

THE WATERFRONT DISTRICT REDEVELOPMENT PROJECT

EIS ADDENDUM





December 14, 2012

Jeff Thomas
Director of Planning
City of Bellingham
210 Lottie Street
Bellingham, WA 98225

Shorelands and Environmental Assistance
Environmental Review Section
Washington Department of Ecology
P.O. Box 47703
Olympia, WA 98504-7703

**Re: Availability of Addendum to Final Environmental Impact Statement
Proposed Waterfront District Redevelopment Project
Bellingham, Washington**

Dear Sir/Madam:

A copy of the Addendum to the Final Environmental Impact Statement (FEIS Addendum) for the proposed Waterfront District Redevelopment Project in Bellingham, Washington, is attached. The Port of Bellingham (Port) together with the City of Bellingham (City) has been analyzing long-term redevelopment opportunities for the Waterfront District (also known as the "New Whatcom Special Development Area") since January 2005. The proposed actions associated with this project are subject to review under the State Environmental Policy Act (SEPA) and are set forth in the FEIS Addendum and accompanying documents. This letter provides notice to you and the agencies copied in the circulation list of the availability of the FEIS Addendum, conducted under SEPA.

The Port and City are working together to formulate and implement a Master Development Plan for the Waterfront District that will, if approved and implemented, gradually transform this historically industrial waterfront property into a new neighborhood with residences, shops, offices, marine and light industry, and institutional uses, as well as parks, trails and shoreline improvements.

This environmental analysis has been the subject of considerable public review and comment. A Draft EIS with a range of alternatives was published for review and

comment in January 2008. A Supplement to the DEIS was published for additional review and comment in October 2008. An EIS Addendum, including analysis of an Updated Preferred Alternative, was published for review and comment in February 2010. The FEIS was published in July 2010. This FEIS Addendum incorporates those previous documents.

The 2012 FEIS Addendum is organized as follows:

- Chapter 1 provides a summary description of the proposal and the 2012 Updated Preferred Alternative.
- Chapter 2 provides 1) a description of the 2012 Updated Preferred Alternative, 2) a summary of environmental review documents issued to date, 3) a summary of the proposed actions, 4) a list of elements analyzed, 5) discussion of the intent of this Addendum, and 6) discussion of the environmental review and ongoing planning and decision-making process.
- Chapter 3 provides a description of environmental impacts in comparison to the 2010 Preferred Alternative.

The Port and City will use the Master Development Plan as the basis for consideration of adjustments to local land use plans. Both parties also intend to enter into a Development Agreement in coordination with this effort that would include implementing land use regulations and identify infrastructure requirements, phasing, development standards, and appropriate mitigation measures.

Both the City and the Port are agencies with jurisdiction for the proposed Master Development Plan and Development Agreement. Under Interlocal Agreements, both parties have designated the Port as the SEPA lead agency for this EIS.

The FEIS Addendum has been prepared pursuant to SEPA, Chapter 43.21C RCW and the SEPA Rules (including WAC 197-11-440 and 197-11-620).

Copies of the FEIS Addendum on compact disc (CD) have been distributed to agencies, organizations and individuals noted on the Distribution List. Hard copies of the FEIS Addendum are also available for review at the following locations:

- Bellingham Central Library, 210 Central Way, Bellingham, WA
- Port of Bellingham, 1801 Roeder Avenue, Bellingham, WA
- City of Bellingham, Planning Office, 210 Lottie Street, Bellingham, WA

The FEIS Addendum can be reviewed and downloaded at the Port's web site under Waterfront Redevelopment/Project Background at: <http://www.portofbelllingham.com>. Persons interested in receiving a copy of the FEIS Addendum on CD (no charge) should contact Mike Hogan at 360-676-2500 or by e-mail at: mikeh@portofbelllingham.com.

Thank you for your interest and participation in this environmental review.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew W. Maron". The signature is fluid and cursive, with a long horizontal stroke at the end.

Andrew W. Maron
SEPA Responsible Official

Cc: Mark Asmundson
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**THE WATERFRONT DISTRICT REDEVELOPMENT PROJECT
2012 EIS ADDENDUM**

**PORT OF BELLINGHAM
BELLINGHAM, WASHINGTON**

**Prepared for the Review and Comments of Citizens,
Groups and Governmental Agencies**

In Compliance with
The State Environmental Policy Act of 1971 (RCW 43.21C)
and the Port of Bellingham SEPA Policies and Procedures

December 2012

FACT SHEET

PROJECT TITLE

The Waterfront District Redevelopment Project

2012 UPDATED PREFERRED ALTERNATIVE

The 2012 Updated Preferred Alternative analyzed in this EIS Addendum reflects updates to the 2010 Preferred Alternative analyzed in the 2010 EIS Addendum and 2010 FEIS for the Waterfront District Redevelopment Project. Based on continued coordination between the Port of Bellingham (Port) and the City of Bellingham (City), and evolving economic conditions, the Port has prepared a recommended 2012 Updated Preferred Alternative for analysis in this 2012 EIS Addendum.

In many respects, the redevelopment assumptions supporting the 2012 Updated Preferred Alternative are similar to or less than that described for the 2010 Preferred Alternative in the 2010 EIS Addendum and 2010 FEIS.

The redevelopment assumptions underlying the 2012 Updated Preferred Alternative that have been modified/updated from the 2010 EIS Addendum and 2010 FEIS primarily include:

- Site Boundary
- Proposed Land Uses and Phasing
- Building Height Limits and View Corridors
- Parks, Open Space and Trails
- Roadway Improvements and Phasing
- Historic Buildings and Structures
- Overwater Coverage

The Proposed Actions evaluated in this EIS Addendum are the same actions as those contemplated in the 2008 Draft EIS (DEIS), 2008 Supplemental Draft EIS (SDEIS), 2010 EIS Addendum and 2010 Final EIS (FEIS). Potential environmental impacts under the 2012 Updated Preferred Alternative are addressed in this EIS Addendum and compared to the 2010 Preferred Alternative analyzed in the 2010 EIS Addendum and 2010 FEIS, as well as the 2008 DEIS and 2008 SDEIS. This EIS Addendum, together with the 2008 DEIS, the 2008 SDEIS, 2010 EIS Addendum, 2010 FEIS, and previous environmental documentation (see page vii) comprehensively analyze the environmental impacts of the Proposed Actions.

PROPOSED ACTIONS

The Waterfront District includes approximately 237 acres of contiguous waterfront property and adjacent aquatic area in central Bellingham. The adjacent aquatic area associated with the Waterfront District is included within the area analyzed in the *Whatcom Waterway Cleanup Site Supplemental EIS 2007*.

The Port has been analyzing long-term redevelopment opportunities for The Waterfront District site. The Port and the City are working together to formulate and implement a Master Development Plan that is, if approved and implemented, intended to transform the Waterfront District into a new neighborhood with residences, shops, offices, marine and light industry, institutional uses (e.g. Western Washington University), as well as parks, trails and shoreline amenities along Bellingham Bay. The Master Development Plan will include substantial new opportunities for public access to the waterfront that do not exist under current conditions. For the purposes of environmental review, full buildout of the site is assumed to occur over a 20-year period; although full buildout of the site is dependent on market conditions and is likely occur over a longer timeframe.

The Port also envisions entering into a Development Agreement with the City that will further guide long-term redevelopment of the project site. As part of its efforts to plan and redevelop the site, the Port will propose amendments to the Port's *Comprehensive Scheme of Harbor Improvements* incorporating the Master Development Plan. Concurrent with the adoption of a Development Agreement, it is expected that the City will adopt a new Sub-Area Plan for the area (to be known as *The Waterfront District Master Development Plan*), along with implementing land use regulations and a Planned Action Ordinance, allowing for a change from industrial to mixed use zoning.

Previously, by agreement between the City and Port, the FEIS for the Waterfront District Redevelopment Project included reference to the Port as the applicant. However, the proposed Waterfront District Subarea Plan and companion development regulations, design standards, planned action ordinance, and development agreement are a joint proposal of the City and Port. References in the FEIS to the Port as the applicant are not intended to be controlling or limiting in the use of the FEIS. The FEIS and this EIS Addendum are intended to support the joint proposal of the City and Port, instead of a single entity's proposal.

The Port and the City identified the following Proposed Actions for the site that will be necessary to implement the Waterfront District redevelopment vision:

Proposed Actions of the Port of Bellingham

- Approval of amendments to the Port's *Comprehensive Scheme of Harbor Improvements*.
- Joint development with the City of Bellingham of a Master Development Plan (MDP) and Development Regulations for the Waterfront District.
- Approval of a Development Agreement between the Port of Bellingham and the City of Bellingham.

Proposed Actions of the City of Bellingham

- Adoption of a Master Development Plan (MDP) for the Waterfront District (considered as a Subarea Plan under the Growth Management Act) allowing for a change in zoning from industrial to mixed-use.
- Adoption of Development Regulations for the Waterfront District.
- Approval of a Development Agreement between the City of Bellingham and the Port of Bellingham. The Development Agreement will reference the implementing regulations for the site, along with infrastructure requirements, phasing and development standards.
- Adoption of a Planned Action Ordinance.
- Approval of future permits for infrastructure improvements, construction projects, and redevelopment activities within the redevelopment area over the buildout period.

ENVIRONMENTAL REVIEW / ALTERNATIVES

To date, four environmental review documents under the State Environmental Policy Act (SEPA) have been issued for public review and comment by the Port in support of the Waterfront District Redevelopment Project. They are a Draft EIS issued in January 2008 (2008 DEIS), a Supplemental Draft EIS issued in October 2008 (2008 SDEIS), an EIS Addendum issued in February 2010 (2010 EIS Addendum), and a Final EIS issued in July 2010 (2010 FEIS). These documents are available for review on the Port of Bellingham website or can be requested from the Port of Bellingham:

www.portofbellingham.com/waterfrontredevelopment/projectupdates.

A brief description of the four SEPA environmental review documents issued for the Waterfront District is available in **Appendix B** to this 2012 EIS Addendum.

LOCATION

The Waterfront District lies within the City of Bellingham's Central Business District Neighborhood Planning area. The site is generally bounded by Bellingham Bay to the west, Roeder Avenue and State Street to the north and east, and the BNSF railroad corridor and bluff to the south. The Central Business District Neighborhood is generally bounded by the Columbia and Lettered Streets neighborhoods to the north; the Sunnyland and York neighborhoods to the east, and Cornwall Avenue and the Sehome and South Hill neighborhoods to the south.

PROPONENT/APPLICANT

Port of Bellingham

LEAD AGENCY

Port of Bellingham

RESPONSIBLE OFFICIAL

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NEEDED PERMITS AND APPROVALS

Port of Bellingham

- Approval of amendments to Port of Bellingham *Comprehensive Scheme of Harbor Improvements*.
- Development of a proposal with the City of Bellingham for a Master Development Plan (MDP) for the Waterfront District.
- Approval of a Development Agreement between the Port of Bellingham and City of Bellingham.

City of Bellingham

- Adoption of a Master Development Plan (MDP) for the Waterfront District (considered as a Subarea Plan per the Growth Management Act) allowing for a change in zoning from industrial to mixed-use.

- Approval of a Development Agreement between the Port of Bellingham and City of Bellingham. The Development Agreement will reference the implementing regulations for the site, along with infrastructure requirements, phasing and development standards.
- Adoption of Development Regulations for the Waterfront District.
- Adoption of a Planned Action Ordinance.
- Approval of future permits for infrastructure improvements, construction projects, and redevelopment activities within the Waterfront District over the buildout period potentially including, but not limited to:
 - Shoreline Management Act Substantial Development Permit Approval
 - Grading Permit Approval
 - Building Permit Approval
 - Mechanical Permit Approval
 - Plumbing Permit Approval
 - Electrical Permit Approval
 - Fire System Permit Approval
 - Street and other City Right-of-Way Use Permit Application Approval
 - Transportation Concurrency Application Approval
 - Stormwater Management Plan Approval

State of Washington

Department of Ecology

- Section 401 Water Quality Certification
- Shoreline Substantial Development Permit Approval
- Coastal Zone Management Certification
- Model Toxics Control Act (MTCA) Compliance

Department of Archaeological and Historical Preservation

- Executive Order 05-05 Consultation and Review

Department of Fish and Wildlife

- Hydraulic Project Approval

United States Army Corps of Engineers

- Section 401 Permit Approval
- Section 402 NPDES Permit Approval
- Section 10/ Section 404 Permit Approval
- Puget Sound Dredged Material Management Program Approval
- Section 106 Consultation and Review

**EIS ADDENDUM AUTHORS
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**PREVIOUS ENVIRONMENTAL
DOCUMENTS**

Per WAC 197-11-620, this EIS Addendum supplements the four SEPA environmental review documents issued by the Port of Bellingham, including the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum, and 2010 FEIS (refer to **Appendix B** for a brief discussion on each of the documents). This EIS Addendum together with the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum, and 2010 FEIS comprehensively address the environmental impacts of the Proposed Action.

This EIS Addendum builds upon and incorporates by reference the following environmental documents: Department of Ecology, *Bellingham Bay Comprehensive Strategy Draft EIS*, July 1999; Department of Ecology, *Bellingham Bay Comprehensive Strategy Final EIS*, October 2000; Port of Bellingham, *SEPA Checklist for a Proposed Amendment to the Comprehensive Scheme of Harbor Improvements for Squalicum Harbor*, April 2004; City of Bellingham, *Final Environmental Impact Statement for: The City of Bellingham, Bellingham Urban Growth Area, Five-Year Review Areas and Whatcom County Urban Fringe Subarea*, July 2004; Department of Ecology, *Draft Supplemental Environmental Impact Statement: Bellingham Bay Comprehensive Strategy, Whatcom Waterway Cleanup Site*, October 2006; Department of Ecology, *Final Supplemental Environmental Impact Statement: Bellingham Bay Comprehensive Strategy, Whatcom Waterway Cleanup Site*, September 2007. The above documents were also incorporated by reference in the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum and 2010 FEIS.

These documents are available for review at the Port of Bellingham, 1801 Roeder Avenue, Bellingham, WA 98225.

LOCATION OF BACKGROUND INFORMATION

Background material and supporting documents are available at the Port of Bellingham, WA 1801 Roeder Avenue, Bellingham, WA 98225 and at the City of Bellingham Planning Office, 210 Lottie Street, Bellingham, WA 98225.

DATE OF EIS ADDENDUM ISSUANCE

December 14, 2012

AVAILABILITY OF THE 2012 EIS ADDENDUM

Copies of the 2012 EIS Addendum have been distributed to agencies, organizations and individuals noted on the Distribution List. Copies of the 2012 EIS Addendum are also available for review at the following locations:

- Port of Bellingham, 1801 Roeder Avenue, Bellingham, WA
- City of Bellingham, Planning Office, 210 Lottie Street, Bellingham, WA
- Bellingham Central Library, 210 Central Way, Bellingham, WA

A limited number of printed copies may be purchased at the Port of Bellingham's Administrative Office at 1801 Roeder Avenue. The purchase price is \$20.00 per copy to cover printing costs.

The 2012 EIS Addendum can be reviewed and downloaded at the Port's web site under Latest News at: <http://www.portofbellingham.com>.

Persons interested in receiving a copy of the 2012 EIS Addendum on CD (no charge) should contact Mike Hogan at (360) 676-2500 or by e-mail at: Mikeh@portofbellingham.com.

**THE WATERFRONT DISTRICT REDEVELOPMENT PROJECT
2012 EIS ADDENDUM
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CHAPTER 1
SUMMARY

CHAPTER 1

SUMMARY

1.1 INTRODUCTION

This chapter provides a summary of the Waterfront District Redevelopment Project 2012 EIS Addendum. It briefly describes the 2012 Updated Preferred Alternative and project history, and also provides an overview of the probable significant environmental impacts, mitigation measures, and significant unavoidable adverse impacts of the 2012 Updated Preferred Alternative. See **Chapter 2** of this EIS Addendum for a more detailed description of the 2012 Updated Preferred Alternative, and **Chapter 3** for a detailed presentation of probable significant impacts, mitigation measures and significant unavoidable adverse impacts.

Many of the redevelopment assumptions under the 2012 Updated Preferred Alternative are the same as those described in the 2010 EIS Addendum for the 2010 Preferred Alternative. Similar to the 2010 Preferred Alternative, the 2012 Updated Preferred Alternative is intended to be a medium density, sustainable development that features a diversity of uses that are complimentary to the downtown Bellingham Central Business District, Old Town, and surrounding neighborhoods; an infrastructure network that integrates with and connects the waterfront to the surrounding area; and, a system of parks, trails and open space that opens up the waterfront to the community.

In many respects, the overall characteristics of assumed redevelopment under the 2012 Updated Preferred Alternative are similar to or less than that described in the 2010 EIS Addendum and 2010 FEIS for the 2010 Preferred Alternative. For example, the following full buildout redevelopment assumptions for the 2012 Updated Preferred Alternative are similar to or less than the 2010 Preferred Alternative: redevelopment density; maximum building heights; shoreline improvements; amount of parks and open space; grading; number of housing units; site population and employment; parking; sustainable design features; and, marina configuration (see **Table 2-2** for further details).

Redevelopment assumptions under the 2012 Updated Preferred Alternative that have been updated or modified from those described in the 2010 EIS Addendum and 2010 FEIS include:

- Site Boundary – Removes small parcels east of Roeder Avenue and includes the bluff along Wharf Street to eliminate gaps between neighborhood plan boundaries.
- Proposed Land Use Assumptions and Phasing – Designates the Log Pond Area as “Light Industrial Mixed-Use” to allow industrial uses to continue into the future.
- View Corridors – Maintain a view corridor where Oak Street is no longer proposed.
- Distribution of Parks and Open Space – Redistribute a portion of the parks in the Log Pond Area to other locations in the Waterfront District to enhance compatibility with industrial uses.
- Roadway Improvements and Phasing – Deletes internal roadways through the Log Pond Area (Oak Street, Ivy Street, Log Pond Drive) and provide internal circulation as necessary for industrial users.

- Historic Buildings and Structures – Continue to retain the six onsite structures identified to be temporarily held for retention/reuse. The Port will solicit developer interest for adaptive reuse of the Granary Building during Phase 1.
- Overwater Coverage – Retain one section of the GP Wharf for use by existing/future industrial uses. To offset the retention of a portion of the GP Wharf, the overwater coverage associated with the proposed transient moorage floats has been reduced.

Refer to **Chapter 2** for further details on the 2012 Updated Preferred Alternative.

Based on those redevelopment assumptions that have not changed and those assumptions that have been modified under the 2012 Updated Preferred Alternative, the following environmental analyses in the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum and 2010 FEIS will not change:

- Water Resources
- Plants and Animals
- Environmental Health
- Aesthetics/Light and Glare
- Utilities

For those assumptions that have been modified under the 2012 Updated Preferred Alternative, an updated analysis for those associated environmental elements is provided in this EIS Addendum. They are:

- Earth
- Air Quality and GHG Emissions
- Noise
- Land Use
- Relationship to Plans and Policies
- Population, Employment, and Housing
- Historic and Cultural Resources
- Transportation
- Public Services

1.2 PROJECT HISTORY

This document is an Addendum to the 2008 Draft EIS (2008 DEIS), the 2008 Supplemental Draft EIS (2008 SDEIS), the 2010 EIS Addendum, and the 2010 Final EIS (2010 FEIS) prepared for the Waterfront District Redevelopment Project. The 2008 DEIS evaluated three redevelopment alternatives and their environmental impacts and associated mitigation measures. The 2008 DEIS recognized that features of the alternatives could be mixed and matched to arrive at the final Master Plan Development for the Waterfront District.

The 2008 SDEIS evaluated two redevelopment alternatives (2008 Preferred Alternative and Straight Street Grid Option) and the environmental impacts and associated mitigation measures with each alternative. The 2008 Preferred Alternative represented further refinement of the 2008 DEIS Alternatives in the following areas: redevelopment density and mix of uses; roadway system; grading/stormwater management concept; parks and shoreline habitat plan; in-water work; sustainable design strategies; historic buildings; view corridors; and, development regulations.

Subsequent to the 2008 SDEIS, the 2010 Preferred Alternative was developed based on public input and coordination with the City; the 2010 Preferred Alternative was analyzed as part of the 2010 EIS Addendum. The majority of the redevelopment assumptions were similar to the 2008 Preferred Alternative; however, certain assumptions were modified, including: roadway network, view corridors, historic buildings/structures; and, the status of the PSE Encogen Plant.

In July 2010, the Final EIS for the project (2010 FEIS) was issued which included a description of the 2010 Preferred Alternative (same as described in the 2010 EIS Addendum) and responses to comments received throughout the EIS process.

1.3 SUMMARY OF IMPACTS, MITIGATION MEASURES, AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The following summary highlights the impacts, mitigation measures, and significant unavoidable adverse impacts that could potentially result from redevelopment of the Waterfront District under the 2012 Updated Preferred Alternative. Mitigation measures proposed in the 2008 DEIS, 2008 SDEIS and 2010 EIS Addendum apply to the 2012 Updated Preferred Alternative. This summary is not intended to be a substitute for the complete discussion of each environmental element that is contained in **Chapter 3** of this EIS Addendum.

Earth

Impacts

Redevelopment under the 2012 Updated Preferred Alternative results in similar or lower earth-related impacts than those previously identified in the EIS, due to the slightly lower amount of building development proposed on the site and the similar nature of the proposed grading plan and grading amounts. No additional earth-related impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no significant unavoidable adverse earth-related impacts are anticipated.

Air Quality and GHG Emissions

Impacts

Redevelopment under the 2012 Updated Preferred Alternative results in air quality and GHG emissions impacts that are similar to or less than those that were analyzed in the EIS for the 2010 Preferred Alternative due to the lower amount of building redevelopment that is proposed under the 2012 Updated Preferred Alternative. No additional significant air quality impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS for the Preferred Alternative and these measures also apply to the 2012 Updated Preferred Alternative. Since no additional significant air quality impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the EIS, no significant unavoidable adverse impacts to air quality are anticipated.

Noise

Impacts

Noise-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS for the 2010 Preferred Alternative. It is anticipated that the reduction in the amount of redevelopment on the site (and associated reduction in noise from such redevelopment) would be offset by the increase in industrial uses on the site. In addition, as described previously, the 2008 DEIS identified potential noise impacts associated with industrial uses in proximity to mixed-uses; however, no significant impacts were anticipated. No additional noise-related impacts from redevelopment under the 2012 Updated Preferred Alternative are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no significant unavoidable adverse noise-related impacts are anticipated.

Land Use

Impacts

Land use-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS for the 2010 Preferred Alternative. In general, the proposed level of redevelopment under the 2012 Updated Preferred Alternative is less than the level analyzed in the 2008 DEIS, 2008 SDEIS and that identified for the 2010 Preferred Alternative. The proposed increase in industrial uses on the site (particularly in the Log Pond Area) under the 2012 Updated Preferred Alternative could result in potential impacts to proposed adjacent uses on the site (i.e. office, residential and institutional uses); however, with the implementation of the mitigation measures identified in the EIS, no significant land use-related impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no significant unavoidable adverse land use-related impacts are anticipated.

Population, Employment and Housing

Impacts

Potential population, employment and housing impacts under the 2012 Updated Preferred Alternative are less than those identified in the EIS for the 2010 Preferred Alternative, due to the slightly lower amount of redevelopment and associated lower population, employment and housing. No additional significant impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS, no significant unavoidable adverse impacts from population, employment or housing are anticipated.

Historic and Cultural Resources

Impacts

Historic and cultural resource impacts under the 2012 Updated Preferred Alternative are similar to those identified in the EIS, due to the similar nature of proposed redevelopment in the Waterfront District and the continued status of buildings/structures that are temporarily held from demolition for possible retention/reuse. No additional historic or cultural resource-related impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no additional significant unavoidable adverse historic or cultural resource-related impacts are anticipated.

Transportation

Impacts

Transportation-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS for the 2010 Preferred Alternative. In general, the proposed level of redevelopment under the 2012 Updated Preferred Alternative is less than the level analyzed for the 2010 Preferred Alternative, which in turn would result in a lower vehicle trip generation in the Waterfront District under the 2012 Updated Preferred Alternative. In addition, the proposed roadway network, access and circulation are similar to the 2010 Preferred Alternative and as such, potential transportation-related impacts are anticipated to be similar to or less than those identified for the 2010 Preferred Alternative and no new significant transportation-related impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the 2010 EIS Addendum and these measures would apply to the 2012 Updated Preferred Alternative. Because no additional significant transportation impacts were identified, no additional mitigation measures have been identified. Similar to the 2010 Preferred Alternative, transportation infrastructure improvements would be phased under the 2012 Updated Preferred Alternative to keep pace with proposed redevelopment of the Waterfront District. While the specific phasing of transportation infrastructure improvements has been slightly modified to reflect changes to the proposal under the 2012 Updated Preferred Alternative, the proposed phasing plan ensures that transportation infrastructure improvements keep pace with development on the site. The biennial monitoring system would be used to affirm that the transportation improvements are sufficient to accommodate the anticipated trip generation. Refer to **Appendix C** to this 2012 EIS Addendum for further details on the proposed transportation infrastructure phasing for the 2012 Updated Preferred Alternative, as well as a listing of the transportation mitigation measures associated with the 2012 Updated Preferred Alternative.

Significant Unavoidable Adverse Impacts

As described in the 2008 DEIS, 2008 SDEIS and the 2010 EIS Addendum, the 2012 Updated Preferred Alternative accommodates additional amounts of future development within the site which contributes to travel demands and congestion along the onsite and offsite street system. The additional development and associated improvements also increases traffic access and circulation in the area. This added congestion contributes to measurably poorer performance of the transportation network, in terms of increased delays along several of the corridors and at some specific intersections. The increase in traffic and higher volumes of pedestrian and bicycles results in more conflict points and increased hazards to safety. With the implementation of the identified mitigation measures, significant unavoidable adverse impacts would be prevented or substantially lessened so that no new significant unavoidable adverse impacts are anticipated under the 2012 Updated Preferred Alternative.

