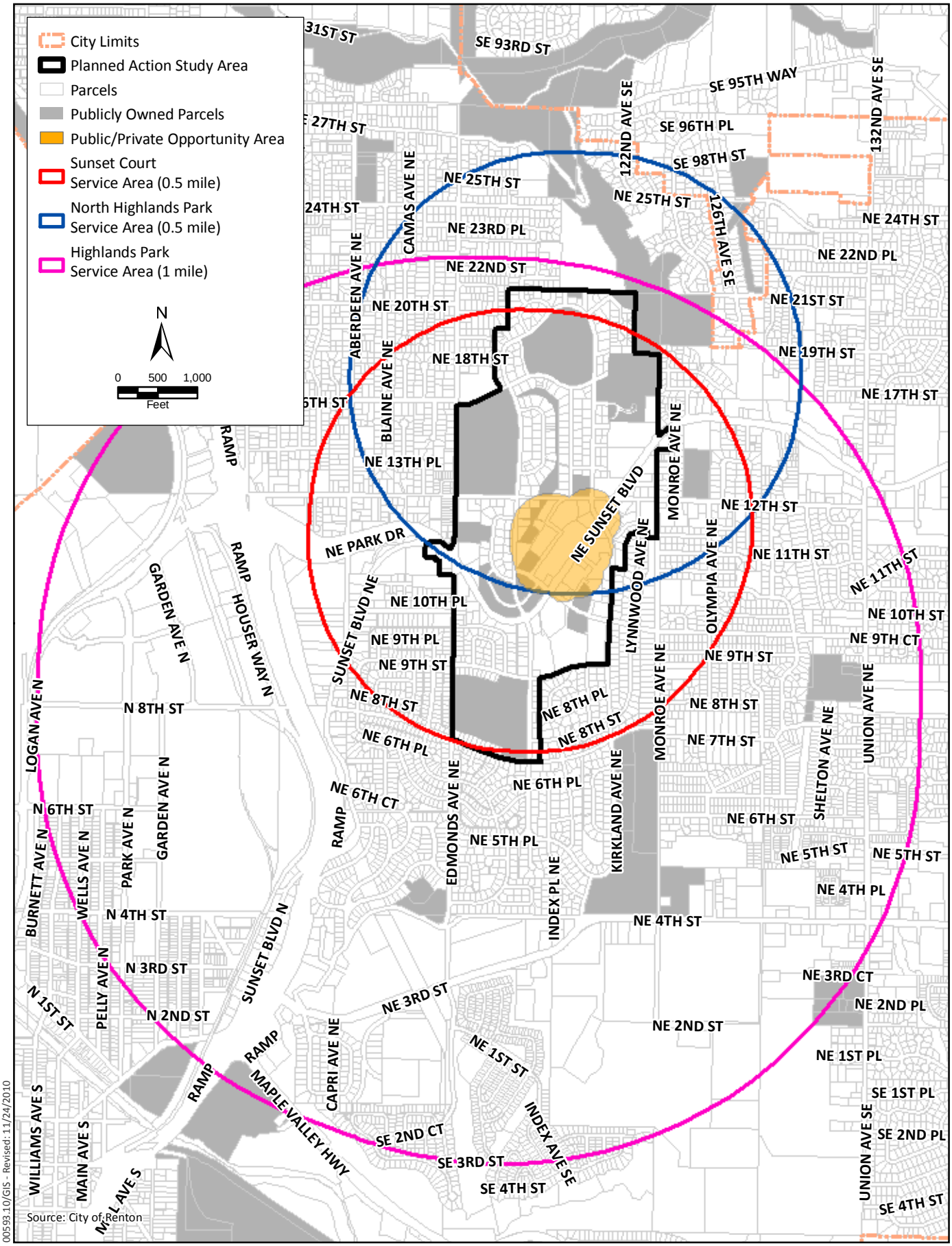
- The City and Renton School District could develop a joint-use agreement for public use of school grounds for parks and recreation purposes during non-school hours. An example of a joint-use agreement is the City of Sammamish and Issaquah School District No. 411's "Interlocal Agreement Regarding the Joint Use, Development, and Maintenance of City and District Properties" (City of Sammamish and Issaquah School District No. 411 2006). These types of agreements define joint-use elements such as activity scheduling, liability, and maintenance. Joint-use agreements between the City and Renton School District could also be used to, at least partially, address the LOS deficiencies in existing recreation facilities.
- The City could add parks and recreation facilities such as:
  - The City could convert current public properties no longer needed for their current uses to parks and recreation uses, such as the Highlands Library that is intending to move and expand off site. Figure 4.15-2 shows properties in public use.
  - The City could purchase private property for parks and recreation use. An efficient means would be to consider properties in the vicinity of existing parks and recreation facilities or where additional population growth would be greatest. Figure 4.15-2 shows locations where future demand could be greater and where the City could focus acquisition efforts.

4.15.2.2 Potential Sunset Terrace Redevelopment Subarea

With the prevalence of public facilities in the Planned Action Study Area as a whole, and the addition of a multi-generational community center, and potentially a library in the Potential Sunset Terrace Redevelopment Subarea, there is opportunity to manage the current facilities in a manner that maximizes their beneficial parks and recreation uses for future population growth. The mitigation measures proposed for the Planned Action Study Area would help serve the Potential Sunset Terrace Redevelopment Subarea.

4.15.3 Significant Unavoidable Adverse Impacts

Under studied alternatives for Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, there would be an increased demand for parks and recreation facilities. With the application of mitigation measures, no significant unavoidable impacts are anticipated.



Source: City of Renton

00593.10/GIS - Revised: 11/24/2010

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Figure 4.15-2
Publicly Owned Lands
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

4.16 Public Services

4.16.1 Impacts

Impacts are discussed at two levels under each alternative: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area 2) and specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea. See Appendix I for a qualitative analysis of public health in land use planning and community design, particularly regarding health services and solid waste disposal components of the public services covered in this section.

4.16.1.1 Alternative 1: No Action

Planned Action Study Area

Police

The Renton Police Department could experience an increase in calls for service related to construction site theft, vandalism, or trespassing relating to construction anticipated under the No Action Alternative. The need for police response would depend on the implementation of security measures (e.g., fencing, lighting, and security patrols) during construction.

Under the No Action Alternative, population in the Planned Action Study Area would grow by approximately 3,442. Applying the Renton Police Department staffing-per-population standard to this increase would result in the need for an estimated 5.5 additional police officers to address the increase in service calls related to growth.

In addition, the growth in population and employment under this alternative would result in increases in traffic congestion within and near the study area (see the transportation analysis in Section 4.14 for more detail). This increase in traffic congestion would result in marginal increases in response time overall, though to a lesser extent than other alternatives.

Fire and Emergency Medical Services

Construction impacts on fire protection and emergency medical services could include increased calls for service related to inspection of construction sites and potential construction-related injuries. Given that this alternative includes the least potential growth of the alternatives considered, it would have the lowest level of construction-related impacts.

Applying the fire service's staffing ratio to growth in the study area would result in the need for an additional 0.8 firefighter full-time equivalent (FTE). Increases in area traffic resulting from growth anticipated in the study area would result in increases in fire and emergency medical response time. However, the No Action Alternative has the least growth of the alternatives considered and, therefore, would provide the least impact on response time.

Education

Under the No Action Alternative, McKnight Middle School would be improved to add 10 classrooms, which would translate to capacity for approximately 290 more middle school students. The expansion of McKnight Middle School is not expected to disrupt student attendance at the campus.

Population growth under the No Action Alternative would result in increases in approximately 339 students in the Renton School District compared to existing conditions. Based on demographic trends described in Section 3.9, new students in the study area would include a higher-than-average number of students speaking English as a second language, increasing demands on the district's English Language Learners Program. This increase in student population would be accommodated by the district's planned opening of Honey Dew Elementary, as well as construction of additions to McKnight Middle School and Hazen High School. In addition, the school district has long-term plans to open a new middle school on district-owned property in Kennydale. These existing capital facility plans are expected to accommodate the increased number of students under the No Action Alternative.

Health Care

Under the No Action Alternative, increase in population within the Planned Action Study Area would increase the need for hospital beds in the Valley Medical Center (VMC) service area by approximately 2.6 beds, based on the current ratio of hospital beds to district service area population. Additional population growth may also result in increased demand at VMC's nearby primary care and urgent care clinics.

Social Services

No changes to social service programs or facilities are anticipated in the Planned Action Study Area under the No Action Alternative. Population increases in the study area are anticipated to result in higher demand for social services provided in the study area as well as those provided in the larger community. Access to social services in and near the study area are not anticipated to improve overall, compared to existing conditions, as redevelopment would result in piecemeal improvements to infrastructure providing access to these services, including sidewalks and transit service. See the transportation analysis in Section 4.14 for more information.

Solid Waste

The No Action Alternative provides the lowest level of development activity and the lowest level of construction-related waste generation of all alternatives being considered. Under the No Action Alternative, solid waste generation is expected to increase by around 82,500 pounds of waste per week compared to existing conditions, the smallest increase of all studied alternatives. A portion of this waste stream would be diverted to recyclables as planned under the *King County Comprehensive Solid Waste Management Plan* (King County 2009).

Public Library

When the library is relocated, library services may be temporarily unavailable in the Planned Action Study Area, but services would be available at other branches. Growth anticipated under the No Action Alternative would create a demand for an additional 1,235 square feet of library space compared to existing conditions using the King County Library System's recommended ratio of 359 square feet per 1,000 population for libraries in the Newcastle/Renton Highlands King County

Library System geographic cluster (described in Section 3.16). Although the geographic clusters that the King County Library System uses for planning include a larger area than the Planned Action Study Area, it is anticipated that the planned improvements to the Renton Highlands Library, which would increase its size by more than 8,408 square feet, in combination with the new 10,000-square-foot Newcastle Library proposed nearby to the north, would account for this level of population growth.

Potential Sunset Terrace Redevelopment Subarea

Police

Construction impacts and indirect impacts on response time for the Potential Sunset Terrace Redevelopment Subarea would be the same as for the study area as a whole.

Under the No Action Alternative, population in this subarea would grow by approximately 404. Applying the Renton Police Department standard to this population increase would account for 0.6 of the approximately 5.5 additional police officers to address population growth described under the Planned Action Study Area above.

Fire and Emergency Medical Services

Construction impacts and indirect impacts on response time for this subarea would be the same as for the study area as a whole. The subarea is near Fire Station 12 located centrally within the Planned Action Study Area, making response time less likely to be adversely impacted in the subarea.

Applying the fire service's staffing ratio to the subarea population growth of 404 people results in the need for less than 0.1 of the 0.8 firefighter FTE needed in the overall Planned Action Study Area to maintain the City's existing staffing ratio.

Education

Students in this subarea attend Kennydale Elementary, McKnight Middle School, and Hazen High School. It is possible that reconfiguration of elementary school boundaries resulting from opening Honey Dew Elementary would alter where students in the subarea attend elementary school; however, opening Honey Dew Elementary would also alleviate short-term overcrowding in area elementary schools. The new Honey Dew Elementary will have an enrollment capacity of 500 students, more than enough to accommodate the additional 20 elementary students expected under No Action population growth in this subarea. In addition, the 290-student additional capacity obtained from adding 10 classrooms to McKnight Middle School is expected to more than accommodate the additional seven middle school students generated by the No Action Alternative. Existing high school capacity should account for the approximately 12 additional high school students generated in the subarea as a result of No Action population growth. Similar to the Planned Action Study Area, the new students in this subarea would represent a higher-than-average proportion of students needing English Language Learner Programs in the district.

Health Care

Using VMC's existing ratio of hospital beds to district population as a basis for analysis, the increase in population anticipated under the No Action Alternative would result in a small increase in demand of approximately 0.3 hospital bed in this subarea of the 2.6 beds anticipated in the overall

Planned Action Study Area. The smaller population increase under this alternative would also result in the smallest demand for additional service at VMC's nearby primary care and urgent care clinics.

Social Services

Two vacant properties in this subarea would be developed by RHA under the No Action Alternative. The subarea's new affordable housing development for seniors would include enriched senior services on site, including elder day health for off-site patients in a 12,500-square-foot space on the northeastern vacant RHA parcel. The existing Sunset Terrace meeting space would remain. Other than standard local improvements to adjacent streetscapes (e.g., sidewalks, curb), there would be no improvements to infrastructure or services that improve access to social services in the wider community for residents of this subarea. The increased population of affordable housing and, in particular, affordable senior housing would increase the demand for social services, including senior services accessible to the subarea.

Solid Waste

The No Action Alternative provides the least development activity in this subarea, producing the lowest level of construction-related waste generation of all alternatives being considered. Solid waste generation from the subarea under this alternative would increase by about 9,700 pounds of waste per week compared to existing conditions, the smallest increase of all alternatives.

Public Library

The growth anticipated under the No Action Alternative in this subarea would account for approximately 145 square feet of library facilities to meet the growth in demand. Similar to the Planned Action Study Area, this growth would be met by the additional 8,408 square feet of library space for the Renton Highlands Library planned by the King County Library System.

4.16.1.2 Alternative 2

Planned Action Study Area

Police

Construction-related impacts of Alternative 2 would be similar to those described for the No Action Alternative, except that additional construction would occur, resulting in greater potential construction-related impacts.

Population in the study area would increase by approximately 3,830 compared to existing conditions, resulting in a need for approximately 6.1 additional police officers when applying the Renton Police Department standard to this population increase. This is approximately 0.6 FTE increase over the No Action Alternative. In addition, a greater amount of traffic would be generated under Alternative 2 compared to the No Action Alternative, thus creating a slightly longer response time.

Fire and Emergency Medical Services

Construction impacts and indirect impacts on response time under Alternative 2 would be the same as for the No Action Alternative, except that the larger increase in population and additional

construction that goes with it would result in construction and response time impacts within the range of other alternatives.

Applying the fire service's staffing ratio to growth under Alternative 2 would result in the need for an additional 0.9 of a firefighter FTEs compared to existing conditions, only 0.1 FTE more than the No Action Alternative.

Education

Under Alternative 2, the McKnight Middle School expansion and reconfiguration and expansion of the Hillcrest Early Childhood Center would occur. Similar to the No Action Alternative, the expansion of McKnight Middle School is not expected to disrupt student attendance at the campus. The Early Education Program at the Hillcrest Early Childhood Center would likely be moved, at least temporarily, as part of the reconfiguration of that facility.

Population growth under Alternative 2 would result in an increase of approximately 377 students attending area Renton School District schools compared to existing conditions. This increase falls within the range of the other alternatives considered. The Alternative 2 increase in student population would be accommodated by the district's planned capital improvements at the elementary, middle, and high school levels. A reconfigured Hillcrest Early Childhood Center could provide additional elementary school capacity to students in and near the study area. The demand for additional English Language Learner Program space would fall within the range of the two other alternatives being considered.

Health Care

Alternative 2 population increases in the study area would result in the need for approximately 2.9 hospital beds, only a fraction more than under the No Action Alternative. Additional population growth would also result in slightly increased demand at VMC's nearby primary care and urgent care clinics compared to the No Action Alternative, and less demand than under Alternative 3. There may be temporary changes to nonmotorized and motorized access to health care services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established.

Social Services

Infrastructure improvements planned for Alternative 2, including new transit shelters and better pedestrian and bicycling amenities, would help make social services within the study area and those serving the larger community more accessible to area residents. There could be temporary changes to nonmotorized and motorized access to social services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established. Additionally, Alternative 2 provides senior and social services described in more detail below under the Potential Sunset Terrace Redevelopment Subarea. No changes to existing social service programs or facilities outside the Potential Sunset Terrace Redevelopment Subarea are anticipation in the Planned Action Study Area under Alternative 2. Population increases within the study area are anticipated to result in demand for social services falling within the range of other alternatives considered.

Solid Waste

Alternative 2 provides for a higher level of redevelopment and civic investment than the No Action Alternative, but less than Alternative 3, resulting in construction-related waste generation within the range of alternatives being considered. Under Alternative 2, solid waste generation would

increase by around 92,000 pounds of waste per week compared to existing conditions, approximately 9,500 pounds per week more than the No Action Alternative and around 47,000 fewer pounds per week less than Alternative 3. As with other alternatives, a percentage of waste generated would be diverted to recycling.

Public Library

When the library is relocated, library services could be temporarily unavailable in the study area, but services would be available at other branches. Growth anticipated under Alternative 2, would create a demand for an additional 1,375 square feet of library space compared to existing conditions, based on the King County Library System recommended 359 square feet per 1,000 population for libraries in the Newcastle/Renton Highlands King County Library System cluster. This falls within the range of other alternatives being considered. Although the geographic clusters that that the King County Library System uses for planning include a larger area than the Planned Action Study Area, it is anticipated that the planned improvements to the Renton Highlands Library, which would increase its size by more than 8,408 square feet, as well as the addition of a new 10,000-square-foot Newcastle Library facility nearby to the north, would account for this level of population growth.

Potential Sunset Terrace Redevelopment Subarea

Police

Construction impacts and indirect impacts on response time for the Potential Sunset Terrace Redevelopment Subarea would be the same as for the study area as a whole.

Under the Alternative 2, population in this subarea would grow by approximately 716 compared to existing conditions. Applying the Renton Police Department standard to this increase would account for 1.1 of the approximately 6.1 additional police officers estimated to address population growth described under the Planned Action Study Area above. This increase falls between those estimated for the No Action Alternative and Alternative 3.

Fire and Emergency Medical Services

Construction impacts and indirect impacts on response time for this subarea would be the same as for the Planned Action Study Area as a whole. The subarea is near Fire Station 12, located centrally within the Planned Action Study Area, making response time less likely to be adversely impacted.

Applying the fire service's staffing ratio to growth of 716 people in the subarea would account for less than 0.2 of the 0.9 firefighter FTE needed in the overall study area to maintain the staffing ratio.

Education

Similar to the No Action Alternative, the 2011 opening of Honey Dew Elementary may change where elementary students living in this subarea attend elementary school. However, the new school is expected to alleviate existing elementary school overcrowding and accommodate the anticipated increase in elementary student enrollment in this subarea.

Population growth under the Alternative 2 would result in an increase of approximately 69 subarea students attending area Renton School District schools compared to existing conditions. This increase falls within the range of other alternatives considered. It is anticipated that the Alternative

2 increase in student population would be accommodated by the district's planned capital improvements at the elementary, middle, and high school levels. A reconfigured Hillcrest Early Childhood Center could provide additional capacity to students that would need early childhood education services in the subarea as well as across the school district. In addition, the anticipated increase in students needing the English Language Learner Program would fall within the range of the other alternatives considered.

Health Care

Under Alternative 2, the increase in population would result in a minor increase in hospital bed demand and demand for service at nearby VMC primary care and urgent care clinics compared to the No Action Alternative, and a smaller demand than Alternative 3. Under Alternative 2, demand for hospital beds increases by 0.5 bed over existing conditions.

Social Services

The Sunset Terrace redevelopment would displace the existing on-site community meeting space that is currently used for on-site social service programs. However, the space would be replaced with a larger and more modern facility, and with appropriate phasing of development, disruption to on-site social service programs could be minimized or avoided.

Under Alternative 2, targeted redevelopment in this subarea would expand area that could be used to house social services within the subarea. Approximately 26,000 square feet of space in the central part of the subarea could be used for a variety of community services, including social services and community meeting spaces. In addition, the proposed senior affordable housing development in the eastern part of the subarea would almost double in size from the No Action Alternative to 12,500 square feet. Residents within the subarea would benefit from streetscape and transit capital infrastructure investments mentioned for the Planned Action Study Area above, which would improve accessibility of social services inside and outside the subarea.

Construction at the Hillcrest Early Childhood Center as the center is expanded could require relocation of the Friendly Kitchen weekly meal program that meets at that site.

Population increases in the subarea are anticipated to result in higher demand for social services, compared to the No Action Alternative, but to a lesser extent than Alternative 3.

Solid Waste

Alternative 2 provides for redevelopment of subarea, generating more construction-related waste than the No Action Alternative, and a similar level of construction-related waste as Alternative 3. Solid waste generation under the Alternative 2 would increase by around 17,200 pounds of waste per week compared to existing conditions, an within the range of waste generation estimates for other alternatives considered. Similar to other alternatives, a portion of the increase in waste stream would be diverted to recyclables.

Public Library

Space for library or other community services is available in the proposed Alternative 2 conceptual plan per Figure 2-9. Growth within the subarea would account for approximately 257 square feet of additional library facility space compared to existing conditions, which is within the range of other alternatives considered.

4.16.1.3 Alternative 3

Planned Action Study Area

Police

Construction-related impacts of Alternative 3 would be similar to those described for the No Action alternative. Because Alternative 3 would involve the most development, it would result in the highest potential construction-related impacts.

Population in the study area would increase by approximately 5,789 compared to existing conditions, resulting in a need for approximately 9.3 additional police officers when applying the Renton Police Department standard, 3.8 officers more than estimated for the No Action Alternative. In addition, there would be a greater amount of traffic generated under Alternative 3, resulting in longer response times compared to the other alternatives considered.

Fire and Emergency Medical Services

Construction impacts and indirect impacts on response time would be greater under Alternative 3 compared to the other alternatives considered. However, the centrally located Fire Station 12, as well as planned construction of other fire station facilities that could help provide back-up service to the study area, would ensure that the City maintains it fire and emergency medical service response time level of service under Alternative 3.

Applying the fire service's staffing ratio to growth under Alternative 3 would result in the need for an additional 1.3 firefighter FTEs compared to existing conditions, approximately 0.5 FTE more than the No Action Alternative.

Education

Under Alternative 3, the McKnight Middle School expansion would occur similar to other alternatives. In addition, changes would occur at the Hillcrest Early Childhood Center, similar to Alternative 2, only the reconfigured center would be part of a family village concept that would include recreation facilities and housing. Similar to other alternatives, the expansion of McKnight Middle School is not expected to disrupt student attendance at the campus. However, the Early Education Program at the Hillcrest Early Childhood Center would likely be temporarily moved, as part of the reconfiguration of that facility.

Population growth under the Alternative 3 would result in an increase of approximately 567 students attending area Renton School District schools compared to existing conditions. This is the largest increase of all the alternatives considered. Approximately half of the new students would be elementary age, which would take advantage of added capacity at both Honey Dew Elementary (anticipated opening in the fall 2011) and the reconfigured Hillcrest Early Childhood Center. Alternative 3 would also include the largest demand on additional English Language Learner Program space of the three alternatives considered. The Alternative 3 increase in student population would be accommodated by the district's planned capital improvements at the elementary, middle, and high school levels, including a reconfigured Hillcrest Early Childhood Center as part of a family village concept, which addresses both traditional K–12 grades as well as early childhood education.

Health Care

Population growth is greatest under the Alternative 3, resulting in the need for an estimated 4.4 additional hospital beds based on the existing number of hospital beds per district population. Although this represents the greatest increase of all the alternatives, this increase in hospital beds is minimal and not expected to result in impacts on VMC. The additional population growth under this alternative would also result in a higher demand at VMC's nearby primary care and urgent care clinics compared to the other alternatives. There may be temporary changes to nonmotorized and motorized access to health care services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established.

Social Services

Alternative 3 includes major public investments that would create redevelopment opportunities that could expand upon or enhance social services within the study area. Among the key components of Alternative 3, outside of the Sunset Terrace redevelopment, is development of a family village in the North Subarea. This family village concept would provide for a range of social services, including early education, as well as senior services, and other educational and recreational facilities and programs. The family village would expand on social services and community meeting space available within the study area. Construction at the Hillcrest Early Childhood Center as part of the family village redevelopment would require relocation of the Friendly Kitchen weekly meal program that meets at that site. The Friendly Kitchen program would either be relocated permanently as a part of the redevelopment or could be accommodated as part of the range of social services provided at the family village.

In addition, similar to Alternative 2, improvements to streetscapes, including sidewalks and transit shelters in the study area, would help make social services located outside the study area more accessible to area residents. There could be temporary changes to nonmotorized and motorized access to social services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established.

The larger population increase anticipated within the study area under this alternative would result in higher demand for social services. The expanded or enhanced social services in this study area described above would accommodate the higher demand.

Solid Waste

Alternative 3 provides for the highest level of redevelopment and civic investment of all alternatives considered, resulting in higher levels of construction-related waste generation. Solid waste generation under Alternative 3 would increase by around 139,000 pounds of waste per week compared to existing conditions, 56,500 more pounds per week than the No Action Alternative. As with other alternatives, a percentage of the waste would be diverted to recycling.

Public Library

As with all other studied alternatives, when the library is relocated, library services could be temporarily unavailable in the study area, but services would be available at other branches. Growth anticipated under Alternative 3 would create a demand for an additional 2,079 square feet of library space compared to existing conditions, using the King County Library System's recommended ratio of 359 square feet per 1,000 population for library space in the Newcastle/Renton Highlands King County Library System geographic cluster. Although the geographic clusters that that the King

County Library System uses for planning include a larger area than the Planned Action Study Area, it is anticipated that the planned improvements to the Renton Highlands Library, which would increase its size by more than 8,408 square feet, in combination with a new 10,000-square-foot Newcastle Library located north of the study area, would account for this higher level of population growth. These combined facilities would add around 18,408 square feet of additional library facilities to this King County Library System geographic cluster.

Potential Sunset Terrace Redevelopment Subarea

Police

Construction impacts and indirect impacts on response time for the Potential Sunset Terrace Redevelopment Subarea would be the same as for the study area as a whole.

Under Alternative 3, population in this subarea would grow by approximately 1,106 compared to existing conditions. Applying the Renton Police Department standard to this population increase would account for 1.8 of the approximately 9.3 additional police officers to address population growth described under the Planned Action Study Area above.

Fire and Emergency Medical Services

Construction impacts and indirect impacts on response time for this subarea would be the same as for the Planned Action Study Area as a whole. The subarea is near Fire Station 12, centrally located within the study area, making response time less likely to be adversely impacted in this portion of the study area.

Applying the fire service's staffing ratio to population growth of 1,047 people in the subarea would account for slightly more than 0.2 of the 1.3 firefighter FTEs needed in the overall study area to maintain the staffing ratio.

Education

Similar to other alternatives, the 2011 opening of Honey Dew Elementary could change where elementary students living in this subarea attend elementary school. Redeveloping the Hillcrest Early Childhood Center as part of a new family village development that includes a new school facility would result in temporary relocation of early childhood programs currently located on that site, possibly making it more difficult for subarea children using that program to access the program during construction.

Population growth under Alternative 3 would result in the largest anticipated increase in student population in the subarea of all alternatives, approximately 107 additional students compared to existing conditions. It is anticipated that this additional increment of students would be accommodated by the district's planned capital improvements, including opening Honey Dew Elementary, expanding McKnight Middle School, and redeveloping the Hillcrest Early Childhood Center, which would provide additional student capacity for early education programs. In addition, Alternative 3 would provide the largest anticipated increase in English Language Learner students of the alternatives considered. This increase in English Language Learners would be accommodated through the district's ongoing plans for that program.

Health Care

Under Alternative 3, the increase in subarea population would result in a small increase in hospital bed demand and demand for service at nearby VMC primary care and urgent care clinics compared to other alternatives. Under Alternative 3, demand for hospital beds would increase by 0.8 bed over existing conditions, a less-than-significant impact on provision of health care.