Public Services

Impacts

Public service-related impacts (specifically impacts to parks and recreation facilities) under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS, due to the slightly lower amount of building development on the site and the similar amount of parks and open space provided in the Waterfront District. No additional public service-related impacts are anticipated.

Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS, no significant unavoidable adverse public service-related impacts are anticipated.

CHAPTER 2

**DESCRIPTION OF THE 2012
UPDATED PREFERRED
ALTERNATIVE**

CHAPTER 2

DESCRIPTION OF THE 2012 UPDATED PREFERRED ALTERNATIVE

This chapter of the Waterfront District Redevelopment Project 2012 EIS Addendum provides: **1)** a description of the 2012 Updated Preferred Alternative and how the 2012 Updated Preferred Alternative relates to the 2010 Preferred Alternative described in the 2010 EIS Addendum and 2010 FEIS; **2)** a summary of the environmental review documents (SEPA documents) issued for the project to date; **3)** a summary of the Proposed Actions analyzed in the EIS – consisting of the January 2008 Draft EIS (2008 DEIS), the October 2008 Supplemental Draft EIS (2008 SDEIS), the February 2010 EIS Addendum (2010 EIS Addendum) and the July 2010 Final EIS (2010 FEIS); **4)** a listing of the elements of the environment analyzed in the EIS; **5)** discussion on the intent of an EIS Addendum under SEPA and why it is being prepared; and, **6)** discussion on the environmental review and ongoing planning and decision-making process after this 2012 EIS Addendum. Key concepts related to this 2012 EIS Addendum are presented below in question and answer format.

2.1 BACKGROUND

Q1. *What is the 2012 Updated Preferred Alternative and how does it relate to the 2010 Preferred Alternative described and analyzed in the 2010 EIS Addendum?*

A1. Based on continued coordination between the City and the Port, and evolving economic conditions, the Port has prepared a recommended 2012 Updated Preferred Alternative for analysis in this 2012 EIS Addendum. Similar to that described in the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum and the 2010 FEIS, the 2012 Updated Preferred Alternative is intended to be a medium density, sustainable development that features a diversity of uses that are complimentary to the downtown Bellingham Central Business District, Old Town, and surrounding neighborhoods; an infrastructure network that integrates with and connects the waterfront to the surrounding area; and, a system of parks, trails and open space that opens up the waterfront to the community. The 2012 Updated Preferred Alternative is intended to be consistent with the applicants (Port's) objectives, as defined in the previous EIS documents; refer to Question 2 of this Chapter for a listing of the Proposed Actions.

Table 2-1 provides a listing of the topics associated with modifications to the 2010 Preferred Alternative proposed under the 2012 Preferred Alternative, how the topics were described under the 2010 Preferred Alternative, how the topics are proposed to be modified under the 2012 Preferred Alternative, and a brief discussion on the reasons for the proposed modifications.

Table 2-1
SUMMARY OF PROPOSED CHANGES TO 2010 PREFERRED ALTERNATIVE

TOPIC	2010 PREFERRED ALT.	2012 PREFERRED ALT.	REASON FOR CHANGE
Shoreline Master Program	Referenced draft SMP.	Updated will reference adopted SMP, if adopted prior to the Waterfront District Master Plan.	SMP is expected to be adopted prior to the Waterfront District Master Plan.
GP Wharf Removal	Those portions of GP Wharf "not retained for water-dependent uses" were scheduled to be removed and restored.	Clarifier and section of GP Wharf at head of Whatcom Waterway to be removed. Remainder retained through Phase 3.	Portion of GP Wharf is needed to support cargo and marine industrial uses if portion of the site remains industrial.
Log Pond Area	Log Pond Area was identified as a Transitional Use Area for industrial or other interim uses prior to conversion to mixed use.	Log Pond Area to be designated as a "Light Industrial Mixed Use" area to allow industrial uses to continue into the future.	Economic downturn has forced greater emphasis on industrial jobs and reduced market for office and residential development.
Site Boundary	Original boundary included a small section of Old Town, and did not include the bluff along Wharf Street, which left a gap between the Waterfront District and Sehome Plan.	Revised boundary removes several small parcels east of Roeder, and includes the bluff along Wharf Street.	Sub-Area Plan boundaries should not overlap and there should not be gaps between plan boundaries.
Structures Which May Be Maintained/Reused	Steam Plant, Granary Bldg, Board Mill Bldg and Alcohol Plant and three icons shown as "temporary hold for future market assessment"	Status of Steam Plant adjusted.	Steam Plant was demolished due to safety concerns. The Port will assess the market interest in adaptive reuse of the Granary Bldg during Phase 1.
Transportation Maps	Log Pond Drive and Ivy Street shown connecting through Log Pond Area.	Delete Ivy Street, Log Pond Drive and Oak Street.	Log Pond Area is proposed to remain industrial. Public roads through Log Pond Area not needed.

TOPIC	2010 PREFERRED ALT.	2012 PREFERRED ALT.	REASON FOR CHANGE
Transportation Phasing	Railroad relocation and Cornwall Bridge were planned for Phase 1. Commercial Street Bridge was planned for Phase 4.	Railroad relocation planned in Phase 5, and Commercial Street Bridge planned in Phase 3. Order may be changed if funding allows.	Cost of Commercial Street Bridge is lower than Cornwall Bridge and associated rail relocation, and could be built prior to railroad relocation.
Transportation Log Pond Infrastructure	Extension of public roads and utilities to Log Pond Area to support mixed-use development.	Truck access and infrastructure to support industrial use.	Economics may not support extension of full service public roads, sidewalks and utilities to serve industrial use.
Transportation Surface Parking	Policy that "no more than 1/3 of parking will be in off-street surface parking lots."	Modify policy to apply to the mixed-use areas only.	Below grade or structured parking would not be cost effective in industrial areas.
Parks Location and Acreage	Total of 33 acres of parks on the site with a large park in Log Pond Area	Total of 33 acres of parks. Log Pond Area park size reduced. Cornwall Beach Area park size increased.	Large park is not compatible with industrial use of Log Pond Area and Cornwall Beach Area is more appropriate.

Source: Port of Bellingham, 2012

In many respects, redevelopment under the 2012 Updated Preferred Alternative would be similar to or less than that described in the 2010 EIS Addendum and 2010 FEIS for the 2010 Preferred Alternative. As summarized below in **Table 2-2**, the overall characteristics of assumed redevelopment under the 2012 Updated Preferred Alternative are similar to or less than the redevelopment assumptions under the 2010 Preferred Alternative in the 2010 EIS Addendum.

Table 2-2
COMPARISON OF 2010 PREFERRED ALTERNATIVE AND 2012 UPDATED PREFERRED ALTERNATIVE

	2010 EIS Addendum - Preferred Alternative	2012 EIS Addendum - Updated Preferred Alternative
Site Area	216.3 acres	237 acres
Redevelopment Density	6 million sq. ft.	5.3 million sq. ft.
Maximum Building Height	50 ft. to 200 ft. ¹	50 ft. to 200 ft. ¹
Public Parks & Open Space	33 acres	33 acres

¹ Maximum building height would vary by redevelopment area; on an overall basis, the range of building heights would be similar to that of downtown Bellingham.

	2010 EIS Addendum - Preferred Alternative	2012 EIS Addendum - Updated Preferred Alternative
Shoreline Improvements	Parks and shoreline habitat, shoreline restoration, and moorage features.	Parks and shoreline habitat, shoreline restoration, and moorage features.
Housing Units	1,892 units	1,646 units
Site Population	3,614 residents	3,144 residents
Site Employment	8,354 employees	6,529 employees
Grading	Up to 70,000 cubic yards of cut and 700,000 cubic yards of fill.	Up to 70,000 cubic yards of cut and 700,000 cubic yards of fill.
Parking	Approximately 12,900 spaces (could be reduced through MDP and Development Regulation process).	Approximately 7,000 spaces (reduced due to industrial use in Log Pond Area and proposed Development Regulations)
Sustainable Design	Energy conservation and low-impact stormwater features, etc.	Energy conservation features, low-impact stormwater features, etc.
Marina Configuration	Up to 460 slips	Up to 460 slips
Rail Line Relocation	Relocated by 2016	Relocated by 2026 (Ph. 5)
Road Grid	Modified angled street grid and potential closure of Wharf Street railroad crossing.	Similar road grid in Marine Trades Area and Downtown Waterfront Area, with limited public road access in Log Pond Area.
View Corridors	Establishment of view corridors along rights-of-way/open space and via a combination of rights-of-way and building height limitations.	Similar establishment of view corridors along rights-of-way/open space and via a combination of rights-of-way and building height limitations.
Historic Buildings/Structures	Identified one structure to be retained (Shipping Terminal); four buildings/portions of building temporarily held from demolition for possible retention/reuse based on market assessment; and, three structures temporarily held from demolition for retention/reuse based on icon assessment.	Identified one structure to be retained (Shipping Terminal); three buildings/portions of building temporarily held from demolition for possible retention/reuse based on market assessment (the Steam Plant was demolished due to safety concerns and contractual obligations with Georgia Pacific); and, three structures temporarily held from demolition for retention/reuse based on icon assessment.

	2010 EIS Addendum - Preferred Alternative	2012 EIS Addendum - Updated Preferred Alternative
PSE Encogen Plant	Assumed that plant operations would continue onsite (based on feedback from PSE).	Assumed that plant operations would continue onsite (based on feedback from PSE).

Source: New Whatcom Draft EIS, 2008; CollinsWoerman, 2009; and, Port of Bellingham, 2012.

Note: For environmental review purposes, full buildout of the project is assumed over a 20-year horizon (2026)

Q2. What are the specific features of the 2012 Updated Preferred Alternative?

- A2.** The following provides detail on the site and development characteristics of the 2012 Preferred Alternative, including: site boundary; proposed land uses and phasing; building height limits and view corridors; parks, open space and trails; roadway improvements; historic buildings and structures; and overwater coverage.

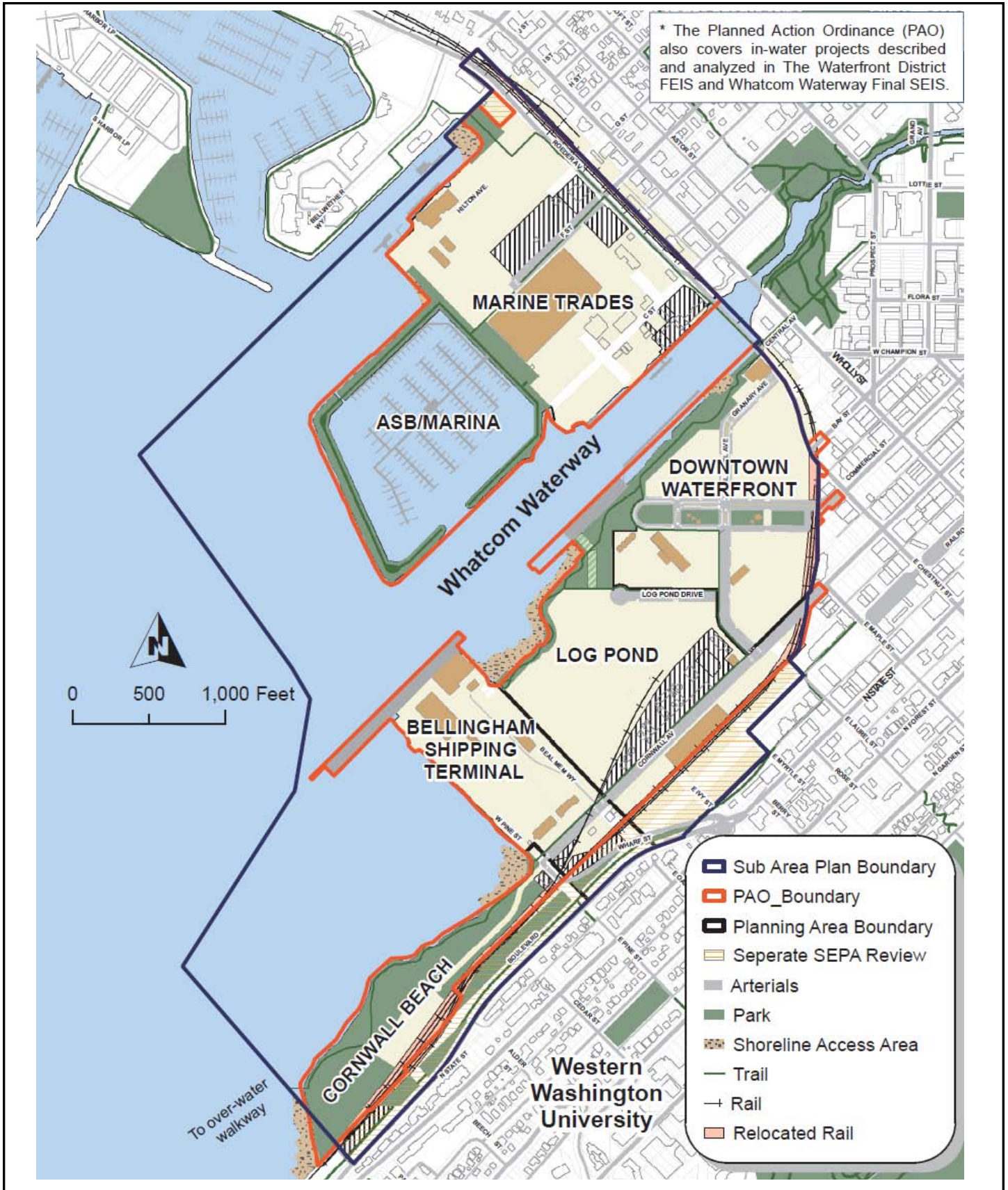
Site Boundary

The Waterfront District site described for the 2010 Preferred Alternative in the 2010 EIS Addendum and 2010 FEIS contained approximately 216.3 acres of contiguous waterfront property and adjacent aquatic area (ASB) in central Bellingham. Subsequent to issuance of the 2010 FEIS, the City and Port identified certain modifications to the site boundary to allow the Waterfront District site to better align with adjacent City of Bellingham Neighborhood Plan boundaries.

Figure 2-1 illustrates the 2010 Preferred Alternative site boundary (shown in red) with the 2012 Updated Preferred Alternative site boundary (shown in black). As indicated in **Figure 2-1**, the area added to the site primarily consists of an approximately twenty acre linear area south of Cornwall Avenue to eliminate the gap between the Waterfront District and Sehome Neighborhood Plan area, and approximately one acre between the proposed park area at the head of the I&J Waterway and Roeder Avenue to eliminate the gap between the Waterfront District and Lettered Streets area that were created under the 2010 Preferred Alternative. In addition, several small areas east of Roeder Avenue were removed from the site because they overlapped with the Old Town Neighborhood Plan area. Accordingly, the site boundary of the 2012 Preferred Alternative contains approximately 237 acres.

No development beyond that described and analyzed in the previous EIS documentation would occur in the areas added to the site under the 2012 Preferred Alternative. Any new development subsequently proposed in the areas added to the Waterfront District site would be subject to separate SEPA environmental review.

The Waterfront District Redevelopment Project 2012 EIS Addendum



Source: Port of Bellingham, 2012

Figure 2-1

Waterfront District Boundaries

Land Use and Phasing

Redevelopment under the 2010 Preferred Alternative was intended to be a medium density, sustainable development that features a mix of uses that are complimentary to Downtown Bellingham, Old Town and surrounding neighborhoods. Approximately six million square feet of building development was proposed for the 2010 Preferred Alternative and analyzed in the 2010 EIS Addendum and 2010 FEIS. Proposed land uses on the site under the 2010 Preferred Alternative included office, institutional, residential, retail, restaurant, and marine industrial uses. Each redevelopment area on the site was intended to contain a variety of uses with the Marine Trades Area and Shipping Terminal Area containing the majority of the industrial uses on the site and the Log Pond Area transitioning from industrial use to mixed-use commercial and residential over the full buildout of the site.

Subsequent to the issuance of the 2010 FEIS, the Port revised their land use assumptions for the redevelopment of the site to respond to the current economic conditions, including a greater emphasis on industrial jobs and reduced market for offices and residential development. As a result, the 2012 Updated Preferred Alternative identifies the Log Pond Area as an area that would be designated for “Light Industrial Mixed-Use”, which would allow for the continuation of industrial uses in this area, as well as limited commercial/retail development (see **Figure 2-2** for an illustration of proposed land uses under the 2012 Updated Preferred Alternative). Existing and new industrial uses would comprise the majority of the redevelopment in the Log Pond Area, as opposed to the mixed-use commercial and residential development proposed under the 2010 Preferred Alternative.

In addition, the redevelopment assumptions for the amount of building density in the Waterfront District have also been revised under the 2012 Updated Preferred Alternative. Approximately 5.3 million square feet of redevelopment is proposed for the site (compared to six million square feet under the 2010 Preferred Alternative), representing an approximately 12 percent reduction in new building square footage on the site. Each redevelopment area would include a reduced amount of overall building development compared to the 2010 Preferred Alternative, with the exception of the Downtown Waterfront Area where density would increase slightly. In general, the 2012 Updated Preferred Alternative would include a slightly higher percentage of job-related and goods and service-related uses and a slightly lower percentage of residential uses. See **Table 2-3** for summary of redevelopment under the 2012 Updated Preferred Alternative and a comparison to the 2010 Preferred Alternative.

Table 2-3
PROPOSED BUILDING REDEVELOPMENT – 2010 PREFERRED ALTERNATIVE &
2012 UPDATED PREFERRED ALTERNATIVE

Area	Land Use	Building Square Footage at Full Buildout	
		2010 Preferred Alternative	2012 Updated Preferred Alternative
Marine Trades Area	Office/Industrial	1,150,000	1,410,000
	Housing	450,000	0
	Goods and Services	90,000	90,000
	Subtotal	1,690,000	1,500,000

Area	Land Use	Building Square Footage at Full Buildout	
		2010 Preferred Alternative	2012 Updated Preferred Alternative
Downtown Waterfront Area	Office/Industrial	1,200,000	1,000,000
	Housing	930,000	1,625,000
	Goods and Services	87,500	208,000
	Subtotal	2,217,500	2,833,000
Log Pond Area	Office/Industrial	465,000	250,000
	Housing	410,000	0
	Goods and Services	156,900	50,000
	Subtotal	1,031,900	300,000
Shipping Terminal Area	Office/Industrial	530,000	280,000
	Housing	120,000	0
	Goods and Services	33,600	20,000
	Subtotal	693,600	300,000
Cornwall Beach Area	Office/Industrial	10,000	10,000
	Housing	350,000	350,000
	Goods and Services	7,000	7,000
	Subtotal	367,000	367,000
Waterfront District Total Building Square Footage	Office/Industrial	(56%) 3,355,000	(57%) 2,950,000
	Housing	(38%) 2,270,000	(37%) 1,975,000
	Goods and Services	(6%) 375,000	(6%) 375,000
	Total	6.0 Million	5.3 Million

Source: Port of Bellingham, 2012.

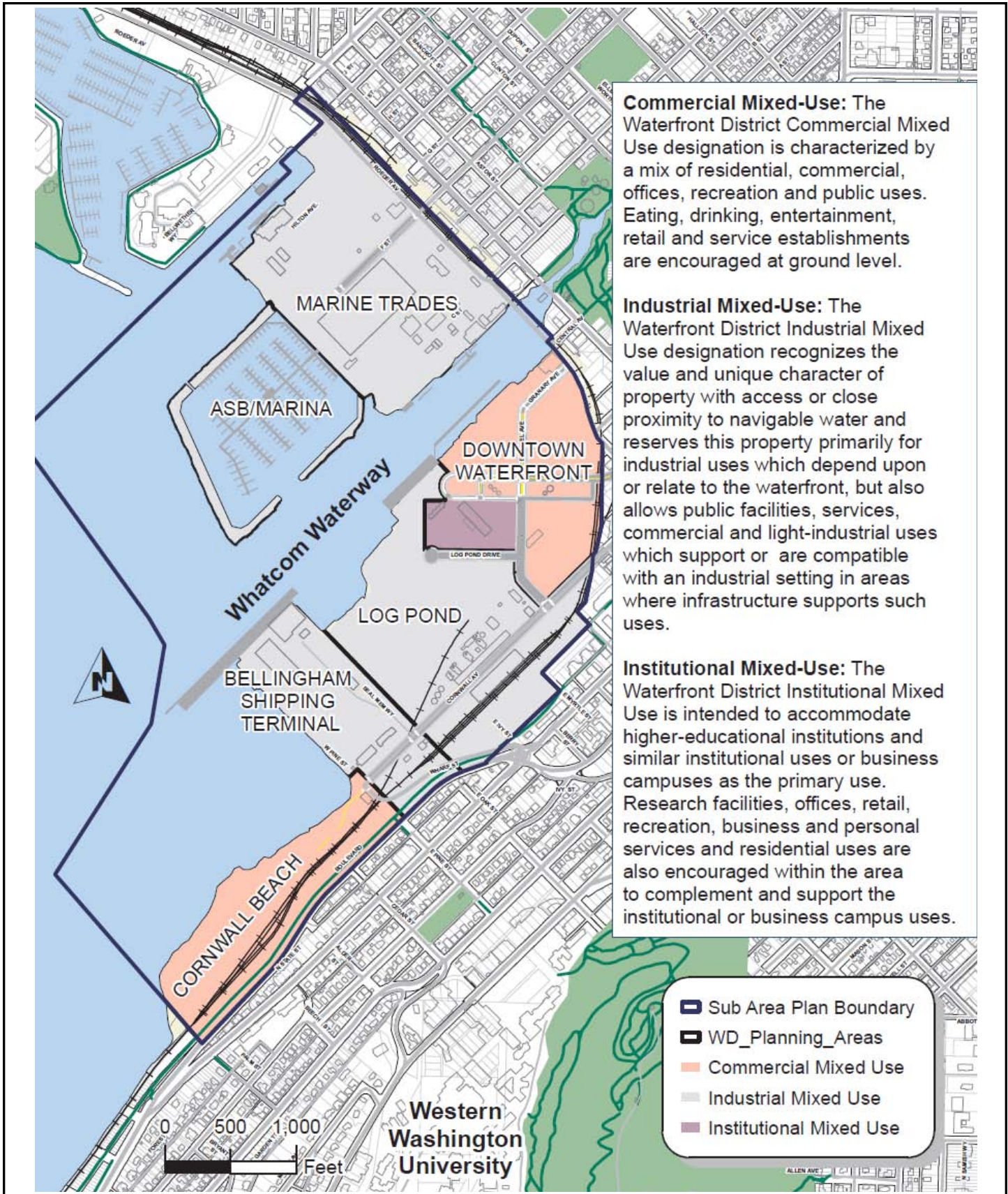
The 2012 Updated Preferred Alternative also updates the redevelopment phases for the proposed redevelopment of the Waterfront District and provides a breakdown of the phased redevelopment of each development area on the site. **Table 2-4** provides a summary of redevelopment under the 2012 Updated Preferred Alternative by phase. **Figures 2-3** through **2-7** provide an illustration of the phased redevelopment of the Waterfront District.

Building Height Limits and View Corridors

Under the 2010 Preferred Alternative described and analyzed in the 2010 EIS Addendum, maximum buildings heights in the Waterfront District ranged from 50 feet to 200 feet, as defined by the various redevelopment areas on the site. Maximum building heights varied by redevelopment area, and in general the range of building heights were intended to be similar to Downtown Bellingham. The Downtown Waterfront Area featured the tallest maximum building heights (200 feet) with buildings in this area being adjacent to Downtown Bellingham. The remaining redevelopment areas contained maximum building heights of 50 feet to 100 feet.

In addition, the 2010 Preferred Alternative included the establishment of view corridors (analyzed in the 2008 SDEIS and 2010 EIS Addendum) through the Waterfront District to preserve and enhance visual connections from adjacent neighborhoods. View corridors were identified in the 2008 SDEIS and further refined in the 2010 EIS Addendum.