Social Services

Similar to Alternative 2, redevelopment of this subarea would displace the existing on-site community meeting space that is currently used for on-site social service programs. However, the space would be replaced with a larger and more modern facility, and with appropriate phasing of development, disruption to on-site social service programs could be minimized or avoided.

Redevelopment plans for the subarea, under Alternative 3, include the largest amount of space that could be devoted to community or social services. The approximately 42,500 square feet of space devoted to these uses is slightly larger than the combined social service/community space and enriched senior services proposed under Alternative 2. Space could be used for social services, community centers, or other facilities providing meeting/gathering space. In addition, similar to Alternative 2, the residents of the subarea would benefit from infrastructure improvements that make walking and transit use more viable, increasing the residents' access to social services located outside the subarea. The larger population in Alternative 3 would result in higher demand for social services provided within the subarea, as well as those provided in the larger community.

Solid Waste

The redevelopment of the subarea anticipated under Alternative 3 would generate more construction-related waste than the No Action Alternative, and a similar level of construction-related waste as Alternative 2. Solid waste generation under the Alternative 3 operation would increase by around 26,500 pounds per week compared to existing conditions, 9,400 pounds per week more than Alternative 2 and 16,800 more than the No Action Alternative. As with other alternatives, a percentage of this waste would be diverted to recycling.

Public Library

Space for library or other community services is available in the proposed Alternative 3 conceptual plan (Figure 2-10). Growth in population in the subarea would account for approximately 397 square feet of additional library facility space compared to existing conditions, the highest of any of the alternatives considered. However, the King County Library System's plans to increase the size of the Renton Highlands Library by approximately 8,408 square feet would account for this level of population increase.

4.16.1.4 Indirect and Cumulative Impacts

All alternatives would increase growth above existing conditions and would add to a citywide increase in demand for public services; however, the alternatives accommodate an increment of growth already anticipated in the City Comprehensive Plan at a citywide level. Alternative 1 is most consistent with the current Comprehensive Plan growth levels to the year 2022, whereas Alternatives 2 and 3 represent an increase in planned growth more similar to the year 2031 growth allocations that the City will address in its 2014 Comprehensive Plan update.

4.16.2 Mitigation Measures

4.16.2.1 Planned Action Study Area

Police

During construction, security measures will be implemented by developers to reduce potential criminal activity, including on-site security surveillance, lighting, and fencing to prevent public access.

The City should design street layouts, open space, and recreation areas to promote visibility for residents and police. Street and sidewalk lighting would discourage theft and vandalism, and enhance security.

Revenues from increased retail activity and increased property values could help offset some of the City's additional expenditures for providing additional officers and responses to incidents.

Fire and Emergency Medical Services

Developers will construct all new buildings in compliance with the International Fire Code and Renton Development Code (Title 4), including provision of emergency egress routes and installation of fire-extinguishing and smoke-detection systems. All new buildings will comply with accessibility standards for people with disabilities, per the requirements of the Americans with Disabilities Act.

Revenues from increased retail activity and increased property values could help offset some of the City's additional expenditures for providing additional fire and emergency medical service staff to respond to incidents.

Education

During renovation of the Hillcrest Early Childhood Center under Alternatives 2 and 3, the Renton School District should provide temporary transportation or take other equivalent measures to ensure accessibility of the early education program to area children who attend the program.

Since the school district typically plans for a shorter-term horizon than the 20 years envisioned for the Planned Action, the district will continue to monitor student generation rates into the future and adjust its facility planning accordingly. The district will continue to implement existing plans to expand permanent student capacity at area schools. In addition, the district may utilize portable classrooms or shift attendance boundaries to address student capacity issues that arise on a shorter-term basis.

The school district will also continue monitoring growth in the number of English Language Learner students in the district and will plan for additional capacity to meet growing demands for that service, particularly in schools with high percentages of English Language Learners, such as Highlands Elementary.

The school district imposes a school impact fee for new residential construction. This funding source can be used to help provide expanded school facilities needed to serve the growth anticipated under all alternatives (RMC 4-1-160).

Health Care

No mitigation measures are needed or proposed for health care due to the negligible change in the number of beds.

Social Services

The City's planned improvements to the streetscape and transit facilities that make walking, bicycling, and taking transit more viable modes of transportation would improve accessibility of social services located outside the Planned Action Study Area to area residents.

RHA, Renton School District, and the City could work together to relocate the Friendly Kitchen community feeding program under Alternative 3, in which the Hillcrest Early Childhood Center campus, the current site of this program, is redeveloped as part of a family village. Relocation should occur at an accessible location nearby to maintain service to the existing community that relies upon the Friendly Kitchen services. If possible, Renton School District and RHA could incorporate space for the continuation of the Friendly Kitchen Program within the family village.

RHA and the City could consider developing a community center facility as part of Sunset Terrace redevelopment or the family village development or at another location in the Planned Action Study Area. The center would provide an accessible on-site space for a comprehensive range of social services for residents in the Planned Action Study Area, focused on alleviating poverty and addressing the needs of some of the more predominant demographic groups found within the Planned Action Study Area—seniors, individuals living with disabilities, those speaking English as a Second Language, and youth.

Solid Waste

The City's Solid Waste Utility should work with the development community to make efforts to recycle or reuse building materials, where possible, when redeveloping sites, to minimize input to the construction-related waste stream. The City's Solid Waste Utility and private waste haulers should maintain a recycling and waste-reduction program consistent with the King County Comprehensive Solid Waste Management Plan to minimize waste production.

Public Library

The King County Library System should continue to monitor growth within its geographic clusters, and adjust plans for facility sizing and spacing according to shifting trends in population growth.

4.16.2.2 Potential Sunset Terrace Redevelopment Subarea

Police

Mitigation measures described above for the Planned Action Study Area would also apply to this subarea.

Fire and Emergency Medical Services

Mitigation measures described above for the Planned Action Study Area would also apply to this subarea.

Education

No mitigation measures are necessary or proposed.

Health Care

No mitigation measures are necessary or proposed.

Social Services

RHA's provision of community space that could be used for social services or community meeting space for community organizations would serve as mitigation for the proposal under all alternatives. See the discussion under 4.16.2.1.

RHA should maintain a community meeting space within or near the subarea during construction phase of Sunset Terrace redevelopment in Alternatives 2 and 3 that allows for on-site social service programs to continue meeting within the subarea.

Solid Waste

Mitigation measures described above for the Planned Action Study Area would also apply to this subarea

Public Library

The King County Library System should continue to monitor growth within its geographic clusters and adjust plans for facility sizing and spacing according to shifting trends in population growth.

4.16.3 Significant Unavoidable Adverse Impacts

Demand for public services will continue to increase in conjunction with population growth. With advanced planning and implementation of mitigation measures, no significant unavoidable adverse impacts related to police, fire/emergency medical, education, health care, social services, solid waste, or library services are anticipated.

4.17 Utilities

4.17.1 Impacts

Impacts on utilities that are common to all alternatives are described first, followed by descriptions of impacts under each alternative. The impacts by alternative are discussed at two levels: 1) programmatic impacts of growth and civic investment throughout the Planned Action Study Area and 2) specific project impacts of developing proposed conceptual plans within the Potential Sunset Terrace Redevelopment Subarea.

For each alternative evaluated, anticipated growth could influence the performance of the water and wastewater utility systems that are managed by the City as well as telecommunication systems.

Impacts Common to All Alternatives

Telecommunications

Where new construction occurs, it is anticipated that existing telecommunications lines would be removed, replaced, or abandoned in place. Redevelopment would require coordination with service providers regarding the location of proposed structures, utilities, and site grading.

For telecommunication utilities in the Planned Action Study Area, increased capacity requirements with increased levels of population and commercial activity under each of the alternatives could require new fiber within the Planned Action Study Area. Coordination with telecommunication providers as development occurs should be performed so that appropriate facilities can be planned. Coordination should occur early in the development planning so that as new streets are developed, fiber can be placed in the utility corridor at that time for cost savings.

Water and Wastewater

To accommodate the required demand and capacity for water and sewer services for new development and redevelopment within the Planned Action Study Area, existing water and sanitary sewer lines would be abandoned in place or removed and replaced with new and larger lines. New and larger water and sewer mains would be installed in existing and/or future dedicated public rights-of-way or within dedicated utility easements to the City, and would connect with the existing distribution network. Existing utility lines would continue to service the site during construction, or temporary bypass service would be implemented until the distribution or collection system is complete and operational. Water system pressure in some areas within the Potential Sunset Terrace Redevelopment Subarea may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure Highlands 565 pressure zone system.

Each alternative would increase the demand for water and wastewater service. Demands on utilities would increase as a result of cumulative development. No significant cumulative impacts are anticipated as long as the replacement of water and sewer infrastructure is properly planned, designed, and constructed, and funding strategies are identified and approved by City Council. The relative impacts of each alternative in the Planned Action Study Area cumulatively and in particular subareas are described below.

4.17.1.2 Alternative 1: No Action

Planned Action Study Area

Under Alternative 1 (No Action), new development and redevelopment would occur within the Planned Action Study Area, but the growth would be less than the growth under either of the action alternatives. As noted in Table 2-6, anticipated growth would result in an increase in residential population of 3,442 persons (116% of existing) and an increase in employment population of 914 persons by 2030.

Water

The increase in average daily demand (ADD) was calculated for Alternative 1 by applying a demand factor of 184 gallons per day per capita for single-family housing, 145 gallons per day per capita for multifamily housing, and 56 gallons per day per capita for employees (R.W. Beck, Inc. 2005). An additional increase of 10% to account for non-revenue water was also included to account for water loss. The increase in the ADD is projected to be 0.29 million gallons per day (138% of existing ADD of 0.21 million gallons per day) within the Planned Action Study Area. Using a peak daily demand (PDD) to ADD ratio of 1.90, the PDD is projected to increase by 0.55 million gallons per day (138% of existing PDD). The existing booster pump stations that supply the Highlands 435 and Highlands 565 pressure zones, within which the Planned Action Study Area is located, have sufficient supply capacity to meet the projected growth in demand.

The growth projected for Alternative 1 would increase the storage requirements for the Highlands 435 and the Highlands 565 pressure zones and further increase the existing storage deficit in the Highlands 435 pressure zone. In addition, the development that is projected for the Planned Action Study Area would increase the fire-flow requirements with more multifamily development and commercial development. The capacity of the existing water distribution system to meet these higher fire flows is inadequate if system improvements are not constructed.

Wastewater

Using the factor of 100 gallons per day per capita to generate wastewater flow and a factor of 2,800 gallons per acre per day for commercial and institutional uses, the increase in wastewater load for the Planned Action Study Area under this alternative would be 0.31 million gallons per day (an increase of 90% of the existing load). No impacts are expected in the wastewater interceptors that provide conveyance of wastewater from the Planned Action Study Area. However, the increased wastewater load with the growth planned under Alternative 1 could increase current surcharging of the local sewers within the Planned Action Study Area.

Potential Sunset Terrace Redevelopment Subarea

Growth in the Potential Sunset Terrace Redevelopment Subarea would result in an increase in residential population of 404 persons (110% of existing population) and in employment population of 49 persons by 2030.

Water

Using the same factors noted above for demand per capita, the increase in ADD for this subarea would be 0.03 million gallons per day (176% of the existing ADD of 0.02 million gallons per day). The increase in the PDD for this subarea would be 0.06 million gallons per day (176% of existing

PDD). The primary impact of subarea development on the water distribution system would be increased fire-flow requirements. Water system pressure in some areas within the Planned Action Study Area may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure Highlands 565 pressure zone.

Wastewater

The increase in wastewater load in this subarea would be 0.04 million gallons per day (170% of existing load). Similar to the Planned Action Study Area, no impacts on the interceptors that provide conveyance from the subarea are expected, but the increased wastewater load could have an impact on local sewers within the subarea. The sewers in the subarea are of a similar age as those in the Planned Action Study Area, and, likewise, have reached the end of their useful life and should be replaced. In addition, the increased wastewater load with the growth planned under Alternative 1 could increase current surcharging of the local sewers within the subarea.

4.17.1.3 Alternative 2

Planned Action Study Area

Under Alternative 2, new development and redevelopment would occur in the Planned Action Study Area at a higher capacity than under Alternative 1 (No Action), but the growth would be less than that under Alternative 3. As noted in Table 2-6, anticipated growth would result in an increase in residential population of 3,830 persons (129% of existing population) and in employment population of 2,165 persons by 2030.

Water

The increase in ADD for Alternative 2 was calculated to be 0.39 million gallons per day (184% of existing ADD of 0.21 million gallons per day) within the Planned Action Study Area. The PDD is projected to increase by 0.74 million gallons per day (184% of existing PDD). The existing booster pump stations that supply the Highlands 435 and Highlands 565 pressure zones, in which the Planned Action Study Area is located, have sufficient supply capacity to meet the projected growth in demand.

The additional growth projected for Alternative 2, as compared to Alternative 1, would further increase the storage requirements for the Highlands 435 and the Highlands 565 pressure zones and further increase the existing storage deficit. Fire-flow requirements would also increase with more multifamily development and commercial development.

The primary impact of subarea development on the water distribution system is increased fire-flow requirements. Water system pressure in some areas within the Planned Action Study Area may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure Highlands 565 pressure zone.

Wastewater

Under Alternative 2, the increase in wastewater load for the Planned Action Study Area is 0.70 million gallons per day (115% of existing load). Similarly, as discussed under Alternative 1, no impacts are expected in the wastewater interceptors that provide conveyance of wastewater from

the Planned Action Study Area. However, the increased wastewater load with the growth planned under Alternative 2 could increase current surcharging of the local sewers within the study area.

Potential Sunset Terrace Redevelopment Subarea

Under Alternative 2, anticipated growth in the Potential Sunset Terrace Redevelopment Subarea would result in an increase in residential population of 716 persons (209% of existing population) and in employment population of 164 persons by 2030.

Water

The increase in ADD for this subarea would be 0.06 million gallons per day (339% of existing ADD). The increase in the PDD for the subarea would be 0.11 million gallons per day (339% of existing PDD). The primary impact of subarea development on the water distribution system would be increased fire-flow requirements. Water system pressure in some areas within the Potential Sunset Terrace Redevelopment Subarea may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure Highlands 565 pressure zone.

Wastewater

The increase in wastewater load in this subarea, under Alternative 2, would be 0.40 million gallons per day (311% of existing load). Similar to the Planned Action Study Area evaluation of wastewater conveyance capacity for Alternative 2, no impacts on the interceptors that provide conveyance from the subarea are expected, but the increased wastewater load could impact local sewers within the subarea and increase current surcharging of the local sewers within the subarea.

4.17.1.4 Alternative 3

Planned Action Study Area

Alternative 3 shows the highest amount of growth in the Planned Action Study Area. Anticipated growth would result in an increase in residential population of 5,789 persons (194% over existing population) and in employment population of 3,330 persons by 2030.

Water

With the growth projected for Alternative 3, the increase in the ADD is projected to be 0.59 million gallons per day (282% over existing ADD), and the PDD is projected to increase by 1.13 million gallons per day (282% over existing PDD). The existing booster pump stations that supply the Highlands 435 and Highlands 565 pressure zones, in which the Planned Action Study Area is located, have sufficient supply capacity to meet the projected growth in demand. The primary impact of subarea development on the water distribution system is increased fire-flow requirements. Water system pressure in some areas within the Planned Action Study Area may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure Highlands 565 pressure zone.

As noted for Alternatives 1 and 2, the growth projected for Alternative 3 would also increase the existing storage deficit in the Highlands 435 pressure zone, and the development that is projected for the Planned Action Study Area would increase the fire-flow requirements and associated storage requirements with more multifamily development and commercial development.

Wastewater

Under Alternative 3, the increase in wastewater load for the Planned Action Study Area is 0.57 million gallons per day (193% of existing load). This increase in wastewater load is not expected to affect the wastewater interceptors that provide conveyance of wastewater from the Planned Action Study Area. Similar to the discussion under Alternatives 1 and 2, the increased wastewater load with the growth planned for Alternative 3 could increase current surcharging of the local sewers within the Planned Action Study Area.

Potential Sunset Terrace Redevelopment Subarea

Anticipated growth in the Potential Sunset Terrace Redevelopment Subarea, under Alternative 3, would result in an increase in residential population of 1,106 persons (334% of existing) and in employment population of 182 persons.

Water

The increase in ADD for this subarea would be 0.09 million gallons per day (499% of existing ADD), and the increase in the PDD for this subarea would be 0.17 million gallons per day (499% of existing PDD). The primary impact of subarea development on the water distribution system would be increased fire-flow requirements. Water system pressure in some areas within the Planned Action Study Area may not be adequate for multistory development and/or for development with fire sprinkler systems, unless new water mains are extended from the higher-pressure 565 pressure zone system.

Wastewater

Under Alternative 3, the increase in wastewater load in this subarea is 0.10 million gallons per day (469% of existing load). Similar to the Planned Action Study Area, no impacts on the interceptors that provide conveyance from this subarea are expected, but the increased sewer load could impact local sewers within this subarea and increase current surcharging of the local sewers within the subarea.

4.17.2 Mitigation Measures

4.17.2.1 Planned Action Study Area

Each of the alternatives would increase the population and commercial activities in the Planned Action Study Area, which would increase the water demand and wastewater flow in the Planned Action Study Area. To mitigate the current and projected water storage deficit in the pressure zones that serve the study area, the City completed the construction of the 4.2-million-gallon Hazen Reservoir in the Highlands 565 pressure zone in March 2009. The City also completed a water distribution storage feasibility study to develop conceptual options and planning level cost estimates for expanding the storage capacity at two existing City-owned sites: the Highlands Reservoirs site and the Mt. Olivet Tank site (HDR, Inc. 2009). Financial strategies for the planning, design, and construction of the storage-capacity expansion have not been determined at this time.

To mitigate the fire-flow requirements for the proposed level of development and redevelopment within the Planned Action Study Area, larger diameter (12-inch) piping is required throughout the Planned Action Study Area to convey the higher fire-flow requirements. The new water mains will

be looped for reliability and redundancy of service, as required by City policies and water design standards. The larger mains will be installed within the dedicated right-of-way in a north-to-south and east-to-west grid-style water system. Additional mains within the development sites will also be required to provide water to hydrants and water meters, and should be looped within the development site around buildings. To provide the water pressure requirements for multistory buildings and to support the pressure requirements for fire sprinkler systems, the new water mains will be connected to the higher-pressure Highlands 565 pressure zone. The options to address fire flow within the Planned Action Study Area are further described below.

Mitigation Measures to Address Fire Flow

The Highlands 565 pressure zone typically has enough pressure to meet the pressure needs for fire-flow requirements for the proposed development and redevelopment in the Planned Action Study Area, but is limited in providing the fire-flow rate due to the size of the existing water mains that are generally smaller than 12 inches in diameter. The Highlands 435 pressure zone operates at lower pressures and has smaller-diameter pipes in this area of the pressure zone and, therefore, cannot meet both the pressure requirements and the fire-flow capacity (flow) requirements. The options developed to remedy fire-flow and pressure inadequacies are shown in Figure 4.17-1 and summarized below.

A 12-inch-diameter pipeline loop shown in Figure 4.17-1 was developed to extend the Highlands 565 pressure zone into the existing Highlands 435 pressure zone. This 12-inch-diameter loop was also extended north of NE 12th Street in the existing Highlands 565 pressure zone to improve the conveyance capacity throughout the Planned Action Study Area. This 12-inch-diameter loop improvement builds on the City's recent extension of the Highlands 565 pressure zone into the Highlands 435 pressure zone to support fire-flow requirements for the Harrington Square Development.

In addition to the 12-inch-diameter pipe loop shown in Figure 4.17-1, additional piping improvements for each development served from the 12-inch-diameter loop are expected to be required to provide sufficient fire flow and pressure throughout each development. The sizing and layout of this additional piping will depend on the development layout, but will require that the development piping be looped around buildings and be sufficient in size to maintain the fire-flow requirements of the development.

Wastewater Collection

The local wastewater collection system in the Planned Action Study Area is scheduled for replacement based on age and condition as noted in the *City of Renton Long Range Wastewater Management Plan* (City of Renton 2009). The local sewers have reached the end of their useful life and have been identified as high priority replacements due to leaks and current surcharging. However, the increased wastewater load with the development in the Planned Action Study Area could require that the local sewers be replaced with larger diameter pipe to provide sufficient capacity to the wastewater interceptors that serve the Planned Action Study Area. These include the areas shown in Figure 4.17-2 and described below:

- Existing 8-inch on the south side of NE Sunset Boulevard from Harrington Avenue to Kirkland Avenue
- Existing 8-inch and 12-inch in Harrington Avenue from NE Sunset Boulevard to NE 12th Street

- Existing 8-inch in Edmonds Avenue from NE 10th Street to NE 9th Street
- Existing 8-inch in Kirkland Avenue from NE 12th Street to NE 15th Street

Depending upon the alternative selected, the impacted area and the identified area of concern could be reduced and some sections described above and in Figure 4.17-2 may be eliminated. Based on a recent capacity analysis, the same sections identified above were confirmed to have capacity restraints for all three alternatives; the only difference among the alternatives will be timing of when those facilities exceed capacity as development occurs. (pers com Christensen)

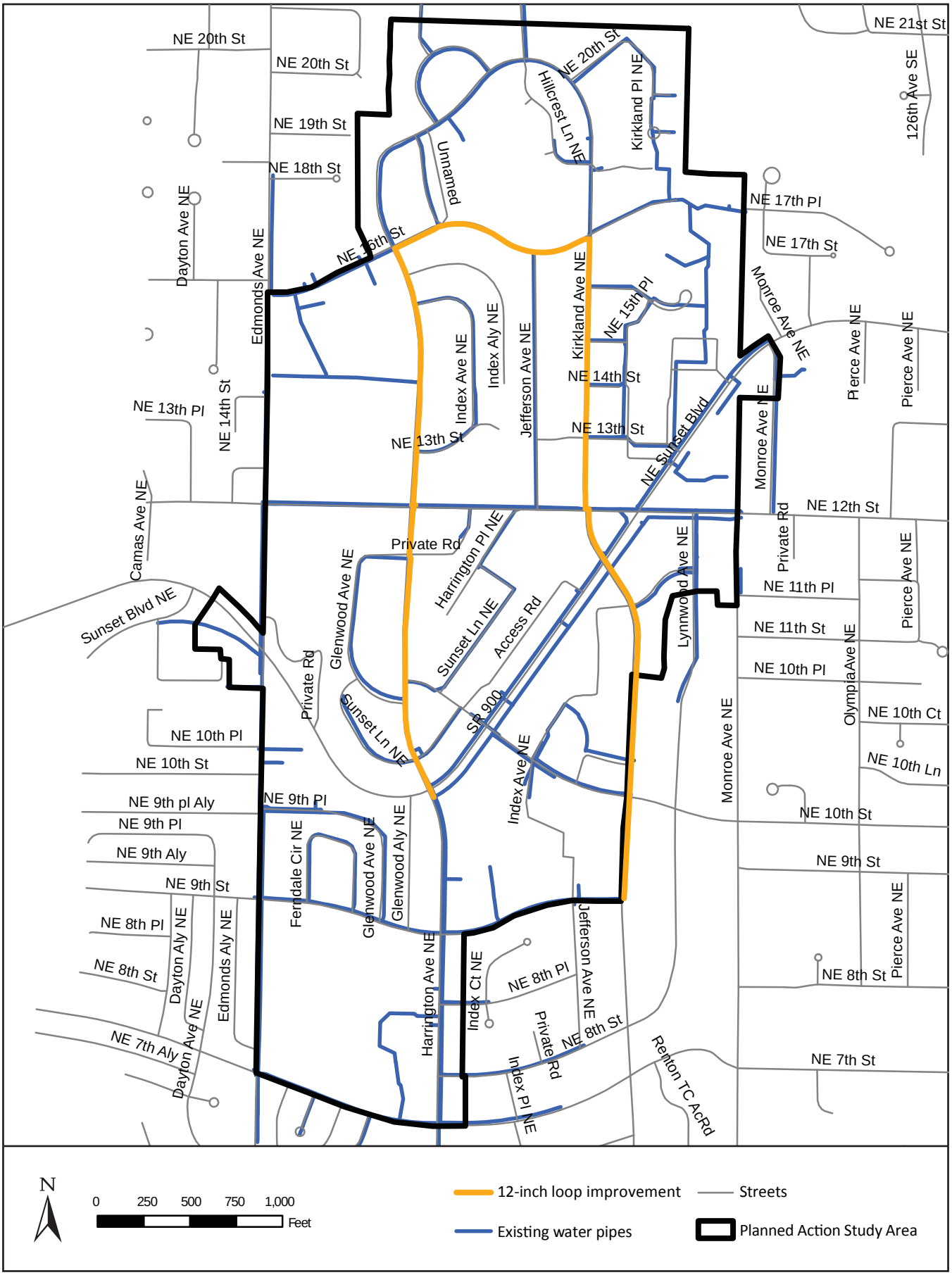
4.17.2.2 Potential Sunset Terrace Redevelopment Subarea

The mitigation measures that are required in the Potential Sunset Terrace Redevelopment Subarea are similar to those noted for the Planned Action Study Area. The water storage deficit would be met with an increase in storage at the existing Highlands Reservoirs site, and fire-flow requirements would require the new 12-inch-diameter pipe loop throughout this subarea and realignment of the Highlands 435 and Highlands 565 pressure zones. As noted previously, the City has recently installed a new 12-inch-diameter main for development adjacent to this subarea, and as development occurs in the subarea, the pipe network would need to be extended to serve the development.

The sewers within this subarea are also identified for replacement based on age and condition in the *City of Renton Long Range Wastewater Management Plan* (City of Renton 2009). Based on the increased wastewater load within this subarea, the local sewers could need to be replaced with upsized pipe to manage the increased wastewater load from the subarea.

4.17.3 Significant Unavoidable Adverse Impacts

All studied alternatives are anticipated to increase demand for water, wastewater, and telecommunication services. Increased growth in the Planned Action Study Area has the potential to exacerbate existing water and wastewater system deficiencies. However, with application of mitigation measures, no significant unavoidable adverse impacts are anticipated.