The Waterfront District Redevelopment Project 2012 EIS Addendum



Source: Port of Bellingham, 2012

Figure 2-2

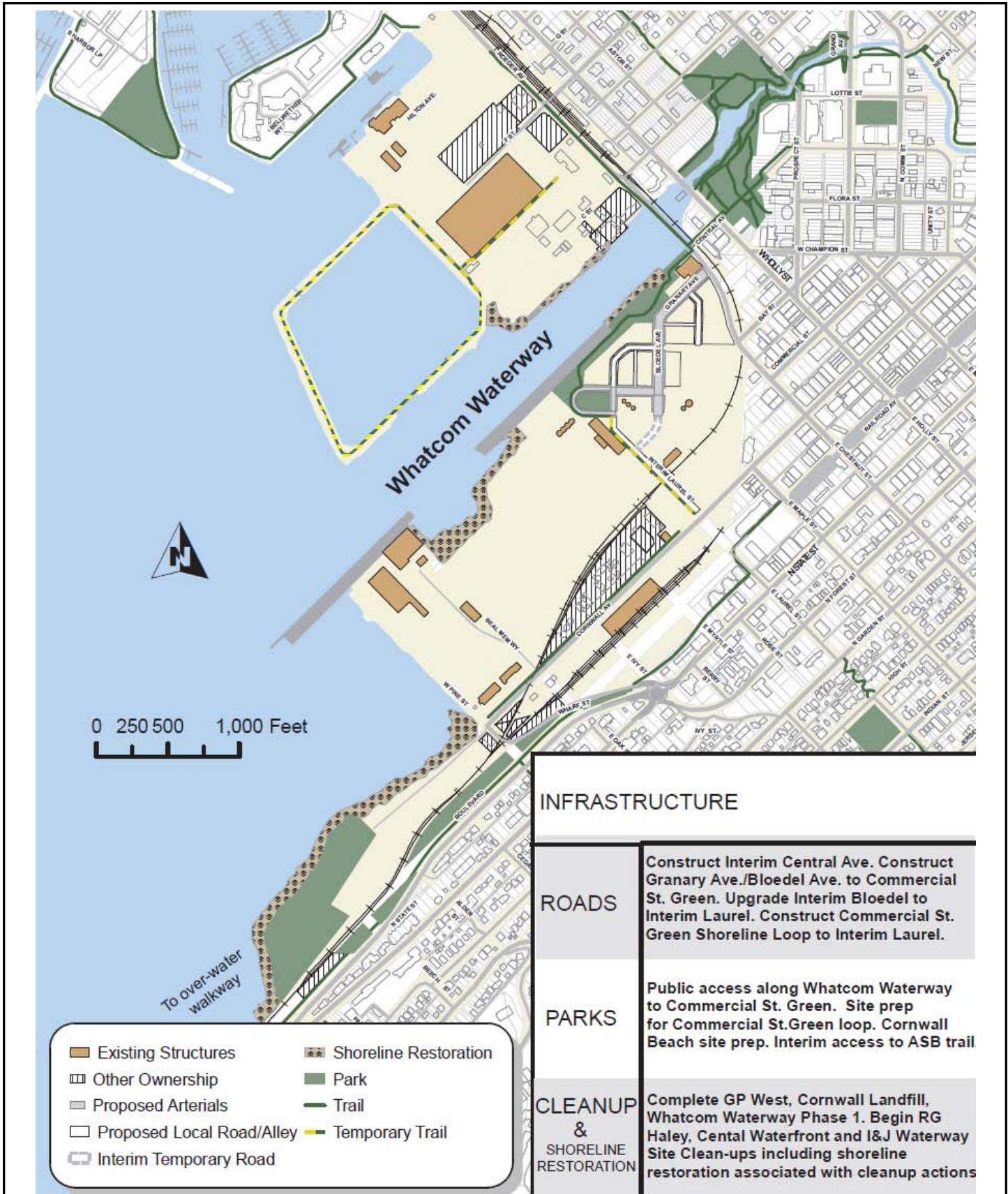
Waterfront District Zoning

Table 2-4
2012 UPDATED PREFERRED ALTERNATIVE REDEVELOPMENT BY PHASE

Development Area	2012 Existing Development	Phase 1 (2012-2017) Building Sq Ft	Phase 2 (2018-2022) Building Sq Ft	Phase 3 (2023-2028) Building Sq Ft	Phase 4 (2029-2032) Building Sq Ft	Phase 5 (Beyond 2032) Building Sq Ft	Phase 1-5 Total Building Sq Ft
Marine Trades Area (N of Waterway)	350,000 Ind.	50,000 Ind.	50,000 Ind.	50,000 Ind.	50,000 Ind. 100,000 Office <u>50,000 Retail</u> 200,000 Total	450,000 Ind. 310,000 Office <u>40,000 Retail</u> 800,000 Total	1,000,000 Industrial 410,000 Office <u>90,000 Retail</u> 1,500,000 Total
Downtown Waterfront Area		180,000 Office 300,000 Res. <u>20,000 Retail</u> 500,000 Total	110,000 Office 300,000 Res. <u>40,000 Retail</u> 450,000 Total	100,000 Office 360,000 Res. <u>40,000 Retail</u> 500,000 Total	100,000 Office 350,000 Res. <u>50,000 Retail</u> 500,000 Total	510,000 Office 315,000 Res. <u>58,000 Retail</u> 883,000 Total	1,000,000 Office 1,625,000 Res. <u>208,000 Retail</u> 2,833,000 Total
Cornwall Beach Area	7,000 Office			43,000 Res. <u>7,000 Retail</u> 50,000 Total	50,000 Res.	3,000 Office 257,000 Res. <u> </u> 260,000 Total	10,000 Office 350,000 Res. <u>7,000 Retail</u> 367,000 Total
Log Pond Area	108,300 Ind.		50,000 Ind.		50,000 Ind.	41,700 Ind. <u>50,000 Retail</u> 91,700 Total	250,000 Industrial <u>50,000 Retail</u> 300,000 Total
Shipping Terminal Area	105,200 Ind.			50,000 Ind.		124,800 Ind. <u>20,000 Retail</u> 144,800 Total	280,000 Industrial <u>20,000 Retail</u> 300,000 Total
Cumulative N Cumulative S Combined Cumulative	350,000 north 220,500 south 570,500 Total	400,000 north 720,500 south 1,120,500 Total	450,000 north 1,220,500 south 1,670,500 Total	500,000 north 1,820,500 south 2,320,500 Total	700,000 north 2,420,500 south 3,120,500 Total	1,500,000 north 3,800,000 south 5,300,000 Total	1,500,000 north 3,800,000 south 5,300,000 Total

Source: Port of Bellingham, 2012.

The Waterfront District Redevelopment Project 2012 EIS Addendum

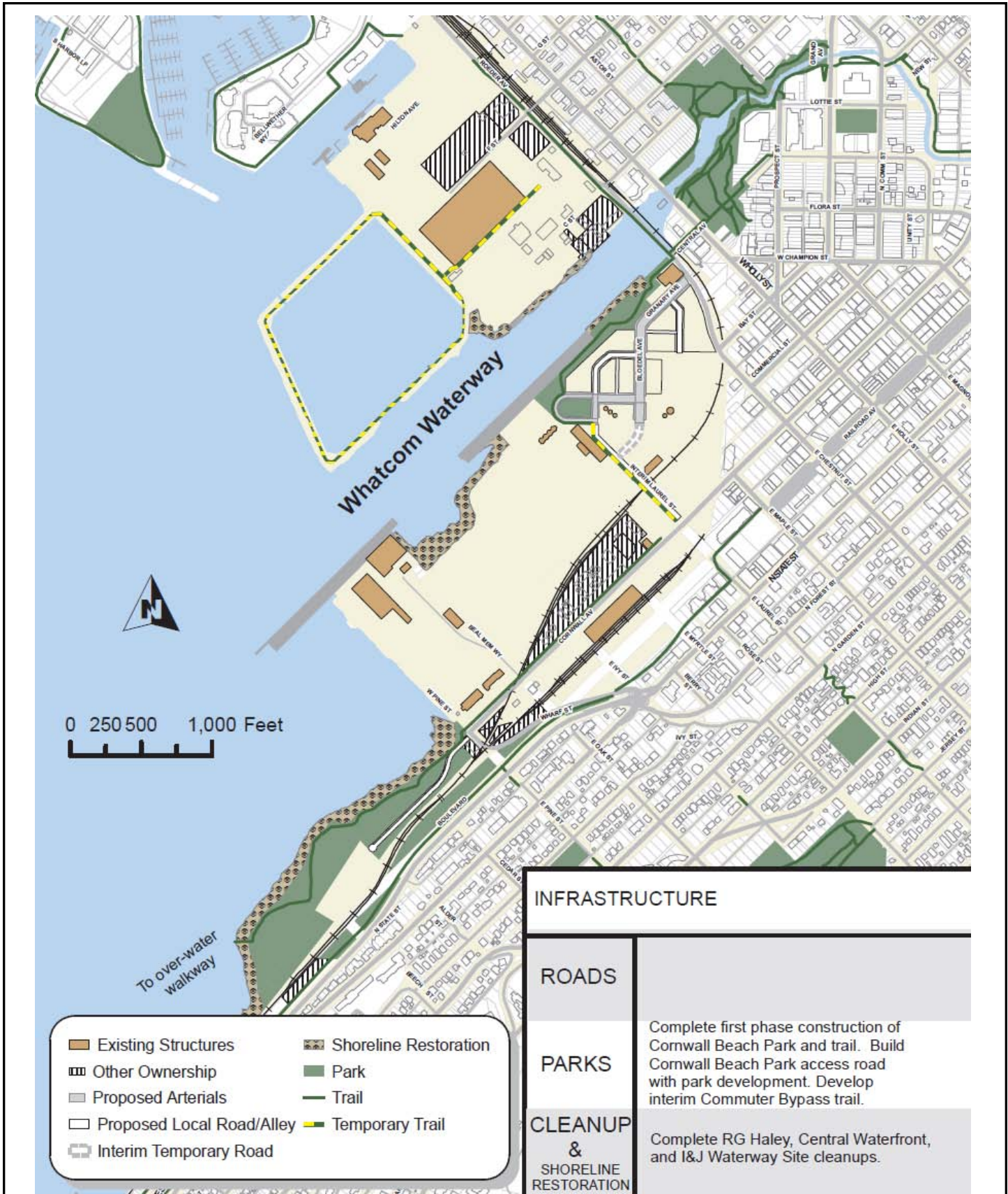


Source: Port of Bellingham, 2012

Figure 2-3

Waterfront District Phase 1 - 2012 to 2017

The Waterfront District Redevelopment Project 2012 EIS Addendum

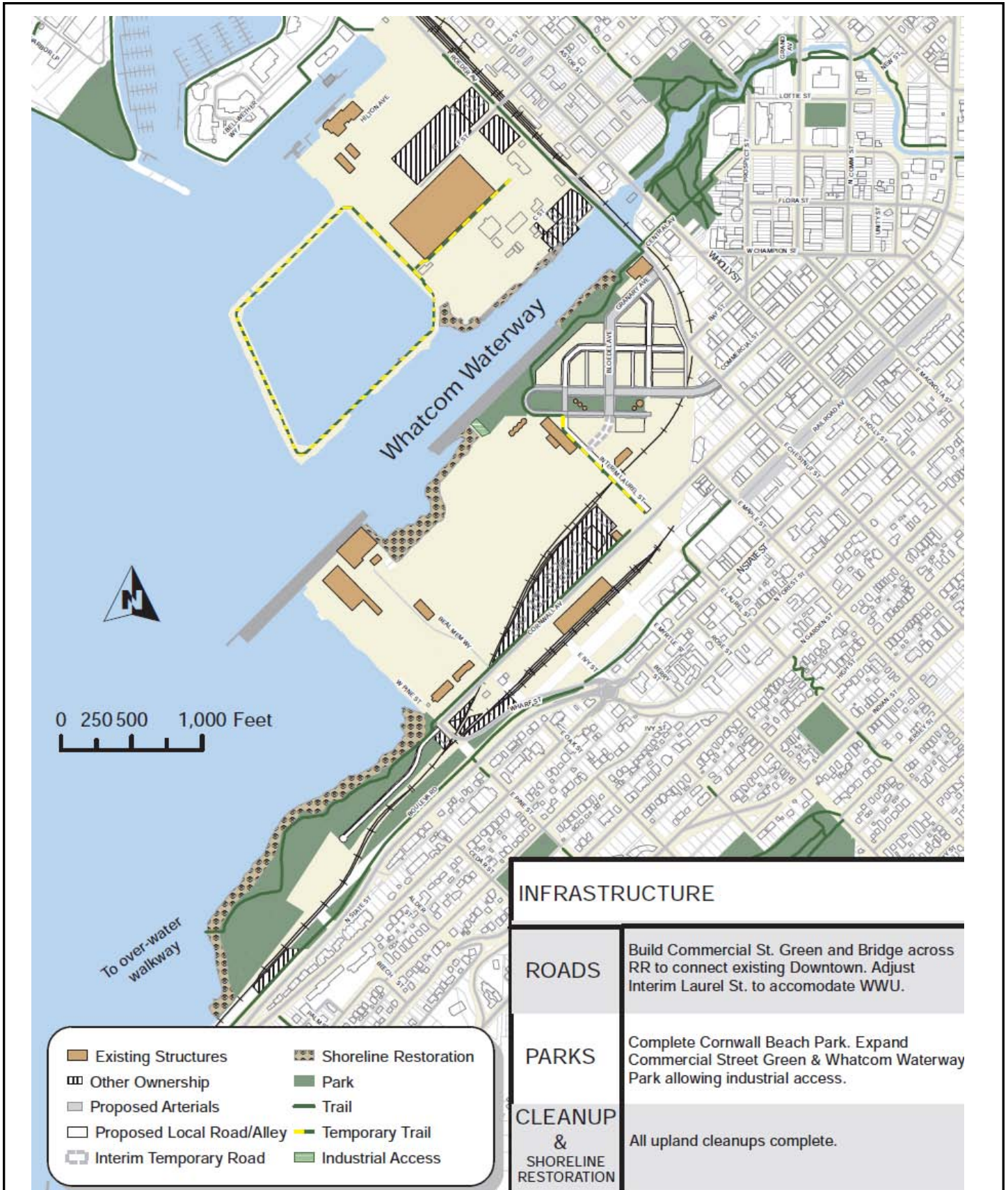


Source: Port of Bellingham, 2012

Figure 2-4

Waterfront District Phase 2 - 2018 to 2022

The Waterfront District Redevelopment Project 2012 EIS Addendum

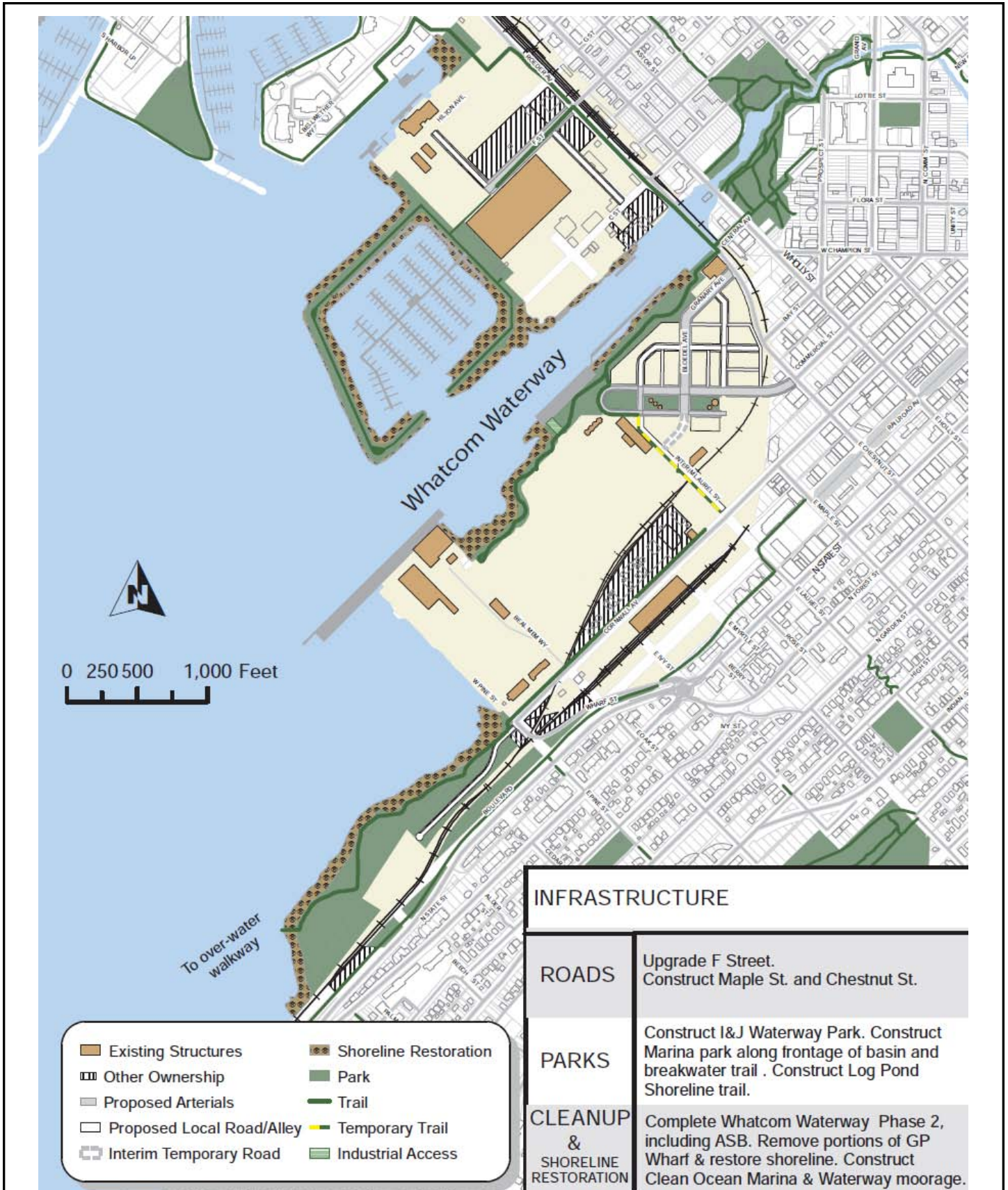


Source: Port of Bellingham, 2012

Figure 2-5

Waterfront District Phase 3 - 2023 to 2028

The Waterfront District Redevelopment Project 2012 EIS Addendum

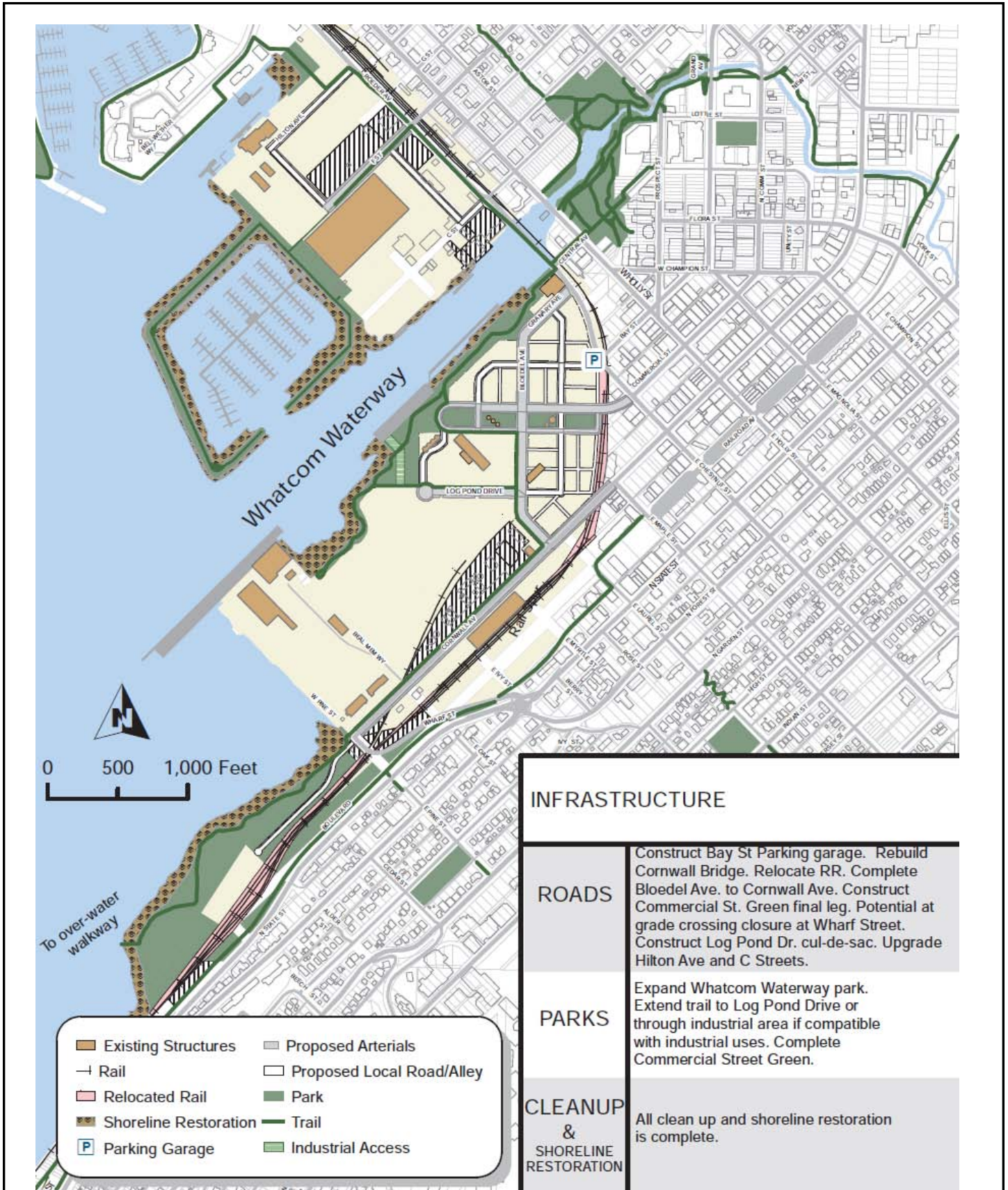


Source: Port of Bellingham, 2012

Figure 2-6

Waterfront District Phase 4 - 2029 to 2032

The Waterfront District Redevelopment Project 2012 EIS Addendum



Source: Port of Bellingham, 2012

Figure 2-7

Waterfront District Phase 5 - Beyond 2032

View corridors under the 2010 Preferred Alternative were proposed to be located primarily along street rights-of-way through the site, as well as certain open space areas, including the following:

- F Street
- Central Avenue
- Commercial Street
- Commercial Street Green
- Bloedel Avenue
- Cornwall Avenue
- Log Pond Drive
- Oak Street

Maximum building heights under the 2012 Updated Preferred Alternative are similar to those analyzed in the EIS for the 2010 Preferred Alternative, and range from 50 feet to 200 feet in height. The tallest buildings in the Waterfront District are located in the Downtown Waterfront Area, immediately adjacent to Downtown Bellingham. The remaining redevelopment areas have maximum building heights that range from 50 feet to 100 feet (see **Figure 2-8** for an illustration of maximum building heights on the site).

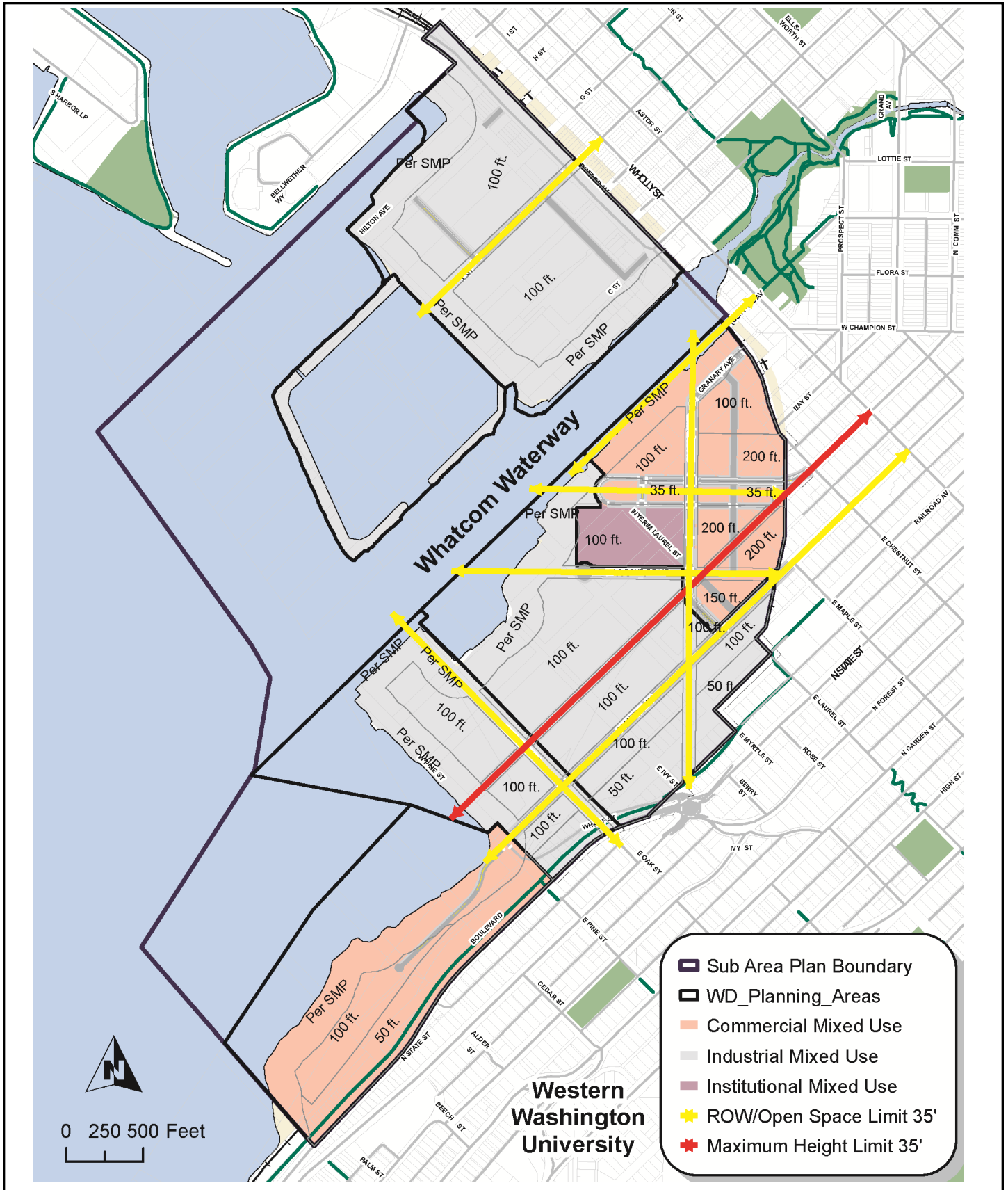
The 2012 Updated Preferred Alternative also includes view corridors that are similar to those analyzed in the EIS for the 2010 Preferred Alternative (see **Figure 2-8**). View corridors preserve visual connections towards Bellingham Bay from adjacent neighborhoods. The proposed view corridors are located along street rights-of-way and certain open space areas as described in the EIS. However, while Oak Street is no longer proposed to be included under the 2012 Updated Preferred Alternative, a view corridor continues to be provided in this approximate location on the site to allow a visual connection through the site from the adjacent neighborhoods to the south.