CH2MHILL

Figure 4.17-1
Water System Improvements in Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

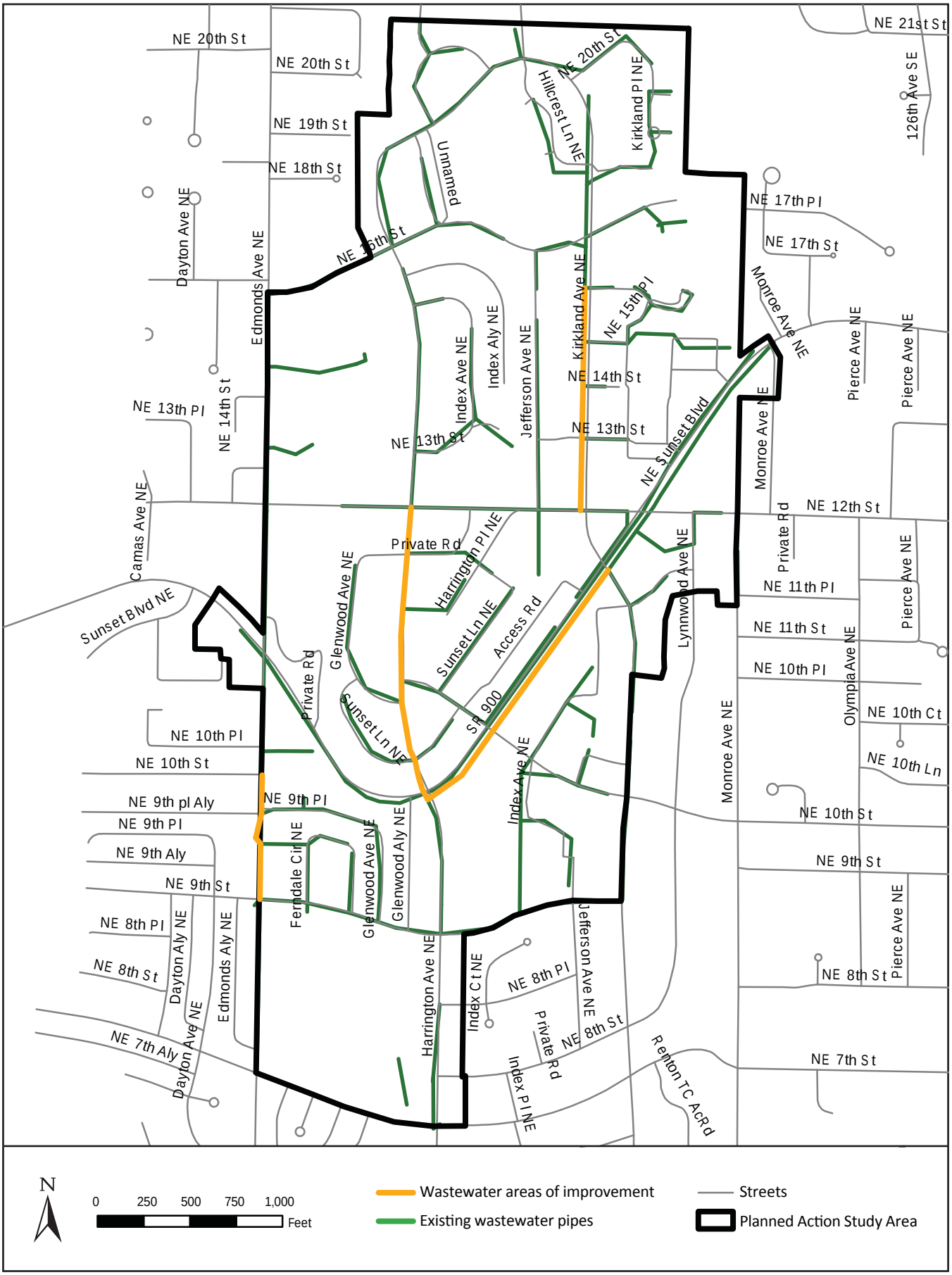


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Figure 4.17-2
Wastewater System Areas for Improvement in Planned Action Study Area
Sunset Area Community Planned Action Draft NEPA/SEPA EIS

4.18 Irreversible and Irretrievable Commitment of Resources

Implementation of the proposals—redevelopment of the Sunset Terrace public housing community as part of a broader neighborhood Planned Action encouraging neighborhood land use growth, public service and infrastructure improvements, and a streamlined environmental review process—would require a commitment of natural, physical, energy, human, and fiscal resources that would potentially be irreversible and irretrievable. The importance of these actions would vary, depending on the scarcity of the resources and their ability to be reclaimed.

The proposed commitment of natural, physical, human, and fiscal resources is anticipated to result in benefits. Residents, businesses, and employees of the Planned Action Study Area and the Renton residents and businesses would benefit from 1) the replacement of antiquated and dilapidated Sunset Terrace public housing with a new mixed-income, mixed-use development and 2) revitalization of the overall Planned Action Study Area through civic and infrastructure investments and growth. In addition, the proposals include measures that would meet sustainability goals such as mixed-use development that reduces GHG emissions, green infrastructure that improves stormwater quality, and transportation improvements that promote active and healthy lifestyles.

4.19 Local Short-Term Uses of Environment and Long-Term Productivity

Implementation of the proposals to redevelop the Sunset Terrace public housing community and to revitalize the Planned Action Study Area through civic and infrastructure investment and additional private reinvestment would result in trade-offs between short-term environmental losses and long-term gains.

Short-term environmental consequences include construction impacts of new housing, commercial, and mixed-use development and infrastructure improvements such as roadway, drainage, water, sewer, and other facilities. Short-term construction effects would include temporary displacement and relocation of residents and businesses; generation of noise, dust, and erosion; and potential traffic rerouting. However, mitigation measures would be incorporated into the design and approvals to minimize these potential impacts.

Long-term benefits include a more cohesive pattern of residential and commercial redevelopment and neighborhood revitalization that would replace antiquated and dilapidated housing, provide opportunities for healthy active lifestyles, and increase local employment. Stormwater master planning would achieve net improvements in stormwater treatment. NE Sunset Boulevard would be revised with access management and aesthetic appeal. Mixed-use development would result in a reduction in energy use and GHG emissions at a regional level.

Chapter 5
Coordination and Consultation with Agencies and Tribes

The City of Renton initiated consultation with agencies and tribes regarding permit requirements and to identify any areas of concerns regarding the Sunset Terrace public housing redevelopment as well as the overall Planned Action. Correspondence includes the following found in Appendix J of this Draft Environmental Impact Statement:

- letter regarding potential Area of Potential Effects to the Washington State Department of Archaeology and Historic Preservation (DAHP) and Muckleshoot Indian Tribe, September 1, 2010;
- email from DAHP, dated November 18, 2010, concurring with Cultural Resources Survey Report conclusions on eligibility; and
- letter from DAHP concurring with conclusions of no adverse impacts, dated November 30, 2010.

Consistent with the requirements of Section 7 of the Endangered Species Act (ESA), the proposal has been evaluated with respect to its potential effects on species listed or proposed for listing under the ESA. A biological assessment has been prepared and submitted to the National Marine Fisheries Service for its concurrence with a finding that the proposal may affect, and is not likely to adversely affect, anadromous fish protected under the ESA, and would have no effect on any ESA-protected species under U.S. Fish and Wildlife Service jurisdiction.

Other federal and state agencies were also notified of comment opportunities through the scoping process identified in Appendix A and were offered comment opportunity on this Draft EIS (see Chapter 7).

Chapter 6
List of Preparers

This section lists the names, expertise, experience, and professional disciplines of the persons who were primarily responsible for preparing this Draft Environmental Impact Statement including technical reports in the appendices.

Name	Education	Expertise, Experience, and Professional Disciplines
Atchison, Dustin	MS, Water Resources Engineering, University of Wisconsin–Madison, 2004 BS, Civil Engineering, University of Washington, 1997	Role: drainage master plan; water resources analysis lead Experience: 13 years Professional disciplines: civil engineering, water resources, stormwater, low-impact development, stream restoration
Cerise, Gilbert	MPA, Public Administration, Columbia University, 1994 BA, Political Science, University of Washington, 1991	Role: land use and public services analysis Experience: 15 years Professional disciplines: land use planning, environmental documentation
Chang, Rachel	MS, Environmental Engineering, University of Washington, 1991 BS, Biomedical Engineering, University of Southern California, 1989	Role: environmental health analysis Experience: 19 years Professional disciplines: hazardous materials, environmental engineering
Chung, Raymond	BS, Civil Engineering, University of Washington, 1997	Role: drainage master plan; water resources analysis Experience: 13 years Professional discipline: water resources
Dawson, Karen	Degrees from Oregon State University: MS, Civil Engineering, 1990 BS, Civil Engineering, 1986 BS, Forest Engineering, 1986	Role: earth analysis Experience: 20 years Professional discipline: geotechnical
Earle, Christopher	PhD, Forest Ecology, University of Washington, 1993 MS, Geosciences, University of Arizona, Tucson, 1986 BA, Biology and Geology, Whitman College, 1978	Role: plants and animals analysis Experience: 17 years Professional disciplines: ESA issues, watershed analysis, water quality, and terrestrial and aquatic ecosystem evaluation and restoration
Elder, J. Tait	MA, Archaeology, Portland State University, 2010 BA, Anthropology with a Minor in Geology, Western Washington University, 2004	Role: principal investigator for archaeology Experience: 5 years Professional discipline: prehistoric archaeologist
Evanoff, Kristina	Masters of Engineering, University of Washington, 2006 BS, Geography, University of Utah, 2000 BS, Environmental Studies, University of Utah, 2000	Role: parks and recreation analysis Experience: 8 years Professional disciplines: transit and transportation planning, public involvement, environmental documentation, and GIS
Gifford, Kevin	Master of Urban Planning, Texas A&M University, 2006 Bachelor of Environmental Design, Texas A&M University, 2004	Role: aesthetics analysis, GIS mapping Experience: 5 years Professional disciplines: land use planning, urban design, environmental permitting

Name	Education	Expertise, Experience, and Professional Disciplines
Grueter, Lisa	MCP, City Planning, University of California, Berkeley, 1990 BA, Social Ecology, University of California, Irvine, 1987	Role: EIS lead, housing Experience: 23 years Professional disciplines: land use planning, environmental documentation
Henke, Jennifer	MS, Civil Engineering, University of Texas at Austin, 1997 BS Civil Engineering, University of Texas at Austin, 1995	Role: utilities analysis Experience: 13 years Professional disciplines: water supply and treatment, hydraulic modeling and analysis
Hetzel, Christopher	MA, Public History and Historic Preservation, Middle Tennessee State University, 1998 BA, History, Washington University, St. Louis—Minors in Archaeology and Art History, 1994	Role: cultural resources lead, historic resources analysis Experience: 14 years Professional disciplines: historic preservation, architectural history, and preservation planning
Kuo, Kai-Ling	MS, Civil & Environmental Engineering, University of Wisconsin, Madison, 2001 BS, Civil Engineering, National Taiwan University, Taipei, Taiwan, 1998	Role: air quality, energy, and noise analyses Experience: 8 years Professional disciplines: air and noise engineer, transportation planner
Mason, Roger	AAS, Applied Science, Boise State University 1976	Role: project manager, transportation engineer Experience: 27 years Professional disciplines: Professional engineer
McKenzie, John	BS, Civil Engineering, Rensselaer Polytechnic Institute, 1991	Role: SR 900 design; transportation analysis Experience: 18 years Professional disciplines: transportation engineering, site civil engineering, channelization, urban corridors, access management, sustainable practices in roadway engineering, cost estimating
Petersen, Gene	BA, Urban Planning, University of Washington, 1975 BA, Sociology, University of Washington, 1976	Role: utilities peer review, parks and recreation peer review Experience: 35 years Professional disciplines: SEPA/NEPA, environmental planning, resource planning, infrastructure planning
Rodland, Rob	BA, Geography, University of Washington, 2000	Role: socioeconomics and environmental justice analysis Experience: 10 years Professional disciplines: land use, social, environmental justice
Wilder, Jim	MS, Environmental Engineering, University of Washington, 1981 BS, Civil Engineering, University of California, Davis, 1975	Role: peer review air quality, energy, and noise analysis Experience: 35 years Professional discipline: environmental/air and noise engineer
Yuen, Terry	BS, Civil Engineering, University of Washington, 1998	Role: transportation analysis Experience: 11 years Professional discipline: professional engineer

Chapter 7
Distribution List

The notice of availability for this Draft Environmental Impact Statement (EIS) was provided to the following agencies and individuals. Agencies indicated with an asterisk (*) were provided with an paper or electronic copy of the Draft EIS.

7.1 Federal, State, Tribal, Regional, County and City Agencies

7.1.1 Federal Agencies

Advisory Council on Historic Preservation*

National Oceanic and Atmospheric Administration, National Marine Fisheries Service*

U.S. Army Corps of Engineers*

U.S. Department of Interior*

U.S. Environmental Protection Agency*

U.S. Environmental Protection Agency, Office of Groundwater and Drinking Water*

U.S. Fish and Wildlife Service*

U.S. Housing and Urban Development*

7.1.2 State of Washington Agencies

Department of Archaeology & Historic Preservation*

Department of Commerce*

Department of Corrections*

Department of Ecology*

Department of Fish and Wildlife*

Department of Health, Environmental Health*

Department of Natural Resources*

Department of Social and Health Services*

Department of Transportation, Northwest Region*

Governor Chris Gregoire*

Parks and Recreation Commission*

Puget Sound Partnership*

Recreation and Conservation Office*

7.1.3 Tribal

Duwamish Tribal Office

Muckleshoot Indian Tribe Fisheries Department

Muckleshoot Cultural Resources Program*

7.1.4 Regional

Puget Sound Clean Air Agency*

Puget Sound Regional Council*

7.1.5 Counties

King County Development & Environmental Services

King County Wastewater Treatment Division*

King County Library System*

Seattle–King County Public Health*

7.1.6 Cities

City of Newcastle

City of Kent

City of Tukwila

7.1.7 Local Agencies

Renton Housing Authority*

Renton Historical Society

7.2 Special Districts, Transportation, and Utilities

Renton School District*

Metro Transit*

Seattle Public Utilities

Puget Sound Energy*

Sound Transit*

7.3 Newspapers

Renton Reporter

Seattle Times

7.4 Residents and Property Owners

The City of Renton (City) has published a notice of availability in the *Renton Reporter*. In addition, the City notified its interested parties list, which includes participants in the scoping meeting as well as those who responded to the scoping postcard. Notices of availability have been posted throughout the Sunset Area Community, including at major intersections, in community buildings, and in commercial areas. Copies of the Draft EIS have been made available for public review at the following locations: Renton Public Library (both Downtown and Highlands branches), Renton Housing Authority, Renton City Hall, and the City's website (as described on the Fact Sheet).

Chapter 8
References and Acronyms

8.1 References

8.1.1 Chapter 1

City of Renton. 2010a. *City of Renton Amendments to the King County Surface Water Design Manual.* February. Appendix D, Erosion and Sedimentation Control Standards.

———. 2010b. *Docket #53 Staff Report*. September 29.

———. 2009a. *Renton Trails and Bicycle Master Plan*. May

———. 2009b. *Long Range Wastewater Management Plan*. January.

King County. 2009. *Draft 2009 Comprehensive Solid Waste Management Plan.* Seattle, WA. Prepared by King County Solid Waste Division, Seattle, WA.

U.S. Environmental Protection Agency. 2010. NW Energy Start Homes Program. Available: <http://www.northwestenergystar.com/>. Accessed: October 15, 2010.

Washington State Department of Ecology. 2008. *State Environmental Policy Act (SEPA) Implementation Working Group: Report to the Climate Action Team*. Appendix G. SEPA Mitigation Strategies for Climate Change Impacts

8.1.2 Chapter 2

Printed References

City of Renton. 2010a. Renton Highlands (Sunset Area). Available: <http://rentonwa.gov/business/default.aspx?id=2768>. Accessed: September 20, 2010.

———. 2010b. Adopted Budget. 2010 Capital Investment Program: 2010 through 2015. Available: <http://rentonwa.gov/uploadedFiles/Government/FIS/FinancialDocuments/Budget/2010AdoptedBudget.pdf>. Accessed: September 20, 2010.

———. 2010c. *Amendments to the King County Surface Water Design Manual*.

———. 2009a. *City of Renton Comprehensive Plan*. Chapter 9: Land Use Element. Adopted November 1, 2004. Ordinance 5099 & 5100. Amended December 8, 2008. Renton, WA.

———. 2009b. *Sunset Area Community Investment Strategy*. November 18, 2009. Prepared by Mithun, Inc. on behalf of the City of Renton Community and Economic Development Department.

———. 2009c. *Highlands Action Plan*. February.

———. 2009d. *Renton Trails and Bicycle Master Plan*. May

———. 2008a. *Report and Recommendations: Highlands Phase II Task Force*. December. Adopted by Renton City Council in 2009. Available: <http://www.rentonwa.gov/business/default.aspx?id=10946>. Accessed: September 20, 2010.

———. 2008b. Economic Equality and Housing Briefing: Answers to Preliminary Briefing Questions. Highlands Phase II Task Force. July 2. Available: <http://www.rentonwa.gov/uploadedFiles/Business/EDNSP/planning/Highlands%20Economic%20Equality%20Study%20Questions%20web%20draft.pdf>. Accessed: September 20, 2010.

———. 2008c. Business Area Study Session: Answers to Preliminary Study Questions. Highlands Phase II Task Force. August 20, 2008. Available: <http://www.rentonwa.gov/uploadedFiles/Business/EDNSP/planning/Business%20Areas%20Study%20Questions.pdf> Accessed: September 20, 2010.

———. 2006. *Report and Recommendation of the Highlands Area Citizen's Zoning Task Force*. November. Adopted by Renton City Council in May 2007.

City of Renton and Renton Housing Authority. 2009. Highlands Redevelopment: Presentation to the City of Renton. April 7.

King County. 2009. *King County Surface Water Design Manual*. Updated September 13, 2010. Available: <http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual.aspx>. Accessed: September 15, 2010.

Renton Housing Authority. 2010a. Welcome to the Renton Housing Authority. Available: <http://www.rentonhousing.org/> Last updated: September 18, 2010. Accessed: September 20, 2010.

———. 2010b. RHA Communities Waitlists. Available: <http://www.rentonhousing.org/RHA%20Communities%20Waitlists.pdf> Accessed: September 20, 2010.

———. 2010c. *Tenant Demographic Data Report: Housing Authority, City of Renton*. September 22. Renton, WA.

Renton School District and Greene Gasaway Architects. 2008. *Renton School District Six-Year Capital Facilities Plan, 2009–2015*. Renton, WA. Prepared for Renton School District, Renton, WA.

Personal Communications

Gropper, Mark. Executive Director. Renton Housing Authority, Renton, Washington. September 17, 2010—email regarding Sunset Terrace income to Lisa Grueter, ICF International.

8.1.3 Section 3.1

American Association of State Highway and Transportation Officials. 2010. *AASHTO LRFD Bridge Design Specifications*. 5th Edition.

Atwater, Brian F., Alan R. Nelson, John J. Clague, Gary A. Carver, David K. Yamaguchi, Peter T. Bobrowsky, Joanne Bourgeois, Mark E. Darienzo, Wendy C. Grant, Eileen Hemphill-Haley, Harvey M. Delsey, Gordon C. Jacoby, Stuart P. Nishenko, Stephen P. Palmer, Curt D. Peterson, and Mary Ann Reinhart. 1995. Summary of Coastal Geologic Evidence for Past Great Earthquakes at the Cascadia Subduction Zone. February. *Earthquake Spectra* 11(1):1–18.

City of Renton. 2009. Sensitive Areas Maps. May 21. Available: <http://rentonnet.org/internetapps/maps/index.cfm?fuseaction=products>. Accessed: September 20, 2010.

Federal Emergency Management Agency. 2003. *National Earthquake Hazards Reduction Program (NEHRP) Recommended Seismic Provisions and Commentary for New Structures*. 2003 Edition. FEMA 450.

Golder Associates. 2003. *Final Report on Preliminary Geotechnical Investigation Renton Sunset Interceptor Phase II, Renton, Washington*. September 2. Prepared for HDR Engineering, Inc.

———. 1996. *Geotechnical Engineering Study N.E. Sunset Boulevard Harrington Avenue N.E. to Union Avenue N.E. Sewer Interceptor Project, Renton, Washington*. May 7. Prepared for the City of Renton, WA.

International Code Counsel. 2009. *International Building Code*. February. ISBN978-1-58001.

Johnson, S. Y., R. J. Blakely, T. M. Brocher, R. C. Bucknam, P. J. Haeussler, T. L. Pratt, A. R. Nelson, B. L. Sherrod, R. E. Wells, D. J. Lidke, D. J. Harding, and H. M. Kelsey, compilers. 2004. Fault number 570, Seattle fault zone, in Quaternary fault and fold database of the United States. Available: <http://earthquakes.usgs.gov/regional/qfaults>. Accessed: September 20, 2010.

U.S. Geological Survey. 2002. Hazard Mapping Images and Data, Lower 48 States, 2002. Available: <http://earthquake.usgs.gov/hazards/products/conterminous/2002>. Accessed October 20, 2010

Washington State Department of Transportation. 2010. *WSDOT Design Manual*. July. Design Office, Engineering and Regional Operations Division. Available: <http://www.wsdot.wa.gov/Publications/Manuals/M22-01.htm>.

8.1.4 Section 3.2

King County. 2007. *2007 King County Climate Plan*. Last updated: February. Available: <http://www.kingcounty.gov/property/permits/info/SiteSpecific/ClimateChange.aspx#SEPA>.

———. 2010. *Air Quality Conformity Analysis for Transportation 2040, The Long-Range Metropolitan Transportation Plan of the Central Puget Sound Region*. March 4. Seattle, WA.

U.S. Environmental Protection Agency. 2010. National Air Toxics Assessment. Available: <http://www.epa.gov/ttn/atw/natamain/>. Accessed: October 2010.

Washington State Department of Ecology. 2008. *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge*. Ecology Publication #08-01-008. November.

8.1.5 Section 3.3

City of Renton. 2010. *Amendments to the King County Surface Water Design Manual*.

———. 2006. *Monitoring Report: Gene Coulon Park Microbial Source Tracking Study*. May.

City of Renton and King County. 2001. *May Creek Basin Action Plan*. April.

Federal Emergency Management Agency. 1995. Flood Insurance Rate Map (FIRM) Map Number 53033C0668F.

Foster Wheeler Environmental Corporation. 1995. *May Creek Current and Future Conditions Report*. August.

U.S. Environmental Protection Agency. 1988. Region 10: the Pacific Northwest. Sole Source Aquifer Program. Available: <http://yosemite.epa.gov/r10/water.nsf/Sole+Source+Aquifers/SSA>. Accessed: November 2010.

Washington State Department of Ecology. 2009. 2008 Washington State Water Quality Assessment. Available: <http://www.ecy.wa.gov/programs/wq/303d/2008/index.html>. Accessed: September 2010.

———. 2005. *Stormwater Management Manual for Western Washington*. February.

8.1.6 Section 3.4

City of Renton. 2009. *City of Renton Comprehensive Plan*. Environmental Element. Amended November 25, 2009. Available: <http://rentonwa.gov/uploadedFiles/Business/EDNSP/planning/06.%20Environment.pdf>. Accessed: September 15, 2010.

King County. 2009. *King County Surface Water Design Manual*. Updated September 13, 2010. Available: <http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual.aspx>. Accessed: September 15, 2010.

King County and City of Renton. 2001. *Final Adopted May Creek Basin Action Plan*. April. Updated September 14, 2010. Available: <http://www.kingcounty.gov/environment/watersheds/cedar-river-lake-wa/may-creek/may-creek-basin-plan.aspx>. Accessed: September 15, 2010.

StreamNet. 2010. Results of a database search for fish occurrence in May Creek and Honey Creek, King County, Washington. Available: <http://www.streamnet.org>. Accessed: September 15, 2010.

U.S. Fish and Wildlife Service. 2010. National Wetlands Inventory. Available: <http://www.fws.gov/wetlands>. Last updated: November 3, 2010. Accessed; November 8, 2010.

Washington Department of Fish and Wildlife. 2010a. Priority Habitats and Species database. Electronic database files detailing priority habitats and species occurrences within 1 mile of the Planned Action Study Area.

———. 2010b. Salmonscape database. Electronic online database files detailing salmon occurrence in Washington State. Available: <http://wdfw.wa.gov/mapping/salmonscape>. Accessed: November 8, 2010.

8.1.7 Section 3.5

King County. 2007. SEPA Greenhouse Gas Emission Worksheet, Version 1.7. Updated December 26, 2007. Available: <http://www.kingcounty.gov/property/permits/info/SiteSpecific/ClimateChange.aspx#SEPA>.

Puget Sound Regional Council. 2010. *Transportation 2040: Final Environmental Impact Statement*. March.

U.S. Environmental Protection Agency. 2009. *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel-Economy Trends: 1975 Through 2009*. EPA420-R-09-014. November.

8.1.8 Section 3.6

City of Renton. 1997. *Airport Master Plan for Renton Municipal Airport*. August.

Federal Transit Administration. 2006*. Transit Noise and Vibration Impact Assessment*. (FTA-VA-90-1003-06.) Office of Planning and Environment.

U.S. Department of Housing and Urban Development. 2010. Site Day-Night Level Calculator. Available: <http://www.hud.gov/offices/cpd/environment/dnlcalculatortool.cfm>. Accessed: October 8, 2010.

———. 1985. *The Noise Guidebook*. A Reference Document for Implementing the Department of Housing and Urban Development's Noise Policy. Environmental Planning Division, Office of Environment and Energy.

Washington State Department of Transportation. 2009. Annual Traffic Report, 2009. Transportation Data Office. Available: <http://www.wsdot.wa.gov/mapsdata/tdo/annualtrafficreport.htm>. Accessed: October 08, 2010.

8.1.9 Section 3.7

Printed References

Adapt Engineering, Inc. 2010. *Phase I Environmental Site Assessment, Sunset Lane NE & NE 10th Street (NW Corner), Renton, WA, 98056.* August 25. Seattle, WA.

City of Renton. 2008. Aquifer Protection Zones map for City of Renton. January 22. Technical Services Planning, Building, Public Works. Available: <http://rentonnet.org/internetapps/maps/index.cfm?fuseaction=products>.

Personal Communications

Cappelletti, Cory. Fire Inspector. City of Renton Emergency Management Department, Renton, WA. November 15, 2010—Email.

8.1.10 Section 3.8

City of Renton. 2009. *City of Renton Comprehensive Plan*.

8.1.11 Section 3.9

City of Renton. 2009. *City of Renton Comprehensive Plan*. Renton, WA.

King County. 2010a. King County Benchmarks: Affordable Housing. Last Updated September 28, 2010. Available: <http://www.kingcounty.gov/exec/strategy/PerformMgmt/BenchmarkProgram/AffordableHousing.aspx>. Accessed: September 29, 2010.

———. 2010b. King County Countywide Planning Policies. King County, WA. Available: < http://www.kingcounty.gov/property/permits/codes/growth/GMPC/CPP.aspx> Accessed: October 16, 2010.

———. 2009. King County Benchmarks Affordable Housing 2008-2009. Last revised: March 9, 2009. Available: <http://your.kingcounty.gov/budget/benchmark/bench08/AffHsg/aff_housing.htm>. Accessed: September 27, 2010.

Puget Sound Regional Council. 2010. Covered Employment Estimates. Available: <http://www.psrc.org/data/employment/covered-emp>. Accessed: September 15, 2010.

———. 2009. *Vision 2040*. December. Available: <http://psrc.org/growth/vision2040/pub/vision2040-document>. Accessed November 27, 2010.

Renton Housing Authority. 2010. Tenant Demographic Data Report. September 22. Renton, WA.

U.S. Census Bureau. 2000. Census Bureau, 2000 Summary File 1 (SF1) and 2000 Summary File 3 (SF3) data for Census Tract 242, Census Tract 254, Census Tract 255; City of Renton; and King County. April 1. Available: <http://factfinder.census.gov/home/saff/main.html?_lang=en>. Accessed: September 27, 2010.

U.S. Department of Housing and Urban Development. 2010. Historical Fair Market Rents. Content current as of October 1, 2010. Available: <http://www.hud.gov/local/shared/working/r10/emas/histwafmr.cfm?state=wa#seattle>. Accessed: October 1, 2010.