Parks, Open Space and Trails

The 2008 DEIS and 2008 SDEIS described and analyzed existing parks, open space, and recreational facilities in the City of Bellingham, as well as those proposed in the Waterfront District; the 2008 DEIS also discussed the City's parks and recreational facilities LOS guidelines and impact fees. Relative to the existing conditions, the 2010 Preferred Alternative provided substantial increases in parks, trails, habitat restoration areas, and waterfront access. The 2010 Preferred Alternative included approximately 33 acres of new parks, trail and habitat areas on the Waterfront District site, which were intended to provide new opportunities for recreation and access to the waterfront for residents/employees and the community. The new trails were intended to complete links to surrounding area parks and trails, as well as connect neighborhood areas in the City.

Similar to the 2010 Preferred Alternative, the 2012 Updated Preferred Alternative includes approximately 33 acres of new upland parks and trails, as well as approximately 6 acres of restored public beach areas. Parks and trails in the Waterfront District link Downtown Bellingham and adjacent neighborhoods to the waterfront and create new areas for the community to walk, play and experience the waterfront. Parks, open spaces and trails serve as an important linkage in developing a regional system of waterfront parks and trails.

The Waterfront District Redevelopment Project 2012 EIS Addendum



Source: Port of Bellingham, 2012

Figure 2-8

Waterfront District Height and View Corridors

Table 2-5 provides a summary of parks, trails and open space areas in the Waterfront District by redevelopment area. **Figure 2-9** provides a map of the proposed parks, trails and open space areas.

Table 2-5
PARKS, TRAILS AND OPEN SPACE – 2012 UPDATED PREFERRED ALTERNATIVE

Redevelopment Area	Upland Park, Trail and Open Space	Public Beach Area
Marine Trades Area	9 acres	1 acre
Downtown Waterfront Area	5 acres	0 acres
Log Pond Area	5 acres	2 acres
Shipping Terminal Area	0 acres	0 acres
Cornwall Beach Area	14 acres	3 acres
Total	33 acres	6 acres

Source: Port of Bellingham, 2012.

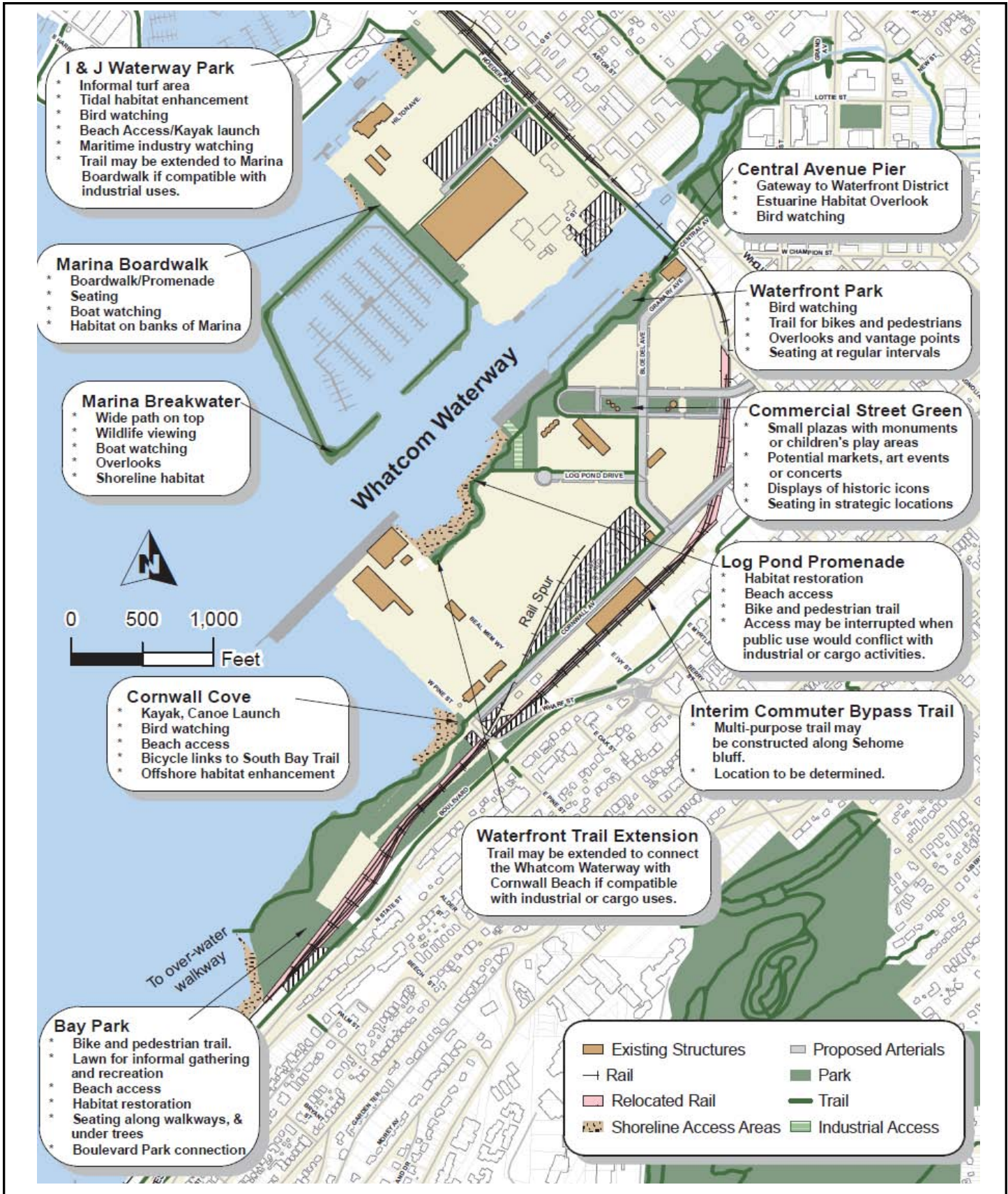
The general location and distribution of parks, trails and open space areas are slightly modified under the 2012 Updated Preferred Alternative. While the 2010 Preferred Alternative included a large park area within the Log Pond Area, the 2012 Updated Preferred Alternative redistributes a portion of this park acreage to other locations in the Waterfront District in order to enhance compatibility with the proposed industrial uses in the Log Pond Area under the 2012 Updated Preferred Alternative.

The precise design and layout of the proposed parks, trails and open space areas will be determined through future planning processes integrated with the design of future development parcels and streets. In addition, the development of parks, trails and open space on the site will be phased as development occurs in the Waterfront District and each phase of development will be accompanied by the creation of new public recreation, open space and habitat areas.

Roadway Improvements

The 2010 Preferred Alternative included an angled street grid through the Waterfront District. The Marine Trades Area includes Hilton Avenue, Maple Street, F Street, Chestnut Street and C Street, with F Street remaining the primary access roadway. The area to the south of the Whatcom Waterway included up to five primary access connection points between the site and existing roadway network, including Central Avenue, Bay Street, Commercial Street, Cornwall Avenue and Wharf Street (to accommodate full buildout, if necessary). Additional internal vehicular circulation through this area of the site was provided by Bloedel Avenue, Oak Street, Log Pond Drive, Ivy Street and Paper Avenue.

The Waterfront District Redevelopment Project 2012 EIS Addendum



Source: Port of Bellingham, 2012

Figure 2-9

Waterfront District Parks and Trails

The 2010 Preferred Alternative also identified a preliminary phasing strategy for roadway infrastructure on the site. However, while this scenario was presented for the purposes of the EIS analysis, it was also acknowledged that the actual buildout could occur in a different sequence and the analysis of impacts was designed to apply to any sequence of construction and development phasing.

The 2012 Updated Preferred Alternative includes some minor modifications to the roadway network and phasing for the Waterfront District; however the primary access points between the site and the existing roadway network remains similar to the 2010 Preferred Alternative (see **Figures 2-3** through **2-7** for illustrations of the proposed roadways and phasing plan).

Under the Updated Preferred Alternative, internal roadway circulation through the Log Pond Area will not be provided (i.e. Oak Street, Ivy Street and Paper Avenue). Access to the Log Pond Area will be provided by Log Pond Drive and any necessary internal circulation will be provided on an as necessary basis by the industrial uses in the Log Pond Area. Additional industrial access will be provided by private roadways. Industrial truck traffic will utilize Cornwall Avenue and E Chestnut Street to access Interstate-5 (I-5), or travel through the Downtown Waterfront Area on Bloedel Avenue and Granary Avenue or an alternate truck route to access the Squalicum Parkway truck route to I-5.

Due to the lower amount of redevelopment that is proposed, the 2012 Updated Preferred Alternative will generate approximately 750 to 900 fewer peak hour trips than the 2010 Preferred Alternative. As a result, level of service (LOS) at area intersections under the 2012 Updated Preferred Alternative will be anticipated to be similar to or better than previously identified for the 2010 Preferred Alternative.

Historic Buildings and Structures

A range of scenarios regarding the relationship of historic buildings/structures to the proposed redevelopment has been analyzed in the EIS documents prepared to date. The 2008 DEIS identified 13 buildings/structures have been identified on the site that could potentially be eligible for listing on local, state or national historic registers. To provide a reasonable upper level determination of potential historic impacts, the 2008 DEIS assumed that 12 of the 13 potentially eligible buildings will be demolished (the Shipping Terminal was the only eligible structure assumed to be retained) and the removal of these structures was identified as an environmental impact. As part of the EIS process, further analysis was conducted in the 2008 SDEIS, 2010 EIS Addendum, and 2010 FEIS regarding the potential retention/reuse of certain potentially eligible buildings/structures.

The 2010 Preferred Alternative described in the 2010 FEIS identified a total of six buildings that would be temporarily held from demolition. Three structures/portions of structures would be temporarily held from demolition to allow for further consideration of possible retention/reuse based on the phasing of site cleanup and redevelopment activities, changes in market and economic conditions and the financial considerations of the owner. These structures are the Old Granary Building, the Board Mill Building and the east portion of the Alcohol Plant. Three iconic structures were also identified to be temporarily held from demolition for possible retention/reuse in some manner in the future; they are the Chip Bins, the Digester Tanks, and the High Density Tanks.

Under the 2012 Updated Preferred Alternative, it is assumed that the six structures identified to be temporarily held for retention/reuse will continue to be temporarily held on the site (the Steam Plant was demolished in 2011 due to contractual obligations with Georgia Pacific and safety conditions of the building). The status of these six structures and their possibility for retention/reuse will continue to be evaluated as the planning and permitting process for the Waterfront District continues. The Port of Bellingham will solicit developer interest in adaptive reuse of the Granary Building during Phase 1 of the redevelopment.

Overwater Coverage

The 2008 DEIS assumed that redevelopment of the Waterfront District would include the removal of approximately 98,700 square feet of overwater wharf and approximately 1,500 linear feet of bulkhead and associated rip rap along the south side of the Whatcom Waterway to create approximately 2.4 acres of natural shoreline and beach area. The Central Avenue pier, the Clarifier Tank and associated bulkheads, pilings and overwater coverage would remain. The 2008 DEIS also assumed the development of a 460 slip marina with five to eight boat launch ramps and the creation of 28 acres of new open water and 4.7 acres of intertidal/shallow water habitat. In addition, four transient moorage floats and associated ramps were proposed along the north and south sides of the Whatcom Waterway, which would add approximately 64,800 square feet of overwater coverage to the Whatcom Waterway.

The 2012 Updated Preferred Alternative assumes that one section of the GP wharf (approximately 37,000 square feet of overwater coverage) will be retained along the south side of the Whatcom Waterway. To offset the retention of the wharf, the overwater coverage associated with the proposed transient moorage floats has been reduced. Under the 2012 Updated Preferred Alternative, one transient moorage float is proposed along the south side of the Whatcom Waterway and one smaller float is proposed along the north side of the Whatcom Waterway, which will result in combined overwater coverage of approximately 25,000 square feet. The 2012 Updated Preferred Alternative also assumes that the Clarifier Tank will be removed and the associated area will be restored as a soft beach. Similar to the 2010 Preferred Alternative analyzed in the EIS, the 2012 Updated Preferred Alternative will provide a net increase in shoreline habitat and natural beach, including 28 acres of new open water habitat and 4.7 acres of new intertidal and shallow subtidal habitat inside of the marina basin.

Q3. *What environmental review documents have previously been issued for the Waterfront District Redevelopment Project to date?*

A3. To date, four environmental review documents under the State Environmental Policy Act (SEPA) have been issued for public review and comment by the Port of Bellingham in support of the Waterfront District Redevelopment Project, including the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum and 2010 FEIS.

2008 Draft EIS – A Draft EIS (2008 DEIS) for the Waterfront District Redevelopment Project was issued by the Port of Bellingham in January 2008. The 2008 DEIS addresses the probable significant adverse impacts that could occur as a result of the approval by the Port of Bellingham of amendments to the Comprehensive Scheme of Harbor Improvements, adoption by the City of Bellingham of the Master Development

Plan and implementing regulations, the approval of a Development Agreement between the Port and the City, and potential future redevelopment activities on the Waterfront District (formerly known as New Whatcom) site during a 20-year buildout horizon (20-year horizon was assumed for environmental review purposes).

At the time the 2008 DEIS was prepared and issued, a preferred Master Development Plan (MDP) for the site had not been determined. Accordingly, a range of alternatives were addressed in the 2008 DEIS that represented an overall envelope of potential redevelopment that the site could accommodate (Alternatives 1 through 4 in the 2008 DEIS). The 2008 DEIS recognized that features of the alternatives could be mixed and matched to arrive at the final Master Plan Development for the site.

The Alternatives analyzed in the 2008 DEIS included: Alternative 1 (Higher Density Alternative) assuming approximately 7.5 million square feet of total floor space for mixed-use redevelopment; Alternative 2 (Medium Density Alternative) assuming approximately 6.0 million square feet of total mixed-use redevelopment; Alternative 3 (Lower Density Alternative) assuming approximately 4.0 million square feet of total mixed-use redevelopment; and, Alternative 4 (No Action Alternative) assuming continued industrial use under the existing zoning. The 2008 DEIS alternatives also considered a range of roadway and railroad configurations. All four 2008 DEIS alternatives assumed the development of a marina in the aerated stabilization basin (ASB), located in Bellingham Bay in the western portion of the site.

2008 Supplemental Draft EIS – In October 2008, the Port issued a Supplemental Draft EIS (2008 SDEIS) which analyzed project refinements made subsequent to the issuance of the Draft EIS. Port staff, with input from the City, the public, and agencies, prepared a recommended Proposal that served as an updated redevelopment concept for the site; this concept is referred to as the “Preferred Alternative” in the 2008 SDEIS (refer to Chapter 2 of the 2008 SDEIS for a detailed description of the Preferred Alternative). The 2008 Preferred Alternative represented a refinement of the 2008 DEIS Alternatives 1 through 3 in terms of redevelopment density and mix of uses, road system, grading and stormwater management, parks and shoreline habitat, in-water work, historic buildings, view corridors, and development regulations. The Preferred Alternative in the 2008 SDEIS featured approximately 6.0 million square feet of mixed-use redevelopment, similar to 2008 DEIS Alternative 2. However, the 2008 Preferred Alternative differed from the 2008 DEIS Alternatives in that it was based on a modified, rotated street grid that was intended to provide for connections to downtown Bellingham, opportunities for formal view corridors and effective engineering solutions for bridging the bluff and the BNSF railroad corridor. The 2008 Preferred Alternative was the subject of the SDEIS issued in October 2008.

The 2008 SDEIS also addressed a “Straight Street Grid Option” as defined by the City. The key differences between the Straight Street Grid Option and the 2008 Preferred Alternative included: the orientation of the street grid and its connections to adjacent areas; the assumed building heights; the assumed retention of certain historic buildings; and, the assumption of view corridors along road rights-of-ways.

2010 EIS Addendum – In February 2010, the Port issued an EIS Addendum which described project refinements made subsequent to issuance of the 2008 SDEIS. Based on coordination between the City and the Port, the Port prepared a recommended 2010 Preferred Alternative for analysis in the 2010 EIS Addendum. The 2010 Preferred

Alternative represented a refinement of the 2008 Preferred Alternative in terms of street network, view corridors, historic buildings/structures, and continued operation of the Puget Sound Energy Encogen Plant.

2010 Final EIS – In July 2010, the Port issued the Final EIS which described the 2010 Preferred Alternative (same 2010 Preferred Alternative described in the 2010 EIS Addendum), provided discussions on key topic areas (Historic Resources, Transportation/Parking, Views, Environmental Health, Stormwater, and Parks and Shorelines) and provided response to comments received on the 2008 DEIS, the 2008 SDEIS, and the 2010 EIS Addendum.

Q4. *What elements of the environment were evaluated in the 2008 Draft EIS, 2008 Supplemental Draft EIS and 2010 EIS Addendum?*

A4. The *New Whatcom Redevelopment Project* 2008 DEIS and 2008 SDEIS contain environmental analyses of the elements of the environment listed below; based on the public scoping process conducted in March/April 2007. Elements of the environment analyzed in the 2010 EIS Addendum are indicated with an *.

- Earth
- Air Quality*
- Water Resources
- Plants and Animals
- Environmental Health
- Noise*
- Historic and Cultural Resources*
- Land Use
- Relationship to Plans & Policies
- Aesthetics*
- Population, Employment & Housing
- Transportation*
- Public Services
- Utilities

Q5. *What are the Proposed Actions analyzed in the previous EIS documents and in this 2012 EIS Addendum?*

A5. The Port of Bellingham (Port) and the City of Bellingham (City) identified the following Proposed Actions for the site that are necessary to implement the Waterfront District redevelopment vision:

Proposed Actions of the Port of Bellingham

- Approval of amendments to the Port's *Comprehensive Scheme of Harbor Improvements*.
- Joint development with the City of Bellingham of a Master Development Plan (MDP) and Development Regulations for the Waterfront District.

- Approval of a Development Agreement between the Port of Bellingham and the City of Bellingham.

Proposed Actions of the City of Bellingham

- Adoption of a Master Development Plan (MDP) for the Waterfront District (considered as a Subarea Plan under the Growth Management Act) allowing for a change in zoning from industrial to mixed-use.
- Adoption of Development Regulations for the Waterfront District.
- Approval of a Development Agreement between the City of Bellingham and the Port of Bellingham. The Development Agreement will reference the implementing regulations for the site, along with infrastructure requirements, phasing and development standards.
- Adoption of a Planned Action Ordinance.
- Approval of future permits for infrastructure improvements, construction projects, and redevelopment activities within the redevelopment area over the buildout period.

The Proposed Actions evaluated in this 2012 EIS Addendum are the same actions as those contemplated in the 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum and 2010 FEIS.

Q6. *What is an EIS Addendum and why is it being prepared?*

A6. Pursuant to WAC 197-11-600 and 197-11-706, an Addendum is an environmental document used to provide additional information or analysis that does not substantially change the analysis of significant impacts and alternatives in an existing environmental document. Preparation of an Addendum is appropriate when a proposal has been modified and the changes are not expected to result in any new significant adverse impacts. An Addendum may be used at any time in the SEPA process. The Washington State Environmental Policy Act (SEPA) Rules (WAC 197-11-625) identify the procedures that shall be followed during the preparation of an EIS Addendum, including the following:

- An Addendum shall clearly identify the proposal for which it is written and the environmental document it adds to or modifies.
- An agency is not required to prepare a draft Addendum.
- An Addendum for a DEIS shall be circulated to recipients of the initial DEIS under WAC 197-11-455.
- If an Addendum to a Final EIS is prepared prior to any agency decision on a proposal, the addendum shall be circulated to the recipients of the Final EIS.

- Agencies are encouraged to circulate an Addendum to interested persons. Unless otherwise provided in these rules, however, agencies are not required to circulate an addendum.

An EIS Addendum is being prepared for the Waterfront District Redevelopment Project because the 2012 Updated Preferred Alternative modifications result in a level of development similar to or less than that under 2010 Preferred Alternative described and analyzed in the 2010 EIS Addendum and 2010 FEIS. These modifications are not anticipated to result in any new significant unavoidable adverse impacts.

Q7. *What will occur after the issuance of the EIS Addendum?*

- A7.** The 2008 DEIS, 2008 SDEIS, 2010 EIS Addendum, 2010 FEIS and this 2012 EIS Addendum will be used as tools by the Port and City (along with other considerations, analyses and public input) to formulate a proposed Master Development Plan (MDP), also referred to as a Subarea Plan for the Waterfront District, as well as the draft Development Agreement, draft Development Regulations and draft Planned Action Ordinance. Important steps in this process are summarized below.

The proposed MDP, along with other regulatory actions, will be reviewed by the Port Commission, City Planning Commission and City Council, as required. Public hearings will be held during the decision-making process and there will be ongoing opportunities for public input. Ultimately, the entire package of regulatory and planning actions will be considered for approval. The MDP, Development Agreement, Development Regulations and Planned Action Ordinance, if approved, will provide the framework for long-term redevelopment of the site.

Subsequent to the above approvals, permit applications for infrastructure improvements, construction projects and building redevelopment activities within the site will be submitted to the City and/or other agencies over the long-term buildout period. The City will determine whether each project is consistent with the approved MDP and other applicable regulations, as well as the Planned Action Ordinance, and will assess whether the environmental impacts and mitigation for these projects have been adequately addressed in the EIS. If so, further environmental analysis will not be required under SEPA and the City will make decisions on permits according to the appropriate process. For projects that require other state and federal permits, the appropriate agencies will review such projects and make decisions on the permits according to their applicable processes. These agencies will also determine if the EIS documents adequately covered the impacts/mitigation related to the specific projects. When approvals have been obtained from the City and agencies, multiple/phased construction and redevelopment projects would be implemented on the site.

CHAPTER 3

**COMPARISON OF
ENVIRONMENTAL IMPACTS**

CHAPTER 3

COMPARISON OF ENVIRONMENTAL IMPACTS

This document is an Addendum to the Final EIS (July 2010) prepared for the *Waterfront District (formerly known as New Whatcom) Redevelopment Project*. The EIS included four documents: the 2008 Draft EIS (2008 DEIS), the 2008 Supplemental EIS (2008 SEIS), the 2010 EIS Addendum, and the 2010 Final EIS. The 2008 DEIS evaluated three development alternatives and their environmental impacts and associated mitigation measures. The 2008 SEIS evaluated two development alternatives (2008 Preferred Alternative and Straight Street Grid Option) and the environmental impacts and mitigation measures associated with each alternative. The 2010 EIS Addendum evaluated the 2010 Updated Preferred Alternative and provided a comparison with the 2008 Preferred Alternative.

According to the SEPA Rules¹, an Addendum is an environmental document that is used to provide additional information or analysis that does not substantially change the analysis of significant unavoidable adverse impacts in the existing environmental document. The 2010 Preferred Alternative analyzed in the 2010 EIS Addendum and the 2012 Updated Preferred Alternative analyzed in this 2012 EIS Addendum need not be identical but must have similar elements that provide a basis for comparing environmental consequences².

The overall level of development under the 2012 Updated Preferred Alternative is no greater than that identified under the 2010 Preferred Alternative and the potential for environmental impacts will be similar in level and type to those analyzed in the EIS. Therefore, the 2012 Updated Preferred Alternative does not substantially change the analysis of significant unavoidable adverse impacts in the EIS and the EIS provides the basis for comparing environmental conditions.

Scope of EIS Addendum

As described in Chapter 2, many of the redevelopment assumptions under the 2012 Updated Preferred Alternative are similar to those described for the 2010 Preferred Alternative in the 2010 EIS Addendum. Similar to the 2010 Preferred Alternative, the 2012 Updated Preferred Alternative is intended to be a medium density, sustainable development that features a diversity of uses that are complementary to downtown; an infrastructure network that integrates and connects the waterfront to the surrounding area; and, a system of parks, trails and open space that opens up the waterfront to the community.

However, despite these similarities, certain redevelopment assumptions under the 2012 Updated Preferred Alternative have been modified from those described for the 2010 Preferred Alternative in the 2010 EIS Addendum. Based on those redevelopment assumptions that have not changed and those that have been modified, the following environmental analyses in the EIS will not change:

¹ WAC 197-11-706

² RCW 43.21C.034

- Water Resources
- Plants and Animals
- Environmental Health
- Aesthetics/Light and Glare
- Utilities

This EIS Addendum provides an updated environmental analysis for those environmental elements that have changed as a result of the redevelopment assumptions for the 2012 Updated Preferred Alternative. An updated analysis is provided for the following environmental elements:

- Earth
- Air Quality and GHG Emissions
- Noise
- Land Use
- Relationship to Plans and Policies
- Population, Employment, and Housing
- Historic and Cultural Resources
- Transportation
- Public Services

Each element of the environment in this chapter contains information on the following: a description of existing conditions; a brief summary of environmental impacts identified in the EIS; a comparison of environmental conditions under the 2012 Updated Preferred Alternative with those identified for the 2010 Preferred Alternative, including any changes in impacts as applicable; a listing of any mitigation measures for the 2012 Updated Preferred Alternative beyond those identified in the EIS; and, a comparison of significant unavoidable adverse impacts identified for the 2012 Updated Preferred Alternative with those identified in the EIS.

3.1 EARTH

This section of the 2012 EIS Addendum provides a discussion of existing soil and geologic conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on soil and geologic conditions to those analyzed under the EIS, and identifies any new mitigation measures.

3.1.1 Affected Environment

The 2008 DEIS described the existing topography, geology, soils, groundwater and geologic hazards on the Waterfront District site and in the site vicinity. The geologic hazards include: landslide hazards, seismic hazards (i.e. ground shaking and ground motion amplification, ground rupture, liquefaction, and tsunamis), landfill areas, erosion hazards, coal mine hazards, and sea level rise (see Section 3.1.1 and Appendix D to the 2008 DEIS for a detailed description of soil and geologic conditions). The existing soils and geologic conditions on and in the vicinity of the site have not changed since the issuance of the 2008 DEIS, and no changes to the discussion of existing conditions are necessary.

3.1.2 Impacts

Prior EIS Documents

Potential impacts to soil and geologic conditions were analyzed in the EIS as part of the 2008 DEIS and the 2008 SDEIS. The 2008 DEIS analyzed a range of alternatives, including a preliminary grading concept that represented a worst-case, maximum assessment of fill material needed to support development on the site (up to approximately 75 cubic yards of cut and up to approximately 700,000 cubic yards of fill). Site grades would be raised several feet above existing grades, which would also mitigate any potential impacts from long-term sea level rise.

Existing soil and geologic conditions could potentially affect construction including the potential for settlement, landslides from steep slopes, and erosion. Landfill refuse is present on portions of the site and potential effects of long-term settlement and migration of methane gas needs to be addressed as part of site-specific design. The potential for ground subsidence also exists due to past coal mining activities and an evaluation of coal mine hazards would be conducted during site-specific design. In addition, it is assumed that most onsite structures will be pile-supported and increased levels of noise and vibration could occur in the vicinity of pile-driving activities; pile driving could also cause soil densification and surface soil settlement, which will potentially cause impacts to adjacent structures and utilities.

The 2008 SDEIS analyzed a Preferred Alternative with a revised grading plan that is consistent with the revised roadway layout and stormwater management plan. Under the revised plan, the site roadways located to the south of the Whatcom Waterway will be elevated approximately 6 to 11 feet above the existing grade on average; the roadway network to the north of the Whatcom Waterway would be similar to the existing elevation. All structures are situated well above the existing grades and could accommodate the high end of the range of long-term sea level rise estimates. Maximum overall grading quantities are expected to be similar to the amounts analyzed in the 2008 DEIS and the potential for earth-related impacts during construction and operation would be similar to the 2008 DEIS Alternatives. Additional site-specific geotechnical engineering analysis and design studies would be conducted as part of the future design and permitting process for future buildings and infrastructure.

2012 EIS Addendum

Construction

Construction activities under the 2012 Updated Preferred Alternative will be similar to or less than those analyzed in the EIS due to the proposed amount of building development on the site (approximately 5.3 million square feet versus 6 million square feet under the 2010 Preferred Alternative) and the proposed grading plan and grading amounts are also assumed to be similar under the 2012 Updated Preferred Alternative.

As a result, potential construction-related impacts under the 2012 Updated Preferred Alternative will be similar to or less than those analyzed in the EIS and would include potential settlement, landslides (in steep slope areas) and erosion, settlement from historic landfills and migration of methane gas, ground subsistence due to historic coal mine operations, and vibration, soil settlement and soil densification due to pile-driving activities. As described in the EIS, additional site-specific geotechnical and engineering analyses and design studies will be conducted as part of the future design and permitting process for buildings and infrastructure. With the implementation of mitigation measures identified in the EIS, no significant earth-related impacts are anticipated.

Operation

Under the 2012 Updated Preferred Alternative, potential long-term earth-related impacts from operation of the redevelopment will also be similar to or less than those analyzed in the EIS for the 2010 Preferred Alternative. Potential operational impacts could include impacts from sea level rise, tsunamis, and landfill gas. As described in the EIS, site grades will be raised as part of the grading plan and would allow for all structures to be able to accommodate the high end of the range of long-term sea level rise estimates, as well as potential impacts from a tsunami. In addition, new stormwater outfalls on the south side of the Whatcom Waterway will be designed at an elevation of 13 to 15 feet (several feet above the existing Mean Higher High Water elevation) in order to preclude any long-term sea level rise impacts or storm surge issues.

As discussed in the EIS, landfill refuse is present on portions of the site and methane gas could potentially accumulate under impervious surfaces over time if not properly mitigated. Similar to the EIS, under the 2012 Updated Preferred Alternative, the potential impacts of methane migration from the landfills will need to be addressed as part of the site-specific design process for future buildings and infrastructure near those areas of the site. Mitigation measures for methane gas monitoring and evaluation, as well as foundation ventilation were identified in the EIS and would also apply to the 2012 Updated Preferred Alternative. With the implementation of the identified mitigation measures, no significant impacts are anticipated.

3.1.3 Conclusion

Earth-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those previously identified in the EIS, due to the slightly lower amount of building development on the site and the similar nature of the proposed grading plan and grading amounts. No additional earth-related impacts are anticipated.

3.1.4 Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

3.1.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no significant unavoidable adverse earth-related impacts are anticipated.

3.2 AIR QUALITY

This section of the 2012 EIS Addendum provides a discussion of existing air quality conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on air quality conditions to those analyzed under the EIS, and identifies any new mitigation measures

3.2.1 Affected Environment

The existing Waterfront District site is mostly unoccupied, although the site does support some industrial uses, including the Bellingham Shipping Terminal, PSE Encogen Plant, and several marine industrial operations. As indicated in the 2008 DEIS, typical existing sources of air emissions in the site area include vehicle traffic, railroad activity, marine vessels, and a variety of industrial sources, including the PSE Encogen Plant; existing emissions from the PSE Encogen Plant currently comply with applicable air quality requirements. Existing sources of emissions and air quality have generally remained the same as presented in the EIS and are considered to contribute limited amounts of air pollution to the existing ambient conditions in the area.

Existing greenhouse gas (GHG) emission sources on the site are also limited due to the on-going transition of the site from industrial uses to other uses, and the current vacant status of several buildings. Existing GHG sources primarily include on-going industrial uses, office and warehouse buildings, and the PSE Encogen Plant.

3.2.2 Impacts

Prior EIS Documents

Potential air quality impacts were primarily analyzed in the EIS as part of the 2008 DEIS and 2008 SDEIS. The 2008 DEIS analyzed a range of redevelopment alternatives and their associated air quality impacts from construction-related activities and operation of the proposed redevelopment. Construction activities will produce a range of emissions (including particulates (PM), dust, carbon monoxide (CO) and nitrogen oxides (NO_x). It is anticipated that construction activities will be phased over time and would be conducted consistent with typical air quality control measures required by federal, state and local regulations. As a result, construction activities were not anticipated to result in adverse air quality impacts or significant risks to sensitive receptors.

Operational emissions will also result from redevelopment on the site and would include primary emissions sources such as vehicle traffic and non-road emissions (railroad uses, marine vessels, and buildings). Redevelopment of the Waterfront District will transition the site from industrial operations to a mixed-use neighborhood which reduces the amount of building emissions/pollutants on the site. Proposed redevelopment will increase the number of vehicle trips and associated emissions, but would provide a relatively small contribution to the regional concentrations of criteria pollutants. These emissions are not be anticipated to pose significant air quality impacts to existing sensitive receptors in the area. All mobile source CO emissions will conform to applicable air quality standards at all onsite and offsite intersections.

Railroad operations, particularly due to the relocation of the railroad near the bluff, could increase the NO_x and PM concentrations for some receptors in the vicinity of the railroad. However, the limited frequency of train activity and the distance to most receptors limits the

duration of exposure and significant impacts would not be anticipated. As a result of redevelopment under the DEIS alternatives (particularly the proposed marina), small recreational vessel activity will increase, while large marine vessel traffic would decrease. Therefore it is anticipated that an overall net increase or decrease in marine-related air quality emissions will not be significant.

The 2008 SDEIS analyzed a Preferred Alternative and its potential impacts on air quality. Construction-related and operation-related air quality impacts were anticipated to be similar and within the range of impacts analyzed in the 2008 DEIS, and no significant air quality impacts were anticipated. In addition, the 2008 SDEIS also analyzed potential greenhouse gas (GHG) emissions associated with the Preferred Alternative. Redevelopment under the Preferred Alternative will result in GHG emissions over the lifespan of the project and on an annual basis; however, thresholds for significance had not been established at the time of publication.

The 2010 EIS Addendum also analyzed air quality impacts as they relate to the 2010 Preferred Alternative, which included interim industrial uses in the Log Pond Area for several decades and the continued operation of the PSE Encogen Plant. Continued operation of the plant will result in increased emissions when compared to the 2008 DEIS and 2008 SDEIS. However, emissions would be monitored and regulated by applicable agencies to ensure the safety of human health and the environment, and no significant impacts are anticipated.

2012 EIS Addendum

Construction

Under the 2012 Updated Preferred Alternative, construction activities are similar to or less than those previously analyzed in the EIS due to the proposed amount of building development on the site (approximately 5.3 million square feet versus 6 million square feet under the 2010 Preferred Alternative). Therefore, it is anticipated that construction-related air quality emissions will be similar to or less than those analyzed for the 2010 Preferred Alternative as a result of the lower amount of construction activities that would be required for redevelopment of the Waterfront District.

Operation

Air Quality

Automobile traffic volumes under the 2012 Updated Preferred Alternative are anticipated to be similar to or less than the 2010 Preferred Alternative in the 2010 EIS Addendum due to the proposed level of redevelopment, and it is anticipated that associated automobile emissions will also be similar or less than the 2010 Preferred Alternative. Emissions from railroad operations and marine vessels are also anticipated to be similar to the 2010 Preferred Alternative.

The primary difference between the 2012 Updated Preferred Alternative and the 2010 Preferred Alternative as it relates to air quality is the increase in industrial uses in the Waterfront District (approximately 1.5 million square feet compared to 450,000 square feet under the 2010 Preferred Alternative). While the increased industrial uses are anticipated to generate additional emissions under the 2012 Updated Preferred Alternative, the additional emissions will also be offset by the fact that there would be a lower amount of overall redevelopment and associated emissions when compared to the 2010 Preferred Alternative.

It should also be noted that the 2008 DEIS analyzed the continued operation of industrial uses in the Waterfront District and redevelopment of new industrial uses (approximately 2.2 million square feet of industrial uses on the site) and the potential for air quality impacts to new mixed-uses (including residential) in proximity to industrial operations; with implementation of identified mitigation measures, significant impacts would not be anticipated. As a result, no new significant air quality impacts are anticipated for the 2012 Updated Preferred Alternative beyond those identified in the EIS.

Greenhouse Gas Emissions

Redevelopment under the 2012 Updated Preferred Alternative will also generate GHG emissions on the site. **Table 3.2-1** summarizes the lifespan and annual GHG emissions associated with redevelopment under the 2012 Updated Preferred Alternative (refer to **Appendix C** for further details on GHG emissions calculations). It should be noted that these gross calculations have not taken into consideration any potential efforts to reduce the carbon footprint of redevelopment, including LEED building techniques, vehicle trip reductions through building a walkable community, and energy conservation measures.

**Table 3.2-1
GREENHOUSE GAS EMISSIONS – 2012 UPDATED PREFERRED ALTERNATIVE**

Uses	Amount	Assumed Lifespan (years)	Estimated GHG Lifespan Emissions (MTCO ₂ e) ¹	Estimated Annual GHG Emissions (MTCO ₂ e) ¹
Residential	1,646 units	80.5	1,902,273	26,631
Industrial	1,530,000 sq. ft.	62.5	2,408,488	38,536
Office	1,420,000 sq. ft.	62.5	1,916,070	30,657
Retail	375,000 sq. ft.	62.5	323,533	5,176
TOTAL	5,300,000 sq. ft.		6,550,365	98,000

Source: EA|Blumen, 2012

¹ MTCO₂e is defined as Metric Tonne Carbon Dioxide Equivalent; equates to approximately 2,204.62 pounds of CO₂. This is a standard measure of the amount of equivalent CO₂ emissions.

As shown in **Table 3.2-1**, the 2012 Updated Preferred Alternative will generate approximately 6.5 million MTCO₂e lifespan emissions and approximately 98,000 MTCO₂e annual emissions. Estimated GHG Emissions will be lower than those analyzed for the 2010 Preferred Alternative (approximately 7.25 million MTCO₂e and 108,197 MTCO₂e respectively) and no significant impacts are anticipated.

3.2.3 Conclusion

Redevelopment under the 2012 Updated Preferred Alternative will result in air quality and GHG emissions impacts that are similar to or less than those that were analyzed in the EIS for the 2010 Preferred Alternative. No additional significant air quality impacts are anticipated.

3.2.4 Mitigation Measures

Mitigation measures were identified in the EIS for the Preferred Alternative and these measures also apply to the 2012 Updated Preferred Alternative. Since no additional significant air quality impacts were identified, no additional mitigation measures are warranted.

3.2.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the EIS, no significant unavoidable adverse impacts to air quality are anticipated.

3.3 NOISE

This section of the 2012 EIS Addendum provides a discussion of existing noise conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on noise conditions to those analyzed under the EIS, and identifies any new mitigation measures.

3.3.1 Affected Environment

The existing Waterfront District site is mostly unoccupied, although the site supports some industrial uses. Onsite noise sources (including noise from trucks and marine vessels) are considered to contribute limited noise to the existing ambient conditions in the area. The existing noise environment is typical of urban areas and is characterized by noise levels generated by vehicular traffic on nearby streets and highways, passing trains, occasional aircraft flyovers, barking dogs, lawn mowers, etc. Vehicular traffic on the existing roadway network is the dominant noise source in the area. Existing noise sources and noise conditions on the Waterfront District site and in the site vicinity have generally remained the same as previously presented in the EIS.

The study area for the EIS was comprised of 13 offsite receiver locations that were selected to represent groupings of sensitive noise receivers that share common characteristics such as elevation, location in the study area, or land use. An additional three onsite receiver locations were selected to represent groupings of new onsite sensitive receivers.

3.3.2 Impacts

Prior EIS Documents

Potential impacts to noise conditions from redevelopment of the Waterfront District were analyzed in the EIS as part of the 2008 DEIS and the 2008 SDEIS. The 2008 DEIS analyzed a range of redevelopment alternatives and their potential noise impacts. Redevelopment on the site will result in noise impacts associated with construction activities such as clearing, grading, demolition and excavation. Pile-driving activities would be assumed to affect the largest number of receivers on and surrounding the site. Construction-related noise (including pile-driving) will be temporary in nature and impacts are not anticipated to be significant.

As described in the 2008 DEIS, operational noise impacts also occur from vehicular traffic noise and non-traffic noise (general human activity, marine/rail traffic, mechanical equipment, industrial operations, etc.). The highest future traffic noise levels will occur near residential uses on Laurel Street. Increases in noise would range from 2 dBA to 5 dBA; however, none of the predicted increases would be considered a significant impact. Changes in marine vessel traffic would not result in a net increase in perceptible noise levels. The relocation of the railroad will serve to decrease noise to onsite uses; noise levels could increase for the first row of receivers adjacent to the top of the bluff.

Redevelopment results in a variety of onsite noise-generating sources (industrial operations, marina uses, etc.) in proximity to areas that will support office, residential and institutional uses. Given the proximity to these noise sources, certain issues would arise; however, site planning design, building orientation and building techniques could be considered to ensure noise levels adhere to existing regulations.

Under the 2010 Preferred Alternative, noise impacts were analyzed as part of the 2008 SDEIS and 2010 EIS Addendum. Proposed redevelopment under the 2010 Preferred Alternative was considered to be within the range analyzed in the 2008 DEIS and in general, potential noise impacts are similar to those analyzed in that document. The primary difference under the 2010 Preferred Alternative was regarding the continued operation of the PSE Encogen Plant through 2026. Similar to the 2016 condition analyzed in the 2008 DEIS, new mixed-uses in proximity to the PSE Encogen Plant could employ site design, building orientation and building techniques to mitigate noise impacts and would not be anticipated to result in significant noise impacts to adjacent uses. In addition, future noise levels on and around the site would adhere to the Department of Ecology Environmental Noise Regulations and significant impacts are not anticipated.

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Construction

Construction activities under the 2012 Updated Preferred Alternative are similar to or less than those previously analyzed in the EIS due to the proposed amount of building development on the site (approximately 5.3 million square feet versus 6 million square feet under the 2010 Preferred Alternative). As a result it is anticipated that construction-related noise will also be similar to or less than under the 2010 Preferred Alternative as analyzed in the 2010 EIS Addendum. Redevelopment of the Waterfront District under the 2012 Updated Preferred Alternative will be phased over the buildout of the site and result in temporary, short-term construction noise. With the implementation of mitigation measures previously identified in the EIS, no significant impacts from construction-related noise are anticipated.

Operation

Redevelopment under the 2012 Updated Preferred Alternative includes a similar mix of land uses, and slightly lower redevelopment densities and traffic volumes to those analyzed under the 2010 Preferred Alternative in the 2010 EIS Addendum. Therefore, it is anticipated that operational traffic noise sources and ambient noise level increases will also be similar to or less than the 2010 Preferred Alternative.

The primary difference for the 2012 Updated Preferred Alternative as it relates to noise impacts is the change in land uses for the Log Pond Area from mixed-use to light industrial mixed-use. The proposed operation of industrial uses in the Log Pond Area will likely result in increased noise associated with industrial activities and these activities could be located in proximity to sensitive onsite receivers (i.e. proposed office, residential and institutional uses). However, the 2008 DEIS identified potential impacts associated with industrial uses in proximity to proposed office, residential and institutional uses and identified potential mitigation measures that could be implemented as part of the site design, planning and building construction. As a result, no additional significant noise impacts are anticipated under the 2012 Updated Preferred Alternative.

3.3.3 Conclusion

Noise-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS for the 2010 Preferred Alternative. It is anticipated that the reduction in the amount of redevelopment on the site (and associated reduction in noise from such redevelopment) will be offset by the increase in industrial uses on the site. In addition, as

described previously, the 2008 DEIS identified potential noise impacts associated with industrial uses in proximity to mixed-uses; however, no significant impacts were anticipated. No additional noise-related impacts from redevelopment under the 2012 Updated Preferred Alternative are anticipated.

3.3.4 Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

3.3.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no significant unavoidable adverse noise-related impacts are anticipated.

3.4 LAND USE/RELATIONSHIP TO PLANS AND POLICIES

This section of the 2012 EIS Addendum provides a discussion of existing land use conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on land use conditions to those analyzed under the EIS, and identifies any new mitigation measures. The 2012 Updated Preferred Alternative and its relationship to existing plans and policies is also discussed in this section.

3.4.1 Affected Environment

The 2008 DEIS described the historic and existing land use conditions on the Waterfront District site. The general character of the Waterfront District reflects the industrial maritime uses that have been present on the site for the past approximately 100 years. This industrial character relates to a range of land use activities, including manufacturing, shipping, storage, and transportation. The specific character of the site varies by area, with the highest level of land use associated with industrial uses in the Marine Trades Area, former Georgia Pacific uses in the Downtown Waterfront Area, former Georgia Pacific uses and the PSE Encogen Plant in the Log Pond Area, and the Bellingham Shipping Terminal in the Shipping Terminal Area.

The general pattern of land use surrounding the Waterfront District site is also varied and consists of commercial, residential, industrial, marine, and institutional uses. Commercial and mixed-uses associated with Downtown Bellingham are located to the southeast of the site. Industrial and commercial uses are located to the north and east of the Waterfront District, with residential uses located further to the east. Land uses to the south of the site are topographically separated by bluff and generally consist of residential uses and low-level commercial uses; the Western Washington University campus is located further to the south.

3.4.2 Impacts

Prior EIS Documents

Potential impacts to land use conditions were analyzed in the EIS as part of the 2008 DEIS and the 2008 SDEIS. The 2008 DEIS analyzed a range of redevelopment alternatives, including mixed-use redevelopment ranging from 4 million to 7.4 million square feet (2008 DEIS Alternative 1-3) and industrial development of approximately 2.2 million square feet (2008 DEIS No Action Alternative). Temporary impacts to adjacent land uses could occur during the phased construction in the Waterfront District, including impacts from dust/emissions, increased noise levels and vibration, and increased traffic. Construction activities would adhere to all applicable regulations (including noise and air quality) and associated impacts are not anticipated to be significant.

Operation of the assumed redevelopment in the 2008 DEIS will convert the Waterfront District site from its current vacant and underutilized industrial condition to a new urban mixed-use neighborhood. Building density and building heights will increase on the site with maximum building heights ranging from 100 to 200 feet. Land uses on the site will include a mix of office, institutional, industrial, marina, recreation, residential, retail and restaurant. Redevelopment would also include 15 to 33 acres of parks, trails and habitat, as well as a new marina. New parks and trails will allow increased public access to the waterfront area. The overall level of mixed-use development is generally consistent with the existing uses in the vicinity of the site and no significant land use impacts are anticipated.

Activity levels on the site are anticipated to increase from existing levels as a result of new employment and housing on the site. Increased activity levels on the site could result in increased levels of traffic, noise and air pollution; however, given the compatibility of new uses with existing adjacent uses, as well as existing topographic and land use buffers, no significant impacts are anticipated.

New development could be located in proximity to existing and ongoing industrial and transportation uses on the site (Bellingham Shipping Terminal, industrial uses in the Marine Trades Area, and BNSF railroad) and could experience impacts related to noise, emissions and vibration; however, with the implementation of identified mitigation measures these impacts are not anticipated to be significant.

The 2008 SDEIS analyzed potential land use impacts from redevelopment of the Waterfront District under the Preferred Alternative. The level of redevelopment under the Preferred Alternative (approximately 6 million square feet) and proposed building heights would be within the range that was analyzed in the 2008 DEIS. Approximately 33 acres of parks, trails and habitat will be provided, which would create increased public access opportunities to the waterfront. The proposed street network will also be developed to provide increased opportunities for vehicle, pedestrian and bicycle connections between the site and surrounding areas. No significant land use-related impacts are anticipated.

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Construction

Construction-related land use impacts under the 2012 Updated Preferred Alternative are similar to or less than those analyzed in the EIS due to the proposed amount of building development on the site (approximately 5.3 million square feet versus up to 7.1 million square feet in the 2008 DEIS and 6 million square feet under the 2010 Preferred Alternative). Potential construction-related impacts will include impacts from dust/emissions, increased noise levels and vibration, and increased traffic. As described in the 2008 DEIS, these impacts are temporary in nature and significant impacts are not anticipated.

Operation

Similar to the 2010 Preferred Alternative, redevelopment of the Waterfront District under the 2012 Updated Preferred Alternative is intended to be a medium density, sustainable development that features a diverse mix of land uses that are complimentary to Downtown Bellingham and the surrounding neighborhoods. As described previously, the 2012 Updated Preferred Alternative will include a slightly lower amount of redevelopment density (approximately 5.3 million square feet versus up to 7.1 million square feet analyzed in the 2008 DEIS and 6 million square feet under the 2010 Preferred Alternative) and in general, potential land use impacts are similar to or less than those described for the 2010 Preferred Alternative due to the lower amount of proposed redevelopment. **Table 3.4-1** provides a comparison of redevelopment under the 2012 Updated Preferred Alternative and the 2010 Preferred Alternative.

Table 3.4-1
PROPOSED WATERFRONT DISTRICT REDEVELOPMENT – 2010 PREFERRED
ALTERNATIVE AND 2012 UPDATED PREFERRED ALTERNATIVE

Land Use Category	2010 Draft Master Plan / FEIS Preferred Alternative (Building Sq. Ft./units at build-out)	Proposed 2012 Revision to Draft Master Plan/2012 Update Preferred Alternative (Building Sq. Ft./ units at build-out)	2012 Updated Preferred Alternative Percentage of 2010 Preferred Alternative Sq. Ft.
Office	2,905,000 Sq. Ft.	1,420,000 Sq. Ft.	49%
Industrial	450,000 Sq. Ft.	1,530,000 Sq. Ft.	166%
Jobs Subtotal (Industrial + Office)	3,355,000 Sq. Ft.	2,950,000 Sq. Ft.	88%
Residential	2,270,000 Sq. Ft. (1,891 housing units)	1,975,000 Sq. Ft. (1,646 housing units)	87%
Retail	375,000 Sq. Ft.	375,000 Sq. Ft.	100%
Total	6,000,000 Sq. Ft.	5,300,000 Sq. Ft.	88%

Source: Port of Bellingham, 2012.

As shown in **Table 3.4-1**, redevelopment under the 2012 Updated Preferred Alternative includes a similar or lower amount of building density across all types of land uses, with the exception of the amount of industrial redevelopment on the site. This is due in part to the revised land use assumptions for the redevelopment of the site which respond to the current economic conditions, including a greater emphasis for jobs and reduced market for commercial and residential development. As a result, the 2012 Updated Preferred Alternative identifies the Log Pond Area as an area that is designated for “Light Industrial Mixed-Use”, which allows for the continuation of industrial uses in this area, as well as commercial/retail development (see **Figure 2-2** for an illustration of proposed land uses under the 2012 Updated Preferred Alternative). Existing and new industrial uses comprise the majority of the redevelopment in the Log Pond Area, as opposed to the mixed-use commercial and residential development proposed under the 2010 Preferred Alternative analyzed in the 2010 EIS Addendum.

As described in the 2008 DEIS, new and existing industrial uses in the Log Pond Area under the 2012 Updated Preferred Alternative could be located in proximity to proposed office, institutional and residential uses and these uses could experience impacts related to noise, emissions and vibration from industrial operations. However, the 2008 DEIS identified potential mitigation measures that could be implemented as part of the site design, planning and building construction which will mitigate potential impacts between proposed industrial uses and proposed adjacent land uses. As a result, no additional significant land use impacts are anticipated under the 2012 Updated Preferred Alternative.

3.4.3 Conclusion

Land use-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS for the 2010 Preferred Alternative. In general, the proposed level of redevelopment under the 2012 Updated Preferred Alternative is less than the level analyzed in the 2008 DEIS, 2008 SDEIS and that identified for the 2010 Preferred Alternative. The proposed increase in industrial uses on the site (particularly in the Log Pond Area) under the 2012 Updated Preferred Alternative could result in potential impacts to proposed adjacent uses on the site (i.e. office, residential and institutional uses); however, with the implementation of the mitigation measures identified in the EIS, no significant land use-related impacts are anticipated.