U.S. Bureau of Labor Statistics. 2010. Local Area Unemployment Statistics. Available: <http://data.bls.gov:8080/PDQ/servlet/SurveyOutputServlet;jsessionid=62303eeea71f753f3e11>. Accessed: October 1, 2010.

Washington State Office of Financial Management. 2010. Growth Management Act County Projections. Available: <http://ofm.wa.gov/pop/gma/default.asp>. Accessed: November 27, 2010.

8.1.12 Section 3.10

American Community Survey. 2009. 2006–2008 American Community Survey 3-Year Estimate. Renton, City, WA. Available: < http://factfinder.census.gov>. Accessed: October 11, 2010.

City of Renton. 2010. Demographics Summary Profile NE Renton 10 and 15 Minutes Drive Time Data from the Intersection of NE Sunset Blvd & NE 10th Street. June 24. Community and Economic Development Department, Planning/Technical Services, Renton, WA.

———. 2009. *City of Renton Comprehensive Plan*.

King County. 2010. *King County Benchmarks: Affordable Housing*. Last Updated September 28, 2010. Available: <http://www.kingcounty.gov/exec/strategy/PerformMgmt/BenchmarkProgram/AffordableHousing.aspx>. Accessed: September 29, 2010.

———. 2009. *King County Benchmarks Affordable Housing 2008-2009.* Last revised: March 9, 2009. Available: <http://your.kingcounty.gov/budget/benchmark/bench08/AffHsg/aff_housing.htm>. Accessed: September 27, 2010.

King County Assessor. 2010. Assessments Data Download. Available: <http://info.kingcounty.gov/assessor/DataDownload/default.aspx>. Accessed: July 2010.

Puget Sound Regional Council. 2010. Puget Sound Regional Council, Seattle, WA—Population, Household and Housing Estimates: 2009. March.Available: <www.psrc.org>. Accessed: October 11, 2010.

———. 2002a. *2000 Census, Characteristics of Housing, Vol. 1: King County Census Tracts*. September. Available: <http://psrc.org/assets/1398/Housing_King.pdf>. Accessed: October 11, 2010.

———. 2002b. *2000 Census, Characteristics of Income, Vol. 1: King County* Census Tracts. September. Available: <http://psrc.org/assets/1405/Income_King.pdf>. Accessed: October 11, 2010.

Renton Housing Authority. 2010a. RHA Communities Waitlists. Available: <http://www.rentonhousing.org/RHA%20Communities%20Waitlists.pdf>. Accessed: September 20, 2010.

———. 2010b. *Tenant Demographic Data Report: Housing Authority, City of Renton*. September 22. Renton, WA.

U.S. Department of Housing and Urban Developmenta. 2010. Historical Fair Market Rents. Content current as of October 1, 2010. Available: <http://www.hud.gov/local/shared/working/r10/emas/histwafmr.cfm?state=wa#seattle>. Accessed: October 1, 2010.

———. 2010b. Public Housing Programs. Available: <http://www.hud.gov/offices/pih/programs/ph/programs.cfm>. Accessed: October 16, 2010.

———. 2010c. Choice Neighborhoods. Available: <http://www.hud.gov/offices/pih/programs/ph/cn/>. Accessed: October 16, 2010.

———. 2010d. How Do Housing Tax Credits Work? Available: <http://www.hud.gov/offices/cpd/affordablehousing/training/web/lihtc/basics/work.cfm>. Accessed: November 26, 2010.

———. 2010e. Community Development Block Grant Program—CDBG. Available: <http://www.hud.gov/offices/cpd/communitydevelopment/programs/>. Accessed: October 16, 2010.

———. 2010f. HOME Investment Partnerships Program. Available: <http://www.hud.gov/offices/cpd/affordablehousing/programs/home/>. Accessed: October 16, 2010.

8.1.13 Section 3.11

Council on Environmental Quality. 1997. *Environmental Justice Guidance under the National Environmental Policy Act.*

Renton Housing Authority. 2010. *Tenant Demographic Data Report: Housing Authority, City of Renton*. September 22. Renton, WA.

Renton School District. 2010a. Student Information Services—Ethnic Reports. Available: <http://www.rentonschools.us/Departments/Student_Information_Services/EthnicReports>. Accessed: September 15, 2010.

———. 2010b. Nutrition Services—Free & Reduced Meal Reports. Available: <http://www.rentonschools.us/Departments/Nutrition_Services/FreeReducedMealReports>. Accessed: September 15, 2010.

U.S. Department of Commerce. 2000. Census Bureau, 2000 Summary File 3 (SF3) data for Census Tract 242 Block Groups 3 and 4; Census Tract 254 Block Groups 1, 4 and 5, Census Tract 255 Block Group 2, City of Renton, and King County. Available: <http://factfinder.census.gov/home/saff/main.html?_lang=en>. Accessed: September 15, 2010.

8.1.14 Section 3.12

City of Renton. 2009. *City of Renton Comprehensive Plan*. Renton Planning and Development Department, Renton, WA.

———. 2008. *Report and Recommendations: Highlands Phase II Task Force*. Available: <http://www.rentonwa.gov/business/default.aspx?id=10946>. Accessed: September 20, 2010.

8.1.15 Section 3.13

Ames, K. M. and D. G. Maschner. 1999. *Peoples of the Northwest Coast: Their Archaeology and Prehistory*. London: Thames & Hudson.

Associated Press. 1958. Tacoma Gets Housing Blues; To Renton It's Not News. *The Seattle Times*. June 29. Seattle, Washington.

Blukis Onat, A. R., M. E. Morgenstein, P. D. LeTourneau, R. P. Stone, J. Kosta, and P. Johnson. 2001. *Archaeological Investigations at stuwe'yuqw—Site 45KI464—Tolt River, King County, Washington*. BOAS, Inc., Seattle.

Blukis Onat, A. R., R. A. Kiers, and P. D. LeTourneau. 2005. *Preliminary Ethnographic and Geoarchaeological Study of the SR 520 Bridge Replacement and HOV Project*. Report on file at Washington State Department of Transportation, Seattle, WA.

Blukis Onat, A. R., and R. A. Kiers. 2007. *Ethnohistoric and Geoarchaeological Study of the SR 520 Corridor and Archaeological Field Investigations in the SR 520 Bridge Replacement and HOV Project including the Pacific Interchange and Second Montlake Bridge Option, King County, Washington*. Report on file at Washington State Department of Transportation, Seattle, WA.

Booth, D. B., K. G. Troost, and S. A. Schimel. 2009. Geologic Map of Northeastern Seattle (Part of the Seattle North 7.5'x15' Quadrangle), King County, Washington. U.S. Department of the Interior, U.S. Geological Survey, Reston, VA.

Buerge, David M. 1989. *Renton: Where the Water Took Wing*. Chatsworth, CA: Windsor Publications, Inc.

City of Renton. 1989. *Community Profile*. Department of Community Development, Long Range Planning Section, Renton, WA.

Duwamish Tribe. 2010. Duwamish Tribe. Available: <http://www.duwamishtribe.org/index.html>. Accessed: September 30, 2010.

Easterbrook, D. J. 2003. Cordilleran Ice Sheet Glaciation of the Puget Lowland and Columbia Plateau and Alpine Glaciation of the North Cascade Range, Washington. Pages 137–157 in T. W. Swanson (ed.), *Western Cordillera and Adjacent Areas*. Boulder, CO: The Geological Society of America.

Elenga, Maureen R. 2007. *Seattle Architecture: A Walking Guide to Downtown*. Seattle, WA: Seattle Architecture Foundation.

Forsman, L. and D. Lewarch. 2001. Archaeology of the White River. *White River Journal: A Newsletter of the White River Valley Museum.* April. Available: <http://www.wrvmuseum.org/journal/journal_ 0401.htm>. Accessed: July 25, 2006.

Golder Associates. 1996. *Geotechnical Engineering Study N.E. Sunset Boulevard Harrington Avenue N.E. to Union Avenue N.E. Sewer Interceptor Project, Renton, Washington*. May 7. Prepared for the City of Renton, WA.

———. 2003.*Final Report on Preliminary Geotechnical Investigation Renton Sunset Interceptor Phase II, Renton, Washington*. September 2. Prepared for HDR Engineering, Inc.

Greengo, R. E. and R. Houston. 1970. *Archaeological Excavations at Marymoor Farm*. Department of Anthropology, University of Washington, Seattle, WA.

Kidd, R. S. 1964. *A Synthesis of Western Washington Prehistory from the Prospective of Three Occupational Sites.* Unpublished A.A. thesis. Department of Anthropology, University of Washington, Seattle, WA.

King County Department of Assessments. 2010. Assessment Records for parcels 7227801055, 7227801400, and 7227801085. Available: <http://info.kingcounty.gov/Assessor/eRealProperty/default.aspx>. Accessed: October 13, 2010.

Kopperl, R. E. 2004. *Cultural Resources Clearance Survey, SR5 HOV Lane Construction, 48th Street to Pacific Avenue, Tacoma, Pierce County*. Northwest Archaeological Associates and the Environmental History Company. On file at the Washington State Department of Archaeology and Historic Preservation.

Larson, L. L., and D. E. Lewarch.1995. *The Archaeology of West Point, Seattle, Washington: 4,000 Years of Hunter-Fisher-Gatherer Land Use in Southern Puget Sound*. Seattle, Washington. Report prepared for King County Metropolitan Services by Larson Anthropological/Archaeological Services.

Morning Olympian. 1909. Survey New Renton Seattle Highway. October 30. Olympia, WA.

Mullineaux, D. R. 1965. Geologic map of the Renton Quadrangle, King County, WA. U.S. Department of the Interior, U.S. Geological Survey.

Nelson, C. M. 1990.Prehistory of the Puget Sound Region. Pages 481–484 in Wayne Suttles (ed.), *Handbook of North American Indians*, Vol. 7 (Northwest Coast). Washington D.C.: Smithsonian Institution.

Ochster, Jeffery Karl (ed.). 1998. *Shaping Seattle Architecture: A Historical Guide to the Architects*. Seattle, WA: University of Washington Press.

Renton History Museum. 1975. Renton Highlands, aerial view looking west, Renton, ca. 1975. Electronic document. Available: <http://content.lib.washington.edu/cdm4/item_viewer.php?CISOROOT=/imlsrenton&CISOPTR=240>. Accessed: October 13, 2010.

The Seattle Times. 1959. Seattle Firm Supported for Housing Job. March 18:44. Seattle, WA.

_____. 1967. Obituaries: George W. Stoddard. September 29:16. Seattle, WA.

Slauson, Morda C. 2006. *Renton from Coal to Jets*. Renton Historical Society, Renton, WA.

Suttles, W., and B. Lane (eds.). 1990. *Handbook of North American Indians, Volume 7: Northwest Coast*. Washington, D.C.: Smithsonian Institution.

8.1.16 Section 3.14

City of Renton. 2009. *City of Renton Comprehensive Plan*. Transportation Element. Renton, WA.

King County. 2010. Metro Transit. Available: <http://metro.kingcounty.gov>. Accessed: October 2010.

Puget Sound Regional Council. 2010. Adopted Level of Service Standards for Regionally Significant State Highways. <http://psrc.org/transportation/destination2030/los/>. Accessed: October 5, 2010.

Transportation Research Board. 2005. *Highway Capacity Manual*.

Washington State Department of Transportation. 2009a. State Highway Log. Updated March 8, 2010. Available: <http://www.wsdot.wa.gov/mapsdata/tdo/statehighwaylog.htm>. Accessed: October 4, 2010.

———. 2009b. 2009 Washington State Collision Data Summary. Available: <http://www.wsdot.wa.gov/mapsdata/tdo/accidentannual.htm>. Accessed: October 6, 2010.

———. 2009c. *2009 Annual Traffic Report*. In cooperation with the United States Department of Transportation Federal Highway Administration. Available: <http://www.wsdot.wa.gov/mapsdata/tdo/PDF_and_ZIP_Files/Annual_Traffic_Report_2009.pdf>.

8.1.17 Section 3.15

Printed References

City of Renton. 2010a. City of Renton GIS data.

———. 2010b. Parks and Trails webpage and Recreation webpage. Available: <http://rentonwa.gov/living.> Accessed: September 2010.

———. 2010c. "W*hat's Happening…Fall 2010*." Community Services Department

———. 2010d. Docket #53 Staff Report. September 29.

———. 2009. Renton Trails and Bikeways Guide Map. June. Available: <http://rentonwa.gov/uploadedFiles/Living/CS/PARKS/bikeandtrailsmap.pdf>.

U.S. Census Bureau. 2000. Census tract GIS shapefile data for city of Renton, WA. Available: <http://psrc.org/data/gis/shapefiles.>

Personal Communications

Betlach, Leslie. Parks Planning and Natural Resources Director. City of Renton, Renton, WA. October 28, 2009, and September 29, 2010—Emails to Kristina Evanoff, CH2M Hill, providing City of Renton parks and recreation level of service data and Sunset Area Park Facilities and Participation Numbers 2008–2010.

8.1.18 Section 3.16

Printed References

City of Renton. 2010. Waste Services and Collection. Available: <http://rentonwa.gov/living/default.aspx?id=304>. Accessed: September 21, 2010.

———. 2009. *City of Renton Comprehensive Plan.* Renton, WA.

———. 2008. *Renton Public Library Master Plan Study 2008–2013*. Available: <http://rentonwa.gov/uploadedFiles/Living/CS/LIBRARY/RENTONmasterplan1.pdf>. Accessed: November 12, 2010.

City of Renton Fire & Emergency Services Department. 2010. *Renton Fire & Emergency Services Department Annual Report 2009.* Renton, WA.

City of Renton Police Department. 2010. *Renton Police Department Annual Report 2009.* Renton, WA.

King County. 2009. *Draft 2009 Comprehensive Solid Waste Management Plan.* Seattle, WA. Prepared by King County Solid Waste Division, Seattle, WA.