3.4.4 Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

3.4.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no significant unavoidable adverse land use-related impacts are anticipated.

3.4.6 Relationship to Plans and Policies

The 2008 DEIS and 2008 SDEIS evaluated the consistency of the proposed Waterfront District redevelopment with several relevant plans, policies and regulations, including state, county and local documents. Key plans that were evaluated in those documents included the following:

- Washington State Growth Management Act (GMA)
- Washington State Shoreline Management Act (SMA)
- Whatcom County County-wide Planning Policies
- Port of Bellingham Comprehensive Scheme of Harbor Improvements for Squalicum Harbor
- Waterfront Futures Group Vision
- Port and City Interlocal Agreements
- Waterfront Advisory Group Strategic Guidelines
- Port and City Draft Framework Plan
- City of Bellingham Comprehensive Plan
- City of Bellingham Shoreline Master Program (SMP)
- City of Bellingham Land Use Code
- City of Bellingham Critical Areas Ordinance
- Bellingham Bay Demonstration Pilot.

It should be noted that subsequent to the issuance of the previous EIS documents, the City of Bellingham is anticipating the adoption of the update to the City's SMP and that the updated SMP is expected to be adopted prior to the adoption of the Waterfront District Master Plan. Prior EIS documents referenced the City's draft update of the SMP and it is anticipated that the 2012 Updated Preferred Alternative and specifically any proposed redevelopment within the shoreline area would be required to be consistent with the City of Bellingham's adopted update to the SMP.

As described in the 2008 DEIS and 2008 SDEIS, the Preferred Alternative is generally consistent with applicable local and state policies and regulations. Redevelopment under the 2012 Updated Preferred Alternative is similar to the 2010 Preferred Alternative in that it is intended to be a medium density, sustainable development that features a diverse mix of land uses that would be complimentary to Downtown Bellingham and the surrounding neighborhoods. However, the 2012 Updated Preferred Alternative features a lower level of redevelopment density, while still including similar features as they relate to parks, shoreline habitat, roadway systems, historic structures, and view corridors. As such, it is anticipated that the 2012 Updated Preferred Alternative is consistent with applicable local and state plans, policies and regulations.

3.5 POPULATION, EMPLOYMENT AND HOUSING

This section of the 2012 EIS Addendum provides a discussion of existing population, employment, and housing conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on population, employment and housing conditions to those analyzed under the EIS, and identifies any new mitigation measures.

3.5.1 Affected Environment

The 2008 DEIS described the existing and projected population, employment and housing levels for the City of Bellingham. At the time of the 2008 DEIS publication, the City of Bellingham was estimated to have a population of approximately 81,450 people; however, the Waterfront District site does not contain any housing or associated population. Population forecasts for the City of Bellingham projected that the City's population would increase by approximately 31,600 people (39 percent) to a total population of approximately 113,055 people by 2022. The City of Bellingham Comprehensive Plan also provided population projections for City neighborhoods and urban centers. The Waterfront District is located as part of the Central Business District (CBD) neighborhood and was projected to have an increase in population of approximately 4,500 people, and would accommodate more new population growth than any neighborhood in the City.

Existing uses in the Waterfront District provide approximately 645 full-time jobs, primarily associated with existing industrial and marine-related uses. At the time of the 2008 DEIS publication, the City provided approximately 35,500 jobs. Employment forecasts for the City of Bellingham also showed substantial increases in employment are projected to occur in the future. Future employment in the City of Bellingham is projected to almost double by 2022 to approximately 66,400 jobs.

At the time of the 2008 DEIS publication, the City of Bellingham contained approximately 29,400 housing units; however, as described above, the Waterfront District does not currently contain any form of housing. The City of Bellingham's Comprehensive Plan identifies targets for housing supply needed to accommodate the projected population by 2022. It was projected that the City would need approximately 15,900 new housing units by 2022. Of these housing units, approximately 2,546 would be located in the CBD (neighborhood associated with the Waterfront District).

3.5.2 Impacts

Prior EIS Documents

Potential impacts to population, employment, and housing conditions were analyzed in the EIS as part of the 2008 DEIS and the 2008 SDEIS. Assumed redevelopment of the Waterfront District results in an incremental increase in population, employment and housing levels. New residential development will create new housing units and associated increases in population on the site, which would be a component of the projected population for the CBD and the City of Bellingham in the long-term. It is assumed that affordable housing opportunities will also be provided as part of the new residential development on the site. See **Table 3.5-1** for a summary of population and housing under the DEIS Alternatives and 2010 Preferred Alternative.

Redevelopment of the Waterfront District will also result in a substantial increase in employment on the site. A range of new employment opportunities will be created through the redevelopment of the site, including office, institutional, industrial, retail, and restaurant jobs. Additionally, new employment opportunities could result via the location of new or expanded businesses on the site and within the City of Bellingham. See **Table 3.5-1** for a summary of employment under the DEIS Alternatives and 2010 Preferred Alternative.

**Table 3.5-1
POPULATION, EMPLOYMENT AND HOUSING – DEIS ALTERNATIVES, 2010 PREFERRED
ALTERNATIVE AND 2012 UPDATED PREFERRED ALTERNATIVE**

	DEIS Alt. 1	DEIS Alt. 2	DEIS Alt. 3	DEIS No Action Alt.	2010 Preferred Alt.	2012 Updated Preferred Alt.
Population¹	5,873 people	4,489 people	2,531 people	0 people	3,614 people	3,144 people
Employment²	8,722 jobs	7,205 jobs	5,376 jobs	1,600 jobs	8,354 jobs	6,529 jobs
Housing	3,075 units	2,350 units	1,325 units	0 units	1,892 units	1,646 units

Source: 2008 SDEIS and Port of Bellingham, 2012.

¹ Based on a ratio of 1.91 persons per housing unit, consistent with the 2008 DEIS and 2008 SDEIS.

² Based on a ratio of 400 sq. ft. per employee for office use, 650 sq. ft. per employee for industrial use, and 600 sq. ft. per employee for retail use, consistent with the calculations in the 2008 DEIS and 2008 SDEIS.

As shown in **Table 3.5-1**, the 2008 DEIS and 2008 SDEIS analyzed a range of potential population, employment and housing impacts that could occur as a result of redevelopment of the Waterfront District. Redevelopment will create capacity for a range of uses and would thereby increase the employment and housing potential in the area. This capacity will assist the City of Bellingham in achieving their projected targets for population, employment and housing over the long-term. No significant adverse impacts to population, employment and housing are anticipated with redevelopment in the Waterfront District.

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Redevelopment of the Waterfront District under the 2012 Updated Preferred Alternative provides a similar mix of land uses on the site; however, the proposed density of redevelopment is slightly lower than the density analyzed in the 2010 EIS Addendum for the 2010 Preferred Alternative (approximately 5.3 million square feet versus 6 million square feet under the 2010 Preferred Alternative analyzed in the 2010 EIS Addendum). Therefore, it is anticipated that potential population, employment and housing impacts will be less than those analyzed for the 2010 Preferred Alternative.

As described previously, the 2012 Updated Preferred Alternative provides approximately 1.4 million square feet of office uses, 1.5 million square feet of industrial uses, 375,000 square feet of retail uses, and 1,646 residential units. As shown in **Table 3.5-1**, redevelopment under the 2012 Updated Preferred Alternative is anticipated to result in approximately 1,646 new housing units, 3,144 new residents on the site, and 6,529 new jobs. All of these totals are lower than those analyzed in the 2010 EIS Addendum for the 2010 Preferred Alternative and therefore, it is

anticipated that potential population, employment and housing impacts will be less than those identified in the 2010 EIS Addendum for the 2010 Preferred Alternative. No additional significant impacts on population, employment and housing are anticipated with redevelopment under the 2012 Updated Preferred Alternative.

3.5.3 Conclusion

Potential population, employment and housing impacts under the 2012 Updated Preferred Alternative are less than those identified in the EIS for the 2010 Preferred Alternative, due to the slightly lower amount of redevelopment and associated lower population, employment and housing. No additional significant impacts are anticipated.

3.5.4 Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

3.5.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS, no significant unavoidable adverse impacts from population, employment or housing are anticipated.

3.6 HISTORIC AND CULTURAL RESOURCES

This section of the 2012 EIS Addendum provides a discussion of existing historic and cultural resource conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on historic and cultural resources conditions to those analyzed under the EIS, and identifies any new mitigation measures.

3.6.1 Affected Environment

As described in the 2008 DEIS, the general site history of the Waterfront District site and site vicinity dates back to pre-history occupation by the Lummi Nation and Nooksack Indian Tribe. Over the past 30 years, numerous cultural resource and archaeological investigations have been conducted on the Waterfront District site and in the site vicinity. While pre-historic and historic-period artifacts have been discovered in the vicinity of the site, no archaeological resources have been recorded on the Waterfront District site. However, the site is located in a potentially archaeologically-sensitive landscape that includes tideflats, beaches and bluff areas. On an overall basis, the majority of the Waterfront District is considered to have a moderate potential to contain significant archaeological materials.

The Waterfront District contains several buildings/structures that are indicative of past industrial operations on the site, in particular buildings/structures associated with prior timber industry uses as part of the Puget Sound Pulp and Timber Mill and later the Georgia Pacific (GP) Corporation. Historic investigations on the site identified twenty-two buildings/structures that were at least 40 years of age¹ at the time of the publication of the 2008 DEIS, and 13 of the 22 buildings/structures could be potentially eligible for local, state or national historic registers. While none of these buildings/structures are currently listed on any historic registers, the Washington State Department of Archaeology and Historic Preservation would provide the final opinion as to the potential eligibility and listing status of onsite resources.

3.6.2 Impacts

Prior EIS Documents

The 2008 DEIS assumed that 17 of the 22 buildings/structures that are at least 40 years of age could potentially be removed as part of the redevelopment of the Waterfront District. Of those buildings that could be removed, 12 of the 17 buildings/structures have been identified as potentially eligible resources and the removal of these buildings/structures represents a direct impact to potentially eligible resources. However, it is possible that some of these buildings could be retained for reuse/rehabilitation which would result in no direct impacts to the resource. Potential impacts to archaeological resources could also occur as part of redevelopment as below-grade construction activities could create the potential to unearth archaeological materials. To the extent that such below-grade work is required, such work could affect potential archeological materials on the site.

¹ The period of 40 years or older was used to include buildings close to reaching the 50-year threshold for eligibility as a National Register of Historic Places (NRHP) resource.

The 2008 SDEIS analyzed the Preferred Alternative for redevelopment of the Waterfront District, which was within the range of redevelopment assumed in the 2008 DEIS. Therefore, in general, it was anticipated that potential impacts to historic and cultural resources would be similar to those analyzed in the 2008 DEIS. However, while the overall historic and cultural resource impacts are similar, the Preferred Alternative identifies five potentially eligible buildings/structures which could have a potential for reuse/retention in some capacity, thereby reducing or avoiding potential impacts to these buildings. The five buildings/structures identified in the 2008 SDEIS for potential reuse/retention included the following:

- Old Granary Building
- Barking and Chipping Plant
- Ceramic Tanks
- Board Mill Building
- Digester Building

The 2008 SDEIS indicated that additional analysis would determine the level of reuse potential for each of these structures based on structural integrity, necessary seismic upgrades, building footprint sizes, economic considerations, view corridors, potential sea level rise impacts, and proposed street grid locations and grade.

Historic and cultural resources were also analyzed in the 2010 EIS Addendum as they relate to the 2010 Preferred Alternative. Under the 2010 Preferred Alternative, further analysis was conducted regarding the potential for preservation and/or adaptive reuse of 11 existing structures onsite that are at least 40 years old. These 11 structures included the Boiler House, Granary Building, Barking/Chipping Plant, Chip Bins, Board Mill Building, Digester Building, Screen Room, Bleach Plant, Alcohol Plant, Pulp Storage Building and High Density Tanks. It was determined that none of these structures would be financially viable for reuse in the current economic climate or an improved economy in five years.

However, the Port recognized the historic value of structures on the site, and based on structural, architectural and economic evaluations conducted as part of 2010 EIS Addendum, identified four structures that will be temporarily held from demolition for possible retention/reuse in some manner in the future, including:

- Steam Plant
- Granary Building
- Board Mill Building
- Alcohol Plant – East Portion

In addition, the following structures were identified as potential heritage icons and will be temporarily held from demolition for possible retention/reuse in some manner in the future.

- Chip Bins
- Digester Tanks
- High Density Tanks

Subsequent to the publication of the 2010 EIS Addendum, additional information was made available regarding the Steam Plant as part of the 2010 FEIS. Georgia Pacific had identified significant economic and contractual obligations regarding the salvage value of materials within the Steam Plant which made the financial viability of adaptive reuse even more difficult. As

such, the Steam Plant was removed from consideration for possible retention/reuse and may be demolished. The remaining six buildings/structures identified to be temporarily held in the 2010 EIS Addendum will continue to be held pending further consideration of possible retention/reuse.

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Proposed redevelopment of the Waterfront District under the 2012 Updated Preferred Alternative is similar to or less than those analyzed in the EIS due to the proposed amount of building development on the site (approximately 5.3 million square feet versus 6 million square feet under the 2010 Preferred Alternative). Historic and cultural resource impacts under the 2012 Updated Preferred Alternative will also be similar to those analyzed for the 2010 Preferred Alternative in the 2010 FEIS.

Pursuant to the analysis in the 2010 FEIS, the Steam Plant was demolished in 2011 due to safety concerns regarding the stability of the stack, asbestos issues, as well as contractual obligations with Georgia Pacific. Those structures identified in the 2010 FEIS to be held from demolition for further consideration of possible retention/reuse will continue to be held under the 2012 Updated Preferred Alternative, including:

- Old Granary Building
- Board Mill Building
- Alcohol Plant – East Portion

As described in the 2010 FEIS, these structures will continue to be temporarily held from demolition to allow for further consideration of possible retention/reuse, based on the phasing of site cleanup and redevelopment activities, any changes in the market and economic considerations and financial considerations of the owner. The Port will solicit developer interest in adaptive reuse of the Granary Building during Phase 1 of the redevelopment.

In addition, as described in the 2010 FEIS, the following iconic structures will be temporarily held from demolition for possible retention/reuse in some manner in the future, based on further iconic evaluation and financial considerations of the owner at the time of redevelopment.

- Chip Bins
- Digester Tanks
- High Density Tanks

The Port of Bellingham recognizes the unique attributes of the existing GP structures and how they reflect the Waterfront District's maritime industrial heritage. However, based on extensive assessments, it was determined that the industrial nature of structures can substantially limit the economic viability of retention/reuse. As such, through the prior EIS documentation the Port has identified various ways to commemorate the maritime industrial history of the site and to retain the potential for reuse of certain buildings depending upon actual economic/market conditions in the future.

3.6.3 Conclusion

Historic and cultural resource impacts under the 2012 Updated Preferred Alternative are similar to those identified in the EIS, due to the similar nature of proposed redevelopment in the Waterfront District and the continued status of buildings/structures that are temporarily held from demolition for possible retention/reuse. No additional historic or cultural resource-related impacts are anticipated.

3.6.4 Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS and 2008 SDEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

3.6.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS and 2008 SDEIS, no additional significant unavoidable adverse historic or cultural resource-related impacts are anticipated.

3.7 TRANSPORTATION

This section of the 2012 EIS Addendum provides a discussion of existing transportation conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on transportation conditions to those analyzed under the EIS, and identifies any new mitigation measures. This section is based on the *Waterfront District Subarea Plan Transportation Analysis Update Memorandum* (November 2012) that is contained in **Appendix D** to this EIS Addendum.

3.7.1 Affected Environment

The study for the transportation analysis in the 2008 DEIS was developed in conjunction with the City of Bellingham to represent the locations that would most likely be impacted by redevelopment of the Waterfront District site. The analysis focuses on the immediate area of the Waterfront District site and also includes major corridors outside the vicinity of the site that would likely serve as access to and from the site area. The off-site study area primarily includes transportation facilities within six to eight blocks of the site, as well as Interstate-5 (I-5) interchanges serving regional traffic.

Major roadways that provide access to the Waterfront District include Roeder Avenue, Chestnut Street, Cornwall Avenue and Wharf Street. Onsite roadway and intersection operations were analyzed for various access locations to the site and all roadways operated within the City's LOS E threshold and site access intersections operate at LOS E or better during the PM peak hour. There are currently no formal pedestrian or bicycle facilities on the Waterfront District site. The Burlington Northern Santa Fe (BNSF) railway runs parallel to Cornwall Avenue and Roeder Avenue along the site frontage and enters the site along the southern boundary. At-grade crossings are located at Laurel Street, Pine/Wharf Street, F Street, C Street, Cornwall Avenue, and Central Avenue.

A total of 32 offsite intersections were included in the offsite study area with the highest existing PM peak hour traffic volumes located along Lakeway Drive, King Street, Iowa Street, Roeder Avenue, Chestnut Street, and Cornwall Avenue. All offsite roadways currently operate within the City's LOS standard (LOS E) for both directions during the PM peak hour. The intersection of North State Street/James Street/Iowa Street is the only intersection that operated at LOS F.

3.7.2 Impacts

Prior EIS Documents

Potential impacts to transportation conditions were analyzed as part of the 2008 DEIS, 2008 SDEIS and 2010 EIS Addendum. The 2008 DEIS evaluated construction and operation impacts associated with redevelopment under three alternatives which included a range of improvements to the transportation network to provide added capacity for their expected trip generation. The 2008 DEIS indicated that construction of the Waterfront District Project will increase vehicular traffic on the site and site vicinity due to additional truck traffic, transportation of equipment and materials, and construction worker traffic. Construction traffic impacts will be highest during grading operations; however, these impacts would be temporary in nature.

Redevelopment under the 2008 DEIS Alternatives will contribute to increased travel demands and congestion along the onsite and offsite transportation system. The greatest number of

vehicle trips occur during the PM peak hour and this increase in vehicle trips adds congestion to the transportation network and affect operations at certain roadways/intersections. In order to accommodate traffic from redevelopment, additional improvements (beyond those assumed for the project) are required to mitigate potential transportation impacts, including roadway/intersection improvements. Parking demand is accommodated by approximately 2,500 to 15,560 parking stalls onsite. A new sidewalk and pedestrian/bicycle trail system provides access through the site and connections to surrounding neighborhoods and offsite trail networks.

The 2008 SDEIS analyzed the potential transportation-related impacts of a Preferred Alternative for the Waterfront District. The 2008 SDEIS indicated that redevelopment is within the range analyzed in the 2008 DEIS and potential construction-related transportation impacts are similar to or less than those analyzed in the 2008 DEIS. Redevelopment analyzed in the 2008 SDEIS would result in increased new trips and impacts to onsite and offsite intersections. As described in the 2008 DEIS, certain roadways and intersections exhibit a decline in LOS and others improve due to assumed transportation improvements. Assumed onsite access improvements create the necessary capacity to support up to six million square feet of redevelopment, and additional offsite improvements would be needed to address congestion and operational deficiencies. Parking demand is accommodated by approximately 12,892 parking spaces throughout the site. An extensive pedestrian and bicycle friendly environment will accommodate the approximately 14,000 daily pedestrian/bicycle trips associated with redevelopment.

Subsequent to the issuance of the 2008 SDEIS, the proposal for the Waterfront District was updated to reflect continued discussion/coordination between the Port of Bellingham and the City of Bellingham. Based on this information, the 2010 EIS Addendum was prepared which analyzed the 2010 Preferred Alternative, including modifications to the street network analyzed in the 2008 SDEIS. Similar to the 2008 SDEIS, under the 2010 Preferred Alternative, all onsite intersections operate at LOS E or better with an adequate access point at Wharf Street. Offsite intersections also have similar LOS operations to the 2008 SDEIS with the potential Wharf Street bridge connection; however, development without the Wharf Street bridge connection will likely increase delay at offsite intersections. Onsite parking and non-motorized facilities conditions were assumed to be similar to the 2008 SDEIS.

2012 EIS Addendum

In support of this 2012 EIS Addendum, additional transportation analysis has been completed as part of the *Waterfront District Subarea Plan Transportation Analysis Update Memorandum* (October 2012) which provides updated transportation analysis related to changes that have taken place since the completion of the 2010 EIS Addendum and 2010 FEIS. The following analysis builds upon work completed as part of the 2008 DEIS, the 2008 SDEIS, the 2010 EIS Addendum, and the 2010 FEIS. Refer to **Appendix D** for further details regarding the *Waterfront District Subarea Plan Transportation Analysis Update Memorandum*.

Proposed Roadway Network – Site Access and Circulation

Under the 2012 Updated Preferred Alternative, the proposed roadway network, site access and circulation is similar to the 2010 Preferred Alternative analyzed in the 2010 EIS Addendum. Proposed access to the Marine Trades Area is identical to 2010 Preferred Alternative.

Proposed site access and circulation for the areas south of the Whatcom Waterway will also be similar to the 2010 Preferred Alternative; however, instead of the Central Avenue access, a new

intersection (Granary Avenue) will be provided 50 to 160 feet south of Central Avenue under the 2012 Updated Preferred Alternative (refer to **Figures 2-3** through **2-7** of this 2012 EIS Addendum). The Granary Avenue access has a similar capacity and serves the same areas as Central Avenue. Bay Street, Commercial Street, Cornwall Avenue and Wharf Street also provide access to the area south of the Whatcom Waterway, consistent with the 2010 Preferred Alternative. Similar to the 2010 Preferred Alternative, Wharf Street may be closed with the relocation of the railroad in Phase 5. In addition, internal circulation roadways such as Paper Avenue and Oak Street are not proposed as part of the 2012 Updated Preferred Alternative. However, these roadways were relatively minor internal circulation roadways and it is anticipated that as the site develops that access-limited driveways and other internal roadways will be constructed to provide access to the major internal roadways and allow for circulation to the access points, similar to the 2010 Preferred Alternative.

Trip Generation

Redevelopment under the 2012 Updated Preferred Alternative provides approximately 5.3 million square feet of mixed-use redevelopment, compared to approximately 6 million square feet under the 2010 Preferred Alternative analyzed in the 2010 EIS Addendum. Trip generation for the 2012 Updated Preferred Alternative was calculated for the weekday AM and PM peak hours using the same methodology that was utilized throughout the EIS process for the Waterfront District. **Table 3.7-1** provides a summary and comparison of trip generation under the 2012 Updated Preferred Alternative and the 2010 Preferred Alternative.

**Table 3.7-1
ESTIMATED OFFSITE VEHICLE TRIP GENERATION SUMMARY**

	AM Peak Hour Vehicle Trips ¹			PM Peak Hour Vehicle Trips ¹		
Scenario	Total	In	Out	Total	In	Out
<u>2012 Updated Preferred Alternative</u>						
Existing Development to Remain	392	341	51	455	73	382
New Development	<u>3,238</u>	<u>2,347</u>	<u>890</u>	<u>3,878</u>	<u>1,254</u>	<u>2,624</u>
Total Trips Offsite	3,630	2,688	941	4,333	1,327	3,006
<u>2010 Preferred Alternative</u>						
Existing Development to Remain	392	341	51	455	73	382
New Development	<u>4,123</u>	<u>3,039</u>	<u>1,084</u>	<u>4,627</u>	<u>1,451</u>	<u>3,176</u>
Total Trips Offsite	4,515	3,380	1,135	5,082	1,524	3,558
Difference	-885	-692	-194	-749	-197	-552

Source: Transpo Group, October 2012.

¹ Vehicle trips were estimated based on person trips for each land use.

As shown in **Table 3.7-1**, due to the lower amount of redevelopment that is proposed, the 2012 Updated Preferred Alternative generates approximately 750 to 900 fewer peak hour trips than the 2010 Preferred Alternative.

Operation Impacts

Based on the similarities between the 2012 Updated Preferred Alternative and 2010 Preferred Alternative, including site access and onsite circulation, it is anticipated that the transportation impacts to the onsite and offsite intersections and roadways are similar to those analyzed in the 2010 EIS Addendum for the 2010 Preferred Alternative. In addition, given the decrease in trip generation and overall redevelopment density in the Waterfront District that would result under the 2012 Updated Preferred Alternative, it is possible that transportation impacts could be lower than previously identified for the 2010 Preferred Alternative. Level of service at area intersections under the 2012 Updated Preferred Alternative would be similar to or better than previously identified in the EIS. A biennial monitoring system will also be established to keep track of arterial and intersection levels of service, as well as mode shares for bicyclists and pedestrians. When WTA transit service becomes available within the Waterfront District in the future, seated capacity and ridership will be added to the biennial monitoring system.

3.7.3 Conclusion

Transportation-related impacts under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS for the 2010 Preferred Alternative. In general, the proposed level of redevelopment under the 2012 Updated Preferred Alternative is less than the level analyzed for the 2010 Preferred Alternative, which in turn would result in a lower vehicle trip generation in the Waterfront District under the 2012 Updated Preferred Alternative. In addition, the proposed roadway network, access and circulation are similar to the 2010 Preferred Alternative and as such, potential transportation-related impacts are anticipated to be similar to or less than those identified for the 2010 Preferred Alternative and no new significant transportation-related impacts are anticipated.

3.7.4 Mitigation Measures

Mitigation measures were identified in the 2010 EIS Addendum and these measures apply to the 2012 Updated Preferred Alternative. Because no additional significant transportation impacts were identified, no additional mitigation measures have been identified. Similar to the 2010 Preferred Alternative, transportation infrastructure improvements would be phased under the 2012 Updated Preferred Alternative to keep pace with proposed redevelopment of the Waterfront District. While the specific phasing of transportation infrastructure improvements has been slightly modified to reflect changes to the proposal under the 2012 Updated Preferred Alternative, the proposed phasing plan ensures that transportation infrastructure improvements keeps pace with development on the site. The biennial monitoring system would be used to affirm that the transportation improvements are sufficient to accommodate the anticipated trip generation. Refer to **Appendix D** to this 2012 EIS Addendum for further details on the proposed transportation infrastructure phasing for the 2012 Updated Preferred Alternative, as well as a listing of the transportation mitigation measures associated with the 2012 Updated Preferred Alternative.

3.7.5 Significant Unavoidable Adverse Impacts

As described in the 2008 DEIS, 2008 SDEIS and the 2010 EIS Addendum, the 2012 Updated Preferred Alternative accommodates additional amounts of future development within the site which contributes to travel demands and congestion along the onsite and offsite street system. The additional development and associated improvements also increases traffic access and

circulation in the area. This added congestion contributes to measurably poorer performance of the transportation network, in terms of increased delays along several of the corridors and at some specific intersections. The increase in traffic and higher volumes of pedestrians and bicycles results in more conflict points and increased hazards to safety. With the implementation of the identified mitigation measures, significant unavoidable adverse impacts would be prevented or substantially lessened so that no new significant unavoidable adverse impacts are anticipated under the 2012 Updated Preferred Alternative.

3.8 PUBLIC SERVICES

This section of the 2012 EIS Addendum provides a discussion of existing public service conditions, compares the probable significant impacts from the 2012 Updated Preferred Alternative on public services to those analyzed under the EIS, and identifies any new mitigation measures. Based on the similar redevelopment assumptions under the 2012 Updated Preferred Alternative and those assumptions that have been modified from the EIS (particularly the 2010 Preferred Alternative), this section will focus on potential impacts to parks and recreation. It is anticipated that potential impacts to fire and emergency services, police service, schools, and street maintenance would be similar to or less than those analyzed in the 2008 DEIS and 2008 SDEIS.

3.8.1 Affected Environment

The 2008 DEIS described the existing parks and recreation facilities in the City of Bellingham and in the vicinity of the Waterfront District site. At the time of publication of the 2008 DEIS, the City of Bellingham owned and operated 111 properties for parks, open space and recreation activities, including approximately 1,490 acres of park land, 395 acres of trails and greenways, and 376 acres of freshwater and saltwater natural areas. While the Waterfront District does not contain any formal park or recreation facilities, there are several facilities located in the site vicinity, including Maritime Heritage Park, the South Bay Trail, and the Whatcom Creek Trail. Existing access to the waterfront is limited in the downtown area, as the Waterfront District site comprises a majority of the shoreline area and minimal public access is currently provided.

The 2008 DEIS also provides a description of parks level of service (LOS) guidelines, as well as a summary of the City of Bellingham Parks, Recreation and Open Space Plan (amended in 2007). The amended 2007 Plan called for approximately 2,080 additional acres of park land and 33,425 additional facility units (square feet, courts, fields, picnic tables, etc.) by 2022. The Plan assumes that the Waterfront District site will ultimately include some level of park and recreational improvements, including saltwater access for fishing and swimming, a hand-carry boat launch site, power boat launch ramps, wet berth and slip dry moorage facilities, and boardwalks/walkways.

3.8.2 Impacts

Prior EIS Documents

Potential impacts to public services, and specifically parks and recreation, were analyzed in the EIS as part of the 2008 DEIS and the 2008 SDEIS. The 2008 DEIS analyzed a range of redevelopment alternatives for the Waterfront District site, including a range of park and recreation facilities from approximately 33 acres (2008 DEIS Alt. 1) to approximately 15 acres (2008 DEIS Alt. 3). Public parks are located throughout the site and proposed trails are located to provide connections between individual onsite areas and amenities, as well as between the site, surrounding neighborhoods and existing trails. New trails in the Waterfront District also complete links to Maritime Heritage Park, the Whatcom Creek Trail and the South Bay Trail, thereby connecting the Fairhaven neighborhood with Downtown Bellingham.

Increases in onsite population due to new permanent residents, as well as new onsite employees, result in increased demands on local and regional park and recreation facilities on an incremental basis as redevelopment occurs on the site. While the proposed onsite parks and

facilities are able to serve a portion of the demand created by new residents and employees, it is anticipated that existing park and recreational facilities in the vicinity of the site will also receive a portion of that increased demand. Given the variety of passive and active recreational opportunities within a one- to two-mile radius of the site, it is anticipated that increases in demand will be distributed among the numerous nearby parks. In addition, the potential payment of park impact fees by future residential redevelopment projects could also offset the project's demand for park and recreation facilities. Therefore, it is anticipated that potential impacts to existing park and recreation facilities would not be significant.

The 2008 SDEIS analyzed proposed redevelopment of the Waterfront District under a Preferred Alternative. The Preferred Alternative analyzed in the 2008 SDEIS included several redevelopment features that are similar to and within the range of alternatives analyzed in the 2008 DEIS. The 2008 SDEIS Preferred Alternative would include approximately 33 acres of new onsite parks, trails and habitat areas, as well as a marina. These areas are comparable in amount and function to those areas analyzed in the DEIS, and as such no additional impacts to park and recreation facilities are anticipated under the Preferred Alternative.

2012 EIS Addendum

Similar to the 2010 Preferred Alternative, the 2012 Updated Preferred Alternative includes approximately 33 acres of new upland parks and trails, as well as an additional approximately 6 acres of restored public beach areas (see **Figure 2-9** for a map of the proposed parks, trails and open space areas under the 2012 Updated Preferred Alternative). Parks and trails in the Waterfront District will link Downtown Bellingham and adjacent neighborhoods to the waterfront and create new areas for the community to walk, play and experience the waterfront. Parks and open spaces and trails will serve as an important linkage in developing a regional system of waterfront parks and trails. **Table 3.8-1** provides a summary of parks, trails and open space areas in the Waterfront District by redevelopment area.

Table 3.8-1
PARKS, TRAILS AND OPEN SPACE – 2012 UPDATED PREFERRED ALTERNATIVE

Redevelopment Area	Upland Park, Trail and Open Space	Public Beach Area
Marine Trades Area	9 acres	1 acre
Downtown Waterfront Area	5 acres	0 acres
Log Pond Area	5 acres	2 acres
Shipping Terminal Area	0 acres	0 acres
Cornwall Beach Area	14 acres	3 acres
Total	33 acres	6 acres

Source: Port of Bellingham, 2012.

While the amount of parks and recreation area is similar to the 2010 Preferred Alternative, the general location and distribution of parks, trails and open space areas is slightly modified under the 2012 Updated Preferred Alternative. The 2010 Preferred Alternative included a large park area within the Log Pond Area and adjacent to the shoreline area, as well as an additional park through the central portion of the Log Pond Area. Under the 2012 Updated Preferred Alternative a majority of the proposed park space in the Log Pond Area will be redistributed to other locations in the Waterfront District in order to enhance compatibility with the proposed industrial uses in the Log Pond Area under the 2012 Updated Preferred Alternative. The areas that include increased park space under the 2012 Updated Preferred Alternative primarily include the Cornwall Beach Area and the Marine Trades Area.

As previously described in the EIS, the precise design and layout of the proposed parks, trails and open space areas will be determined through future planning processes integrated with the design of future building footprints and streets. In addition, the development of parks, trails and open space on the site will be phased as development occurs in the Waterfront District and each phase of development will be accompanied by the creation of new public recreation, open space and habitat areas.

Due to the similar amounts of park and recreational space provided under the 2012 Updated Preferred Alternative, it is anticipated that potential impacts to park and recreation facilities are similar to those described in the EIS and no additional impacts are anticipated.

3.8.3 Conclusion

Public service-related impacts (specifically impacts to parks and recreation facilities) under the 2012 Updated Preferred Alternative are similar to or less than those identified in the EIS, due to the slightly lower amount of building development on the site and the similar amount of parks and open space provided in the Waterfront District. No additional public service-related impacts are anticipated.

3.8.4 Mitigation Measures

Mitigation measures were identified in the EIS as part of the 2008 DEIS, and these measures also apply to the 2012 Updated Preferred Alternative. Because no additional significant impacts were identified, no additional mitigation measures are warranted.

3.8.5 Significant Unavoidable Adverse Impacts

With the implementation of mitigation measures identified in the 2008 DEIS, no significant unavoidable adverse public service-related impacts are anticipated.

APPENDICES

APPENDIX A

**EIS ADDENDUM DISTRIBUTION
LIST**

APPENDIX A DISTRIBUTION LIST

Federal Agencies

United States Army Corps of Engineers
United States Environmental Protection Agency*
United States Fish & Wildlife Service
United States National Oceanic and Atmospheric Administration

State Agencies

Washington State Department of Archaeology & Historic Preservation
Washington State Department of Community, Trade and Economic Development*
Washington State Department of Ecology
Washington State Department of Fish and Wildlife
Washington State Department of Natural Resources
Washington State Department of Transportation

Tribes

Lummi Nation
Nooksack Tribe

Regional Agencies

Northwest Clean Air Agency
Puget Sound Partnership

Local Agencies, Commissions/Associations and Other Entities

Bellingham School District*
Cascade Natural Gas*
City of Bellingham

- Mayor
- City Council
- Planning Commission
- Staff
- Mayor's Neighborhood Advisory Commission
- CBD Neighborhood Association*
- Lettered Streets Neighborhood Association*
- Sehome Neighborhood Association*
- South Hill Neighborhood Association*

Port of Bellingham

- Port Commissioners
- SEPA Official
- Staff

Puget Sound Energy*
Waterfront Advisory Group
Western Washington University
Whatcom County Planning and Development Services
Whatcom Transit Authority

Public Libraries

City of Bellingham Library

All commentors on the DEIS, SDEIS, and EIS Addendum received a notice of availability.

**Received Notice of Availability*

APPENDIX B

**SUMMARY OF PRIOR SEPA
ENVIRONMENTAL REVIEW
DOCUMENTS FOR THE
WATERFRONT DISTRICT**

APPENDIX B

Summary of Prior SEPA Environmental Review Documents for the Waterfront District

The following provides a brief summary of the prior SEPA environmental review documents that have been issued for the Waterfront District.

Draft EIS – January 2008

The 2008 Draft EIS (2008 DEIS) addressed the probable significant adverse impacts that could occur as a result of the approval by the Port of amendments to the *Comprehensive Scheme of Harbor Improvements*, adoption by the City of the Master Development Plan and implementing regulations, the approval of a Development Agreement between the Port and City, and potential future redevelopment activities on the site during a 20-year build-out horizon.

A range of alternatives was addressed in the 2008 DEIS that represented an overall envelope of potential redevelopment that the site could accommodate (Alternatives 1 through 4 in the DEIS). The 2008 DEIS recognized that features of the alternatives could be mixed and matched to arrive at the final Master Plan Development for the site.

Supplemental Draft EIS – October 2008

Subsequent to the issuance of the DEIS, Port staff, with input from the City, the public, and agencies, prepared a recommended proposal that served as the redevelopment concept for the site and a "Preferred Alternative". This Preferred Alternative is the subject of the Supplemental Draft EIS (2008 SDEIS) which was issued in October 2008. The mix of uses and level of redevelopment called for in the Preferred Alternative were within the range of redevelopment addressed in the 2008 DEIS (within the range analyzed under Alternatives 1 through 4). The 2008 Preferred Alternative represented a further refinement of the DEIS Alternatives in the following key areas:

- Redevelopment density and mix of uses
- Road System
- Grading/Stormwater Management Concept
- Parks and Shoreline Habitat Plan
- In-Water Work
- Sustainable Design Strategies
- Historic Buildings/Structures
- View Corridors
- Development Regulations

The 2008 SDEIS also analyzed a "Straight Street Grid Option" as defined by the City of Bellingham.

2010 EIS Addendum – February 2010

Subsequent to the issuance of the 2008 SDEIS, updates to the Preferred Alternative were made based on additional public/community input, continued coordination with the City of Bellingham, and evolving economic conditions. These updates resulted in the development of the 2010 Updated Preferred Alternative. Similar to that described for the Preferred Alternative in the 2008 SDEIS, the 2010 Updated Preferred Alternative was intended to be a medium density, sustainable development that featured a diverse mix of uses that are complimentary to the downtown Bellingham Central Business District, Old Town and surrounding neighborhoods; an infrastructure network that integrates with and connects the waterfront to the surrounding area; and, a system of parks, trails and open space that opens up the waterfront to the community.

In many respects, redevelopment under the 2010 Updated Preferred Alternative would be similar to that described in the 2008 SDEIS for the Preferred Alternative. However, certain redevelopment assumptions were updated to reflect additional public/community input, continued coordination with the City and evolving economic conditions. The redevelopment assumptions under the 2010 Updated Preferred Alternative that have been modified from those described in the 2008 SDEIS Preferred Alternative included:

- Road Grid
- View Corridors
- Historic Buildings/Structures
- PSE Encogen Plant

Final EIS – July 2010

The 2010 FEIS described the 2010 Preferred Alternative (same 2010 Preferred Alternative as described in the 2010 EIS Addendum), provided discussions on key topic areas (Historic Resources, Transportation/Parking, Views, Environmental Health, Stormwater, and Parks and Shorelines), and provided responses to comments received on the 2008 DEIS, 2008 SDEIS, and the 2010 EIS Addendum.

APPENDIX C

**GREENHOUSE GAS EMISSIONS
WORKSHEET**

Waterfront District - 2012 Updated Preferred Alternative

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			Lifespan Emissions (MTCO2e)
			Embodied	Energy	Transportation	
Single-Family Home.....	0		98	672	792	0
Multi-Family Unit in Large Building	1646		33	357	766	1902273
Multi-Family Unit in Small Building	0		54	681	766	0
Mobile Home.....	0		41	475	709	0
Education		0.0	39	646	361	0
Food Sales		0.0	39	1,541	282	0
Food Service		0.0	39	1,994	561	0
Health Care Inpatient		0.0	39	1,938	582	0
Health Care Outpatient		0.0	39	737	571	0
Lodging		0.0	39	777	117	0
Retail (Other Than Mall).....		375.0	39	577	247	323533
Office		1,420.0	39	723	588	1916070
Public Assembly		0.0	39	733	150	0
Public Order and Safety		0.0	39	899	374	0
Religious Worship		0.0	39	339	129	0
Service		0.0	39	599	266	0
Warehouse and Storage		0.0	39	352	181	0
Other		1,530.0	39	1,278	257	2408488
Vacant		0.0	39	162	47	0

Section II: Pavement.....

Pavement.....		0.00				0
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Total Project Emissions:

6550365

King County Department of Development and Environmental Services
SEPA GHG Emissions Worksheet
Version 1.7 12/26/07

Introduction

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered cover smoke, dust, and industrial and automobile emissions. With our understanding of the climate change impacts of GHG emissions, King County requires the applicant to also estimate these emissions.

Emissions created by Development

GHG emissions associated with development come from multiple sources:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions)
- Energy demands created by the development after it is completed (Energy Emissions)
- Transportation demands created by the development after it is completed (Transportation Emissions)

GHG Emissions Worksheet

King County has developed a GHG Emissions Worksheet that can assist applicants in answering the SEPA Checklist question relating to GHG emissions.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

Using the Worksheet

1. Descriptions of the different residential and commercial building types can be found on the second tabbed worksheet ("Definition of Building Types"). If a development proposal consists of multiple projects, e.g. both single family and multi-family residential structures or a commercial development that consists of more than one type of commercial activity, the appropriate information should be estimated for each type of building or activity.

2. For paving, estimate the total amount of paving (in thousands of square feet) of the project.
3. The Worksheet will calculate the amount of GHG emissions associated with the project and display the amount in the "Total Emissions" column on the worksheet. The applicant should use this information when completing the SEPA checklist.
4. The last three worksheets in the Excel file provide the background information that is used to calculate the total GHG emissions.
5. The methodology of creating the estimates is transparent; if there is reason to believe that a better estimate can be obtained by changing specific values, this can and should be done. Changes to the values should be documented with an explanation of why and the sources relied upon.
6. Print out the "Total Emissions" worksheet and attach it to the SEPA checklist. If the applicant has made changes to the calculations or the values, the documentation supporting those changes should also be attached to the SEPA checklist.

Definition of Building Types

Type (Residential) or Principal Activity (Commercial)	Description
Single-Family Home.....	Unless otherwise specified, this includes both attached and detached buildings
Multi-Family Unit in Large Building	Apartments in buildings with more than 5 units
Multi-Family Unit in Small Building	Apartments in building with 2-4 units
Mobile Home.....	
Education	Buildings used for academic or technical classroom instruction, such as elementary, middle, or high schools, and classroom buildings on college or university campuses. Buildings on education campuses for which the main use is not classroom are included in the category relating to their use. For example, administration buildings are part of "Office," dormitories are "Lodging," and libraries are "Public Assembly."
Food Sales	Buildings used for retail or wholesale of food.
Food Service	Buildings used for preparation and sale of food and beverages for consumption.
Health Care Inpatient	Buildings used as diagnostic and treatment facilities for inpatient care.
Health Care Outpatient	Buildings used as diagnostic and treatment facilities for outpatient care. Doctor's or dentist's office are included here if they use any type of diagnostic medical equipment (if they do not, they are categorized as an office building).
Lodging	Buildings used to offer multiple accommodations for short-term or long-term residents, including skilled nursing and other residential care buildings.
Retail (Other Than Mall).....	Buildings used for the sale and display of goods other than food.
Office	Buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
Public Assembly	Buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.
Public Order and Safety	Buildings used for the preservation of law and order or public safety.
Religious Worship	Buildings in which people gather for religious activities, (such as chapels, churches, mosques, synagogues, and temples).
Service	Buildings in which some type of service is provided, other than food service or retail sales of goods
Warehouse and Storage	Buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
Other	Buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50 percent or more of the floorspace, but whose largest single activity is agricultural, industrial/ manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
Vacant	Buildings in which more floorspace was vacant than was used for any single commercial activity at the time of interview. Therefore, a vacant building may have some occupied floorspace.

Sources:

Residential 2001 Residential Energy Consumption Survey
Square footage measurements and comparisons
<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

Commercial Commercial Buildings Energy Consumption Survey (CBECS),
Description of CBECS Building Types
<http://www.eia.doe.gov/emeu/cbecs/pba99/bldgtypes.html>

Embodied Emissions Worksheet

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# thousand sq feet/ unit or building	Life span related embodied GHG missions (MTCO2e/ unit)	Life span related embodied GHG missions (MTCO2e/ thousand square feet) - See calculations in table below
Single-Family Home.....	2.53	98	39
Multi-Family Unit in Large Building	0.85	33	39
Multi-Family Unit in Small Building	1.39	54	39
Mobile Home.....	1.06	41	39
Education	25.6	991	39
Food Sales	5.6	217	39
Food Service	5.6	217	39
Health Care Inpatient	241.4	9,346	39
Health Care Outpatient	10.4	403	39
Lodging	35.8	1,386	39
Retail (Other Than Mall).....	9.7	376	39
Office	14.8	573	39
Public Assembly	14.2	550	39
Public Order and Safety	15.5	600	39
Religious Worship	10.1	391	39
Service	6.5	252	39
Warehouse and Storage	16.9	654	39
Other	21.9	848	39
Vacant	14.1	546	39

Section II: Pavement.....

All Types of Pavement.....			50
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	Columns and Beams	Intermediate Floors	Exterior Walls	Windows	Interior Walls	Roofs		
Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building	5.3	7.8	19.1	51.2	5.7	21.3		
Average Materials in a 2,272-square foot single family home	0.0	2269.0	3206.0	285.0	6050.0	3103.0	Total Embodied Emissions (MTCO2e)	Total Embodied Emissions (MTCO2e/ thousand sq feet)
MTCO2e	0.0	8.0	27.8	6.6	15.6	30.0	88.0	38.7

Sources

All data in black text

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Residential floorspace per unit

2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

Floorspace per building

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building

Athena EcoCalculator
Athena Assembly Evaluation Tool v2.3- Vancouver Low Rise Building
Assembly Average GWP (kg) per square meter
<http://www.athenasmi.ca/tools/ecocalculator/index.html>
Lbs per kg 2.20
Square feet per square meter 10.76

Average Materials in a 2,272-square foot single family home

Buildings Energy Data Book: 7.3 Typical/Average Household
Materials Used in the Construction of a 2,272-Square-Foot Single-Family Home, 2000
http://buildingsdatabook.eren.doe.gov/?id=view_book_table&TableID=2036&t=xls
See also: NAHB, 2004 Housing Facts, Figures and Trends, Feb. 2004, p. 7.

Average window size

Energy Information Administration/Housing Characteristics 1993
Appendix B, Quality of the Data. Pg. 5.
<ftp://ftp.eia.doe.gov/pub/consumption/residential/rx93hct.pdf>

Embodied GHG Emissions.....Worksheet Background Information

Buildings

Embodied GHG emissions are emissions that are created through the extraction, processing, transportation, construction and disposal of building materials as well as emissions created through landscape disturbance (by both soil disturbance and changes in above ground biomass).

Estimating embodied GHG emissions is new field of analysis; the estimates are rapidly improving and becoming more inclusive of all elements of construction and development.

The estimate included in this worksheet is calculated using average values for the main construction materials that are used to create a typical family home. In 2004, the National Association of Home Builders calculated the average materials that are used in a typical 2,272 square foot single-family household. The quantity of materials used is then multiplied by the average GHG emissions associated with the life-cycle GHG emissions for each material.

This estimate is a rough and conservative estimate; the actual embodied emissions for a project are likely to be higher. For example, at this stage, due to a lack of comprehensive data, the estimate does not include important factors such as landscape disturbance or the emissions associated with the interior components of a building (such as furniture).

King County realizes that the calculations for embodied emissions in this worksheet are rough. For example, the emissions associated with building 1,000 square feet of a residential building will not be the same as 1,000 square feet of a commercial building. However, discussions with the construction community indicate that while there are significant differences between the different types of structures, this method of estimation is reasonable; it will be improved as more data become available.

Additionally, if more specific information about the project is known, King County recommends two online embodied emissions calculators that can be used to obtain a more tailored estimate for embodied emissions: www.buildcarbonneutral.org and www.athenasmi.ca/tools/ecoCalculator/.

Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle. For specifics, see the worksheet.

Special Section: Estimating the Embodied Emissions for Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle.

The results of the studies are presented in different units and measures; considerable effort was undertaken to be able to compare the results of the studies in a reasonable way. For more details about the below methodology, contact matt.kuharic@kingcounty.gov.

The four studies, Meil (2001), Park (2003), Stripple (2001) and Treolar (2001) produced total GHG emissions of 4-34 MTCO₂e per thousand square feet of finished paving (for similar asphalt and concrete based pavements). This estimate does not including downstream maintenance and repair of the highway. The average (for all concrete and asphalt pavements in the studies, assuming each study gets one data point) is ~17 MTCO₂e/thousand square feet.

Three of the studies attempted to thoroughly account for the emissions associated with long term maintenance (40 years) of the roads. Stripple (2001), Park et al. (2003) and Treolar (2001) report 17, 81, and 68 MTCO₂e/thousand square feet, respectively, after accounting for maintenance of the roads.

Based on the above discussion, King County makes the conservative estimate that 50 MTCO₂e/thousand square feet of pavement (over the development's life cycle) will be used as the embodied emission factor for pavement until better estimates can be obtained. This is roughly equivalent to 3,500 MTCO₂e per lane mile of road (assuming the lane is 13 feet wide).

It is important to note that these studies estimate the embodied emissions for roads. Paving that does not need to stand up to the rigors of heavy use (such as parking lots or driveways) would likely use less materials and hence have lower embodied emissions.

Sources:

Meil, J. A Life Cycle Perspective on Concrete and Asphalt Roadways: Embodied Primary Energy and Global Warming Potential. 2006. Available: [http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b90061b914/\\$FILE/ATTKOWE3/athena%20report%20Feb.%202%202007.pdf](http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b90061b914/$FILE/ATTKOWE3/athena%20report%20Feb.%202%202007.pdf)

Park, K, Hwang, Y., Seo, S., M.ASCE, and Seo, H. , "Quantitative Assessment of Environmental Impacts on Life Cycle of Highways," Journal of Construction Engineering and Management , Vol 129, January/February 2003, pp 25-31, (DOI: 10.1061/(ASCE)0733-9364(2003)129:1(25)).

Stripple, H. Life Cycle Assessment of Road. A Pilot Study for Inventory Analysis. Second Revised Edition. IVL Swedish Environmental Research Institute Ltd. 2001. Available: <http://www.ivl.se/rapporter/pdf/B1210E.pdf>

Treloar, G., Love, P.E.D., and Crawford, R.H. Hybrid Life-Cycle Inventory for Road Construction and Use. Journal of Construction Engineering and Management. P. 43-49. January/February 2004.