King County Library System. 2010. *Draft 2010 Library Service Area Analysis Greater Renton Area*. September.

Renton Housing Authority. 2010. RHA Communities Waitlists. Available: <http://www.rentonhousing.org/RHA%20Communities%20Waitlists.pdf>. Accessed: September 2010.

Renton School District. 2010. Boundary Maps.Available: < http://www.rentonschools.us/Departments/Transportation/BoundaryMaps>. Accessed: September 20, 2010.

Renton School District and Greene Gasaway Architects. 2008. *Renton School District Six-Year Capital Facilities Plan, 2009–2015*. Renton, WA. Prepared for Renton School District, Renton, WA.

Valley Medical Center. 2010. *2009 Annual Report*. Renton, WA.

Personal Communications

Flora, Bill. Deputy Chief. Renton Fire & Emergency Services Department, Renton, WA. September 20, 2010—phone conversation.

Gropper, Mark. Executive Director. Renton Housing Authority, Renton, WA. September 20, 2010—phone conversation.

Marsalisi, Chuck. Deputy Chief. Renton Police Department, Renton, WA. September 10, 2010—phone.

Matheson, Randy. Executive Director, Community Relations. Renton School District No. 403, Renton, WA. September 15, 2010, and November 18, 2010—phone conversation and email.

8.1.19 Section 3.17

City of Renton. 2009. *Long Range Wastewater Management Plan*. January.

City of Renton and R.W. Beck, Inc. 2005. *City of Renton Water System Plan*. September. Seattle, Washington. Prepared for the City of Renton, WA.

8.1.20 Section 4.1

City of Renton. 2010. *City of Renton Amendments to the King County Surface Water Design Manual.* February. Appendix D, Erosion and Sedimentation Control Standards.

8.1.21 Section 4.2

American Public Health Association. 2007. Breathe Easy Homes at High Point: The ultimate indoor asthma trigger reduction strategy. Presentation at the 135th APHA Annual Meeting & Exposition (November 6, 2007). Available: <http://apha.confex.com/apha/135am/techprogram/paper_163247.htm>.

Federal Highway Administration. 2006. Interim Guidance on Mobile Source Air Toxics. Last revised: February 3, 2006. Available: <http://www.fhwa.dot.gov/ENVIRONMENT/airtoxic/020306guidmem.htm>. Accessed: March 1, 2007.

King County. 2007. SEPA Greenhouse Gas Emission Worksheet, Version 1.7. Updated December 26, 2007. Available: <http://www.kingcounty.gov/property/permits/info/SiteSpecific/ClimateChange.aspx#SEPA>.

Puget Sound Regional Council. 2010. *Transportation 2040: Final Environmental Impact Statement*. March.

———. 2009. *Air Quality Conformity Analysis: 2010–2013 Regional Transportation Improvement Program*. September 3. Seattle, WA.

———. 2007. *Destination 2030 Environmental Impact Statement Addendum*. March 5. Seattle, WA.

Sacramento Metropolitan Air Quality Management District. 2007. *Recommended Guidance for Land Use Emission Reductions*. Updated August 15, 2007.

Sandel, Megan. 2009. Healthy homes. Alliance for Healthy Homes and the National Center for Medical Legal Partnership/Boston Medical Center. May 6. Available: <http://www.nlihc.org/detail/article.cfm?article_id=6087&id=46>.

Washington State Department of Ecology. 2008a. *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge*. Ecology Publication #08-01-008. November.

———. 2008b. *State Environmental Policy Act (SEPA) Implementation Working Group: Report to the Climate Action Team*. Appendix G. SEPA Mitigation Strategies for Climate Change Impacts.

8.1.22 Section 4.3

City of Renton. 2009. *City of Renton Amendments to the King County Surface Water Design Manual.* Renton, WA.

Herrera Environmental Consultants. 2006. *Gene Coulon Park Microbial Source Tracking Study.* Draft. Seattle, WA. Prepared for City of Renton, WA.

King County. 2009. *King County Washington, Surface Water Design Manual*. Department of Natural Resources and Parks, Seattle, WA.

———. 1998. *King County Washington, Surface Water Design Manual.* Department of Natural Resources and Parks, Seattle, WA.

8.1.23 Section 4.4

King County. 2009. *King County Washington, Surface Water Design Manual*. Department of Natural Resources and Parks, Seattle, WA.

Worthy and Associates. 2009. *Renton Urban and Community Forestry Redevelopment Plan*. Seattle, WA. Prepared for City of Renton, WA.

8.1.24 Section 4.5

City of Renton. 2009. *City of Renton Comprehensive Plan*. Chapter 12: Utilities Element. Adopted November 1, 2004. Ordinance 5099 & 5100. Amended December 8, 2008. Renton, WA.

King County. 2007. SEPA Greenhouse Gas Emission Worksheet, Version 1.7. Updated December 26, 2007. Available: <http://www.kingcounty.gov/property/permits/info/SiteSpecific/ClimateChange.aspx#SEPA>.

Puget Sound Regional Council. 2010. *Transportation 2040: Final Environmental Impact Statement*. March.

U.S. Environmental Protection Agency. 2010. NW Energy Start Homes Program. Available: <http://www.northwestenergystar.com/>. Accessed: October 15, 2010.

———. 2009. *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel-Economy Trends: 1975 through 2009*. EPA420-R-09-014. November.

8.1.25 Section 4.6

U.S. Department of Housing and Urban Development. 2010a. Site Day-Night Level Calculator. Available: <http://www.hud.gov/offices/cpd/environment/dnlcalculatortool.cfm>. Accessed: October 8, 2010.

———. 2010b. Barrier Performance Module. Available: <http://www.hud.gov/offices/cpd/environment/calculator/mitigation.cfm >. Accessed: October 20, 2010.

8.1.26 Section 4.7

No references.

8.1.27 Section 4.8

No references.

8.1.28 Section 4.9

No references.

8.1.29 Section 4.10

Gropper, Mark. Executive Director. Renton Housing Authority, Renton, WA. October 4, 2010—Email to Lisa Grueter regarding relocation assistance for duplex residents.

8.1.30 Section 4.11

No references.

8.1.31 Section 4.12

No references.

8.1.32 Section 4.13

Bundy, Barbara E. 2008. *Interstate 405 Corridor Survey: Phase I Interstate 5 to State Route 169 Improvements Project.* Report No. 08-23, Cultural Resources Program. Seattle, WA. Prepared by Washington State Department of Transportation, Environmental Services Office.

Chatters, James. 2009. *Recovery of Two Early 20th Century Graves from Renton, Washington.* AMEC Project No. 8-915-16415-0. Bothell, WA. Prepared for James H. Jacques Construction by AMEC Earth & Environmental, Inc.

Cooper, Jason. 2001. *Antennas on an Existing Transmission Tower 12612 Southeast 96th Street*. SE54XC005A. Bellevue, WA. Prepared by Jones & Stokes.

Goetz, Linda Naoi, Kara M. Kanaby, Douglas F. Tingwall, and Thomas C. Rust. 2008. *Dayton Avenue NE/NE 22nd Street Stormwater System Project, Renton, Washington.* Seattle, WA. Prepared by Landau Associates for BHC Consultants.

Hodges, Charles M. 2007a. *Cultural Resources Assessment for the Proposed Lowe's of Renton Project, Renton, King County, Washington.* NWAA Report Number WA 07-014. Seattle, WA. Prepared for PacLand by Northwest Archaeological Associates, Inc.

_____. 2007b. *Archaeological Resource Assessment for the South Lake Washington Roadway Improvement Project, City of Renton, King County, Washington*. NWAA Report Number WA06-055. Seattle, WA. Prepared for the City of Renton by Northwest Archaeological Associates, Inc.

Juell, Ken. 2001. *Cultural Resources Inventory of the Proposed Washington Light Rails Project*. NWAA Report WA01-6. Seattle, WA. Prepared by Northwest Archaeological Associates, Inc.

Miss, Christian J. 2007. *Archaeological Monitoring for the South Lake Washington Roadway Improvement Project, City of Renton, King County, Washington.* Seattle, WA. Prepared for the City of Renton by Northwest Archaeological Associates, Inc.

Stipe, Frank T. 2007. *Verizon Wireless SEA Renton Voc-Tech Cellular Tower Cultural Resources Review.* Bothell, WA. Prepared for Verizon Wireless by Tetra Tech Divisions, Inc.

8.1.33 Section 4.14

City of Renton. 2009. *Renton Trails and Bicycle Master Plan*. May.

Muench, S. T., J. L. Anderson, J. P. Hatfield, J. R. Koester, and M. Soderlund. 2010. *Greenroads Rating System v1.0*. J. L. Anderson and S. T. Meunch (eds.). April. Seattle, WA: University of Washington.

8.1.34 Section 4.15

City of Renton. 2010. *Docket #53 Staff Report*. September 29.

_____. 2003. *2003 Long-Range Parks, Recreation and Open Space Plan.*

City of Sammamish and Issaquah School District No. 411. 2006. Interlocal agreement with Issaquah School District for join use, development and maintenance of city and district properties for recreational and athletic uses. Available: <www.mrsc.org>. Accessed: October 2010.

8.1.35 Section 4.16

King County. 2009. *Draft 2009 Comprehensive Solid Waste Management Plan.* Seattle, WA. Prepared by King County Solid Waste Division, Seattle, WA.

8.1.36 Section 4.17

City of Renton. 2009. *Long Range Wastewater Management Plan*. January.

HDR, Inc. 2009.*Water Distribution Storage Planning Study.* January. Bellevue, WA. Prepared for the City of Renton, WA.

R.W. Beck, Inc. 2005. *City of Renton Water System Plan*. September. Seattle, WA. Prepared for the City of Renton, WA.

8.1.37 Section 4.18

No references.

8.1.38 Section 4.19

No references.

8.2 Acronyms

AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
ADD	average daily demand
ADT	average daily traffic
AMI	Area Median Income
ASTs	Aboveground stationary storage tanks
BMPs	best management practices
BP	before present
Btu	British thermal units
CAFE	Corporate Average Fuel Economy
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS-NFRAP	CERCLIS No Further Remedial Action Planned
CESQG	conditionally exempt small-quantity generator
CFR	Code of Federal Regulations

CIS	Community Investment Strategy
City	City of Renton
CN	Center Neighborhood
CN	Commercial Neighborhood
CO	carbon monoxide
CPPs	King County's Countywide Planning Policies
CSCSL	Confirmed or Suspected Contaminated Sites List
CSCSL-NFA	CSCSL-No Further Action
CV	Center Village
DAHP	Department of Archaeology and Historic Preservation
DART	Dial-a-Ride-Transit
dB	decibel
dBA	A-weighted decibel
du/acre	dwelling units per acre
Ecology	Washington State Department of Ecology
EDNA	environmental designation for noise abatement
EDR	Environmental Data Resources, Inc.
EIS	environmental impact statement
EMS	emergency medical services
EPA	U.S. Environmental Protection Agency
EPCs	Energy Performance Contracts
ESA	Endangered Species Act
FAZ	forecast analysis zone
FHWA	Federal Highway Administration
FONSI	finding of no significant impact
FTE	full-time equivalent
GHG	greenhouse gas
GMA	Washington State Growth Management Act
GPS	global positioning system
HCM	2000 Highway Capacity Manual
HUD	U.S. Department of Housing and Urban Development
HVAC	heating, ventilation, and air-conditioning
I	Interstate
ICR	Independent Clean-Up Report
Ldn	day-night level
LEED	Leadership in Energy and Environmental Design
Leq	Equivalent sound level
Leq 1h	1-hour A-weighted equivalent sound level
LID	Low Impact Development
LOS	level of service
LQGs	large-quantity generators
MP	mile post;

Mpg	miles per gallon
MSATs	mobile source air toxics
MTCA	Model Toxics Control Act
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NFA	no further action
NHPA	National Historic Preservation Act of 1966
NN	Neighborhood Networks
NO2	nitrogen dioxide
NOI	Notice of Intent
NOx	nitrogen oxides
NPL	National Priority List
NRHP	National Register of Historic Places
OWSC	one-way stop control; AWSC = all-way stop control
PCBs	polychlorinated biphenyls
PDD	peak daily demand
PHAs	Public Housing Authorities
PM10	particulate matter less than 10 micrometers in size
PM2.5	particulate matter less than 2.5 micrometers in size
ppm	parts per million
PSCAA	Puget Sound Clean Air Agency
PSH 2	Primary State Highway 2
psi	pounds per square inch
PSRC	Puget Sound Regional Council
R-10	Residential 10
R-14	Residential 14
R-8	Residential 8
RC	Resource Conservation
RCRA	Resource Conservation and Recovery Act of 1976
RCRAInfo	Federal Resource Conservation and Recovery Act Information
RCRA-NonGEN	RCRA non-generators
RCW	Revised Code of Washington
RHA	Renton Housing Authority
RLD	Residential Low Density
RMC	Renton Municipal Code
RMD	Residential Medium Density
RM-F	Residential Multifamily
ROD	record of decision
ROSS	Resident Opportunities and Self Sufficiency
RS	Residential Single Family

RSF	Residential Single Family
RTP	Regional Transportation Plan
SARA or Superfund	Superfund Amendments and Reauthorization Act of 1986
SEPA	State Environmental Policy Act
SHPO	Washington State Historic Preservation Officer
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SQGs	small-quantity generators
SR	State Route
SRI	Shelter Resources, Inc.
TIP	Transportation Improvement Program
TMDL	total maximum daily load
TOD	transit oriented development
TSD	Treatment, Storage, and Disposal
USC	United States Code
USTs	underground storage tank
VCP	Voluntary Clean-Up Program
VMC	Valley Medical Center
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WHR	Washington Heritage Register
WISAARD	Washington Information System for Architectural and Archaeological Records Database
WRIA	Water Resources Inventory Area
WSDOT	Washington State Department of Transportation