Energy Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	Energy consumption per building per year (million Btu)	Carbon Coefficient for Buildings	MTCO2e per building per year	Floorspace per Building (thousand square feet)	MTCE per thousand square feet per year	MTCO2e per thousand square feet per year	Average Building Life Span	Lifespan Energy Related MTCO2e emissions per unit	Lifespan Energy Related MTCO2e emissions per thousand square feet
Single-Family Home.....	107.3	0.108	11.61	2.53	4.6	16.8	57.9	672	266
Multi-Family Unit in Large Building	41.0	0.108	4.44	0.85	5.2	19.2	80.5	357	422
Multi-Family Unit in Small Building	78.1	0.108	8.45	1.39	6.1	22.2	80.5	681	489
Mobile Home.....	75.9	0.108	8.21	1.06	7.7	28.4	57.9	475	448
Education	2,125.0	0.124	264.2	25.6	10.3	37.8	62.5	16,526	646
Food Sales	1,110.0	0.124	138.0	5.6	24.6	90.4	62.5	8,632	1,541
Food Service	1,436.0	0.124	178.5	5.6	31.9	116.9	62.5	11,168	1,994
Health Care Inpatient	60,152.0	0.124	7,479.1	241.4	31.0	113.6	62.5	467,794	1,938
Health Care Outpatient	985.0	0.124	122.5	10.4	11.8	43.2	62.5	7,660	737
Lodging	3,578.0	0.124	444.9	35.8	12.4	45.6	62.5	27,826	777
Retail (Other Than Mall).....	720.0	0.124	89.5	9.7	9.2	33.8	62.5	5,599	577
Office	1,376.0	0.124	171.1	14.8	11.6	42.4	62.5	10,701	723
Public Assembly	1,338.0	0.124	166.4	14.2	11.7	43.0	62.5	10,405	733
Public Order and Safety	1,791.0	0.124	222.7	15.5	14.4	52.7	62.5	13,928	899
Religious Worship	440.0	0.124	54.7	10.1	5.4	19.9	62.5	3,422	339
Service	501.0	0.124	62.3	6.5	9.6	35.1	62.5	3,896	599
Warehouse and Storage	764.0	0.124	95.0	16.9	5.6	20.6	62.5	5,942	352
Other	3,600.0	0.124	447.6	21.9	20.4	74.9	62.5	27,997	1,278
Vacant	294.0	0.124	36.6	14.1	2.6	9.5	62.5	2,286	162

Sources

All data in black text

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Energy consumption for residential buildings

2007 Buildings Energy Data Book: 6.1 Quad Definitions and Comparisons (National Average, 2001)
 Table 6.1.4: Average Annual Carbon Dioxide Emissions for Various Functions
<http://buildingsdatabook.eren.doe.gov/>
 Data also at: http://www.eia.doe.gov/emeu/recs/recs2001_ce/ce1-4c_housingunits2001.html

Energy consumption for commercial buildings and Floorspace per building

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
 Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Note: Data in plum color is found in both of the above sources (buildings energy data book and commercial buildings energy consumption survey).

Carbon Coefficient for Buildings

Buildings Energy Data Book (National average, 2005)
 Table 3.1.7. 2005 Carbon Dioxide Emission Coefficients for Buildings (MMTCE per Quadrillion Btu)
http://buildingsdatabook.eere.energy.gov/?id=view_book_table&TableID=2057
 Note: Carbon coefficient in the Energy Data book is in MTCE per Quadrillion Btu.
 To convert to MTCO2e per million Btu, this factor was divided by 1000 and multiplied by 44/12.

Residential floorspace per unit

2001 Residential Energy Consumption Survey (National Average, 2001)
 Square footage measurements and comparisons
<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

average life span of buildings,
estimated by replacement time method

	Single Family Homes	Multi-Family Units in Large and Small Buildings	All Residential Buildings
New Housing Construction, 2001	1,273,000	329,000	1,602,000
Existing Housing Stock, 2001	73,700,000	26,500,000	100,200,000
Replacement time:	57.9	80.5	62.5

(national
average, 2001)

Note: Single family homes calculation is used for mobile homes as a best estimate life span.

Note: At this time, KC staff could find no reliable data for the average life span of commercial buildings.

Therefore, the average life span of residential buildings is being used until a better approximation can be ascertained.

Sources:

New Housing Construction,

2001 Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)

http://www.census.gov/const/quarterly_starts_completions_cust.xls

See also: <http://www.census.gov/const/www/newresconstindex.html>

Existing Housing Stock,

2001 Residential Energy Consumption Survey (RECS) 2001

Tables HC1:Housing Unit Characteristics, Million U.S. Households 2001

Table HC1-4a. Housing Unit Characteristics by Type of Housing Unit, Million U.S. Households, 2001
Million U.S. Households, 2001

http://www.eia.doe.gov/emeu/recs/recs2001/hc_pdf/housunits/hc1-4a_housingunits2001.pdf

Transportation Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	# people/ unit or building	# thousand sq feet/ unit or building	# people or employees/ thousand square feet	vehicle related GHG emissions (metric tonnes CO2e per person per year)	MTCO2e/ year/ unit	MTCO2e/ year/ thousand square feet	Average Building Life Span	Life span transportation related GHG emissions (MTCO2e/ per unit)	Life span transportation related GHG emissions (MTCO2e/ thousand sq feet)
Single-Family Home.....	2.8	2.53	1.1	4.9	13.7	5.4	57.9	792	313
Multi-Family Unit in Large Building	1.9	0.85	2.3	4.9	9.5	11.2	80.5	766	904
Multi-Family Unit in Small Building	1.9	1.39	1.4	4.9	9.5	6.8	80.5	766	550
Mobile Home.....	2.5	1.06	2.3	4.9	12.2	11.5	57.9	709	668
Education	30.0	25.6	1.2	4.9	147.8	5.8	62.5	9247	361
Food Sales	5.1	5.6	0.9	4.9	25.2	4.5	62.5	1579	282
Food Service	10.2	5.6	1.8	4.9	50.2	9.0	62.5	3141	561
Health Care Inpatient	455.5	241.4	1.9	4.9	2246.4	9.3	62.5	140506	582
Health Care Outpatient	19.3	10.4	1.9	4.9	95.0	9.1	62.5	5941	571
Lodging	13.6	35.8	0.4	4.9	67.1	1.9	62.5	4194	117
Retail (Other Than Mall).....	7.8	9.7	0.8	4.9	38.3	3.9	62.5	2394	247
Office	28.2	14.8	1.9	4.9	139.0	9.4	62.5	8696	588
Public Assembly	6.9	14.2	0.5	4.9	34.2	2.4	62.5	2137	150
Public Order and Safety	18.8	15.5	1.2	4.9	92.7	6.0	62.5	5796	374
Religious Worship	4.2	10.1	0.4	4.9	20.8	2.1	62.5	1298	129
Service	5.6	6.5	0.9	4.9	27.6	4.3	62.5	1729	266
Warehouse and Storage	9.9	16.9	0.6	4.9	49.0	2.9	62.5	3067	181
Other	18.3	21.9	0.8	4.9	90.0	4.1	62.5	5630	257
Vacant	2.1	14.1	0.2	4.9	10.5	0.7	62.5	657	47

Sources

All data in black text

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

people/ unit

Estimating Household Size for Use in Population Estimates (WA state, 2000 average)

Washington State Office of Financial Management

Kimpel, T. and Lowe, T. Research Brief No. 47. August 2007

<http://www.ofm.wa.gov/researchbriefs/brief047.pdf>

Note: This analysis combines Multi Unit Structures in both large and small units into one category; the average is used in this case although there is likely a difference

Residential floorspace per unit

2001 Residential Energy Consumption Survey (National Average, 2001)

Square footage measurements and comparisons

<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

employees/thousand square feet

Commercial Buildings Energy Consumption Survey commercial energy uses and costs (National Median, 2003)

Table B2 Totals and Medians of Floorspace, Number of Workers, and Hours of Operation for Non-Mall Buildings, 2003

http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set1/2003excel/b2.xls

Note: Data for # employees/thousand square feet is presented by CBECS as square feet/employee.

In this analysis employees/thousand square feet is calculated by taking the inverse of the CBECS number and multiplying by 1000.

vehicle related GHG emissions

Estimate calculated as follows (Washington state, 2006)_

56,531,930,000 2006 Annual WA State Vehicle Miles Traveled

Data was daily VMT. Annual VMT was 365*daily VMT.

<http://www.wsdot.wa.gov/mapsdata/tdo/annualmileage.htm>

6,395,798 2006 WA state population

<http://quickfacts.census.gov/qfd/states/53000.html>

8839 vehicle miles per person per year

0.0506 gallon gasoline/mile

This is the weighted national average fuel efficiency for all cars and 2 axle, 4 wheel light trucks in 2005. This includes pickup trucks, vans and SUVs. The 0.051 gallons/mile used here is the inverse of the more commonly known term "miles/per gallon" (which is 19.75 for these cars and light trucks).

Transportation Energy Data Book. 26th Edition. 2006. Chapter 4: Light Vehicles and Characteristics. Calculations based on weighted average MPG efficiency of cars and light trucks.

http://cta.ornl.gov/data/tedb26/Edition26_Chapter04.pdf

Note: This report states that in 2005, 92.3% of all highway VMT were driven by the above described vehicles.

http://cta.ornl.gov/data/tedb26/Spreadsheets/Table3_04.xls

24.3 lbs CO2e/gallon gasoline

The CO2 emissions estimates for gasoline and diesel include the extraction, transport, and refinement of petroleum as well as their combustion.

Life-Cycle CO2 Emissions for Various New Vehicles. RENew Northfield.

Available: <http://renewnorthfield.org/wpcontent/uploads/2006/04/CO2%20emissions.pdf>

Note: This is a conservative estimate of emissions by fuel consumption because diesel fuel, with a emissions factor of 26.55 lbs CO2e/gallon was not estimated.

2205

4.93 lbs/metric tonne

vehicle related GHG emissions (metric tonnes CO2e per person per year)

average life span of buildings, estimated
by replacement time method

See Energy Emissions Worksheet for Calculations

Commercial floorspace per unit

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)

Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003

http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

APPENDIX D

**TRANSPORTATION ANALYSIS
UPDATE MEMORANDUM**

MEMORANDUM

Date:	October 30, 2012	TG:	05167.01
To:	Sylvia Goodwin, Port of Bellingham Mike Stoner, Port of Bellingham		
From:	Stefanie Herzstein, Transpo Group Jon Pascal, Transpo Group		
cc:	Tara Sundin, City of Bellingham Chris Comeau, City of Bellingham		
Subject:	The Waterfront District Subarea Plan Transportation Analysis Update for 2012 SEIS Addendum		

The Waterfront District Redevelopment Transportation Discipline Report Supplemental Environmental Impact Statement Addendum (2010 SEIS Addendum) was completed in January 2010 and since that time The Waterfront District Plan has evolved. This memorandum provides updated transportation analyses related to changes that have taken place since completion of the 2010 SEIS Addendum. The analyses presented builds on work completed as part of the 2010 SEIS Addendum, New Whatcom Redevelopment Project Supplemental Draft Environmental Impact Statement (2008 SDEIS) published in September 2008 and the New Whatcom Redevelopment Project Draft Environmental Impact Statement (2008 DEIS) published in January 2008.

The focus of this document is related to transportation impacts and mitigations that differ from the 2010 SEIS Addendum due to the change in land use and on-site circulation and access. The Waterfront District 2012 land use and proposed roadway infrastructure by phase are provided in **Attachment A**. An understanding of roadway infrastructure phasing and capacity is also presented.

Trip Generation

The current land use proposal is 5.3 million square-feet of mixed-use development as compared to the 6.0 million square-feet of development proposed in 2010. Trip generation was calculated for both the weekday AM and PM peak hours for the 2012 land use proposal. The process for estimating trip generation uses the same method as described in the 2008 DEIS (see Appendix N of the 2008 DEIS). **Attachment B** provides detailed trip generation calculations. A summary of estimated AM and PM peak hour off-site vehicle trip generation for the 2012 land use proposal is provided in Table 1. The summary includes trips from the existing development that would remain, and new trips generated with redevelopment of the site. The 2010 SEIS Addendum Update Preferred Alternative trip generation is shown for comparison. As shown in the table, the 2012 proposal would generate approximately 750 to 900 less peak hour trips than the 2010 proposal.

Table 1. Estimated Off-Site Vehicle Trip Generation Summary

Scenario	AM Peak Hour Vehicle Trips ^{1,2}			PM Peak Hour Vehicle Trips ^{1,2}		
	Total	In	Out	Total	In	Out
<u>2012 Land Use Proposal</u>						
Existing Development to Remain	392	341	51	455	73	382
New Development	<u>3,238</u>	<u>2,347</u>	<u>890</u>	3,878	1,254	2,624
Total Trips Off-Site	3,630	2,688	941	4,333	1,327	3,006
<u>2010 Land Use Proposal</u>						
Existing Development to Remain	392	341	51	455	73	382
New Development	<u>4,123</u>	<u>3,039</u>	<u>1,084</u>	4,627	1,451	3,176
Total Trips Off-Site	4,515	3,380	1,135	5,082	1,524	3,558
Difference	-885	-692	-194	-749	-197	-552

Source: Transpo Group (October 2012)

1. Vehicle trips were estimated based on person trips for each land use.

Access and Circulation

Proposed 2012 access to the Marine Trades Area is identical to that proposed in 2010. The 2012 on-site circulation for the areas south of the Whatcom Waterway is very similar to the 2010 proposal; however, instead of the Central Avenue access a new intersection 50 to 160 feet southeast of Central Avenue called Granary Avenue is proposed. The Granary Avenue access will have a similar capacity and serve the same areas as Central Avenue. Bay Street, Commercial Street, Cornwall Avenue and Wharf Street would also provide access to the area South of Waterway consistent with the 2010 proposal. Similar to 2010, Wharf Street may be closed with relocation of the railroad in Phase 5. Along with access changes some of the internal circulation roadways such as Paper Avenue and Oak Street are not proposed as part of the 2012 on-site circulation system; however, these were relatively minor roadways and it is anticipated that as the site develops driveways and other internal roadways would be constructed to provide access to the major internal roads and allow for circulation to the access points similar to the 2010 proposal.

Operations Impacts

Based on a review of the 2012 land use proposal and on-site circulation and access, it is anticipated that transportation impacts to the on-site and off-site intersections and roadways would be similar to those identified in the 2010 SEIS Addendum. Given the decrease in trip generation overall transportation impacts could be less than previously identified.

Mitigation Strategies and Infrastructure Phasing

Mitigation measures are presented to reduce or eliminate impacts for both the on-site and off-site study area transportation system. The mitigation strategy for the 2012 proposal is the same as presented in the 2010 SEIS Addendum. Mitigation measures include improvements along Cornwall Avenue, Maple Street, C Street at Roeder Avenue and Holly Street, and upgrades to traffic control at access locations.

The Waterfront District mitigations will be phased to keep pace with the development. Tables 2 and 3 summarize the on-site and off-site improvements and the level of development that could be accommodated with the improvements for each phase. The phasing examines the Marine Trades area separate from the Downtown Waterfront, Log Pond, Shipping Terminal, and Cornwall Beach redevelopment areas. The capacity of the transportation system is based on the total outbound PM peak hour vehicular capacity (i.e., existing on-site vehicle trips plus net new project-related vehicle trips). The outbound direction generates the highest demand during the PM peak hour for the

assumed set of land uses. This capacity represents the maximum number of outbound weekday PM peak hour trips that could be accommodated with the assumed infrastructure improvements. For informational purposes, the approximate square-feet of development related to the outbound vehicle trip threshold is presented in the tables. The proposed land use and associated trip generation is also presented in Tables 2 and 3 to provide an understanding of how the 2012 proposal compares to the anticipated infrastructure capacity.

Table 2. Phasing of Transportation Infrastructure Improvements and Associated Development Potential¹ – North of Waterway

			PM Peak Hour Outbound Vehicles				Development in Millions of sf			
Project Sequence	On-Site Improvements	Off-Site Mitigation ²	Existing Development to Remain	2012 Proposal New Development	Proposed Infrastructure Threshold ³	Remaining Trip Capacity	Existing Development to Remain	2012 Proposal New Development	Approximate Infrastructure Capacity ^{4,5}	Remaining Infrastructure Capacity
Existing Street Network (with continued Industrial Usage) ⁶			240	-	400	160	0.35	-	0.6	0.25
Phase 1: Activate Downtown Waterfront Area (See Table 2)			240	30	400	130	0.35	0.1	0.6	0.15
Phase 2: Activate Cornwall Beach (See Table 2)			240	65	400	95	0.35	0.2	0.6	0.05
Phase 3: Infill in Downtown Area (See Table 2)			240	95	400	65	0.35	0.15	0.6	0.1
Phase 4: : Activate Marine Trades Area and Marina										
4.1	Upgrade F Street (including signal at Roeder Avenue) to new Maple Street	Designated Truck Routes Plan								
4.2	Construct Maple Street and Chestnut Street within Marine Trades	Develop plan for Holly Street Striping, Access, Channelization, and Parking. Coordinate with Old Town Planning.	240	275	550	35	0.35	0.35	0.7	0.00
Phase 5: Rail Relocation and Full Build-out of Downtown Area										
5.1	Upgrade C Street at Roeder Avenue including signalize and turn lanes along C Street	Signalize C Street intersection with Holly Street and provide turn lanes along C Street.			750		0.35		1.1	
5.2	Upgrade Hilton Avenue at Roeder Avenue including traffic signal and turn lanes along Hilton Avenue	Upgrade Roeder Avenue between Hilton Avenue and C Street with additional drop/turn lanes at major intersections.			1,000		0.35		1.4	
		Improve Holly Street from F Street to Champion Street to provide turn lanes or restrict movements at intersections and enhanced pedestrian facilities (Based on Holly Street Striping, Access, Channelization, and Parking Plan).	240	890	1,150	20	0.35	1.15	1.6	0.1

Source: Transpo Group (October 2012)

1. The infrastructure phasing addresses the Marine Trades Area separate from the Downtown Waterfront, Log Pong, Shipping Terminal, and Cornwall Beach Areas.

2. The off-site mitigation represents those improvements needed to support the redevelopment.

3. Outbound vehicle trips represent peak direction of travel during the PM peak hour. This threshold represents the number of weekday PM peak hour trips that could be accommodated without additional infrastructure.

4. Approximate square-footage is provided for reference and is based on the average outbound vehicle trip rate of 720 trips per 1.0 msf related. This is based on an average rate as seen from the alternatives analyzed and assumes mode splits consistent with the City of Bellingham Comprehensive Plan goals. Depending on the land use mix, the actual square-footage of the development that can be accommodated could be higher or lower than shown. The PM peak hour outbound vehicle trip threshold should be used to evaluate infrastructure needs and not the development square-footage.

5. The capacity assumes that infrastructure is constructed or planned such that 1) the City has completed design of infrastructure; 2) the City has secured financial commitments; and 3) the infrastructure will be constructed within a three (3) year period and/or transit service is actively available to new development within the Waterfront District.

6. The existing street network has 0.5 million square feet of development capacity assuming areas of the site are utilized for industrial development.

Table 3. Phasing of Transportation Infrastructure Improvements and Associated Development Potential¹ – South of Waterway

			PM Peak Hour Outbound Vehicles				Development in Millions of sf			
Project Sequence	On-Site Improvements	Off-Site Mitigation ²	Existing Development to Remain	2012 Proposal New Development	Threshold ³	Remaining Trip Capacity	Existing Development to Remain	2012 Proposal New Development	Approximate Infrastructure Capacity ^{4,5}	Remaining Infrastructure Capacity
Existing Street Network (with continued Industrial Usage) ⁶			-		975 ⁵		0.22	-	1.7 ⁵	1.48
Phase 1: Activate Downtown Waterfront Area										
1.1	Rebuild temporary Central Avenue	Wharf Street Roundabout is constructed by 2013								
1.2	Build Granary Avenue and Bloedel Avenue to Commercial Street	Signalize intersection at Granary Avenue and Roeder Avenue								
1.3	Build Interim Bloedel Avenue extension from Commercial Street to Interim Laurel Street									
1.4	Upgrade Interim Laurel Street from Bloedel Avenue to Cornwall Avenue, including at-grade crossing along Laurel Street and Cornwall Avenue									
1.5	Build lower portion of Commercial Green to interim Laurel Street		140	235	750	375	0.22	0.5	1.3	0.58
Phase 2: Activate Cornwall Beach										
	Cornwall Avenue extension to Cornwall Beach (park project)	Transit Strategy and Facilities Plan								
		Temporary traffic signal at Laurel Street/Cornwall Avenue	140	480	975	355	0.22	1.0	1.6	0.38
Phase 3: Infill in Downtown Area										
3.1	Build Commercial Bridge connecting to Chestnut Street									
3.2	Complete Commercial Green return lane from Loop to Tile Tanks		140	760	1,600	860	0.22	1.6	2.7 ⁷	0.88
Phase 4: Activate Marine Trades Area and Marina (see Table 1)			140	1,050	1,600	410	0.22	2.2	2.7 ⁷	0.28
Phase 5: Rail Relocation and Full Build-out of Downtown Area										
5.0	Bay Street Parking Garage	Signalize Bay Street/Chestnut Street	140	1,730	2,000	130 ⁸	0.22	3.58	3.4	-0.4
5.1	Cornwall Bridge closed to relocate BNSF railroad	Provide a northbound left-turn lane and shared through/right-turn lane, and upgrade traffic signal at Cornwall Avenue/Chestnut Street.	140	1,730	1,600	-270	0.22	3.58	2.7	-1.1
5.2	Rebuild Cornwall Bridge with three lanes	Right turn drop lane along Cornwall Avenue at Maple Street. Signalize Maple Street/Cornwall Avenue, Maple Street/State Street, Maple Street/Forest Street and upgrade Maple Street with shared lanes and enhanced pedestrian facilities.	140	1,730	2,550	680	0.22	3.58	4.4	0.6
5.3	Complete Bloedel Avenue from Commercial Green		140	1,730	2,550	680	0.22	3.58	4.4	0.6
5.4	Construct final leg of Commercial Bridge		140	1,730	2,550	680	0.22	3.58	4.4	0.6
5.5	Potential at-grade crossing closure at Wharf Street (After Completion of Cornwall Bridge)		140	1,730	2,200	330	0.22	3.58	3.8	0
5.6	Construct Log Pond Drive cul-de-sac along edge of institutional area		140	1,730	2,200	330	0.22	3.58	3.8	0

Source: Transpo Group (October 2012)

1. The infrastructure phasing addresses the Marine Trades Area separate from the Downtown Waterfront, Log Pong, Shipping Terminal, and Cornwall Beach Areas.

2. The off-site mitigation represents those improvements needed to support the redevelopment.

3. Outbound vehicle trips represent peak direction of travel during the PM peak hour. This threshold represents the number of weekday PM peak hour trips that could be accommodated without additional infrastructure.

4. Approximate square-footage is provided for reference and is based on the average outbound vehicle trip rate of 580 trips per 1.0 msf related. This is based on an average rate as seen from the alternatives analyzed and assumes mode splits consistent with the City of Bellingham Comprehensive Plan goals. Depending on the land use mix, the actual square-footage of the development that can be accommodated could be higher or lower than shown. The PM peak hour outbound vehicle trip threshold should be used to evaluate infrastructure needs and not the development square-footage.

5. The capacity assumes that infrastructure is constructed or planned such that 1) the City has completed design of infrastructure; 2) the City has secured financial commitments; and 3) the infrastructure will be constructed within a three (3) year period and/or transit service is actively available to new development within the Waterfront District.

6. The existing street network has 1.7 million square feet of development capacity assuming the southwestern areas of the site are utilized for industrial development, using available capacity on both Cornwall Avenue and Wharf Street.

7. If Bay Street Parking Garage, other alternative access, and/or increases in non-auto mode splits do not occur prior to Cornwall Bridge closure, the total on-site capacity would be capped at 1,200 outbound PM peak hour vehicles (approximately 2.1 million square-feet) to accommodate anticipated traffic generation within the adopted LOS standards during construction. Alternatively, the City Council could take action and invoke Comprehensive Plan TP-12 allowing arterials serving the site to experience higher levels of vehicle traffic congestion. Adoption of such action should take into consideration traffic safety and impacts on all modes to and from the site and could be evaluated through the biennial monitoring.

8. The proposed land use mix results in some remaining vehicle capacity see footnote 4.

The following describes in more detail the mitigation strategy as has been identified in previous documentation.

Holly Street Striping, Access, Channelization, and Parking Plan

The Holly Street corridor provides access to the Marine Trades Area from downtown Bellingham. The corridor currently provides one travel lane in each direction northeast of Bay Street, turn lanes in places, and on-street parking. With additional development in the Marine Trades Area and in Old Town, the existing channelization of the corridor should be evaluated to identify the optimal channelization to accommodate greater turning movements and pedestrian volumes in the future. The Port should work with the City to evaluate additional turn lanes at C Street and consider restricting certain turn movements along the corridor between F Street and Champion Street. The evaluation should consider the C Street and F Street corridors, along with Roeder Avenue to identify the best overall striping, access, parking, and channelization plan for the area. In addition to channelization, consideration should be given to the corridor parking plan including potential impacts to on-street parking and alternate parking locations, if necessary.

Maple Street Upgrades

With the closure of Wharf Street and no bridge connection, Maple Street would need to play a more significant role as an access point to and from the site for both vehicular and non-motorized traffic. The Maple Street corridor would need to be upgraded with traffic control improvements at Cornwall Avenue, State Street, and Forest Street. In addition, enhanced pedestrian facilities and shared lanes would be provided for both bicycle and vehicular traffic. A traffic signal would be provided at the Maple Street/Cornwall Avenue intersection with a northbound right-turn drop lane along Cornwall Avenue at Maple Street. These improvements would facilitate walking and biking between Western Washington University (WWU) as well as allow for vehicular traffic to and from the south and east to access the site without needing to circulate through downtown.

Cornwall Avenue/Chestnut Street Intersection Improvement

Improvements are recommended at the Cornwall Avenue/Chestnut Street intersection to provide additional capacity with the Updated Preferred Alternative. The northbound approach would be re-striped to accommodate a dedicated left-turn lane and a shared through/right-turn lane. Along with these improvements, the signal would need to be upgraded to accommodate the northbound protected left-turn.

Non-Motorized Improvements

Several corridors will provide important pedestrian and bicycle links between the site and downtown or WWU. Facilities along these corridors would need to be improved to accommodate the increase in pedestrian and bicycle traffic. Improvements include the addition of bicycle lanes, wider shoulders, or shared lanes. Shared lanes would be provided along Maple Street to facilitate shared bicycle and vehicle use as well as enhance the pedestrian facilities along this corridor. In addition, Central Avenue would be a pedestrian corridor between Roeder Avenue and Holly Street. Traffic signals will be required at both intersections where Central Avenue meets Roeder Avenue and will need to be timed to operate as one coordinated signal system. This will allow both pedestrians and vehicular traffic to circulate safely. The specific signal needs for this location will be determined through the biennial monitoring and the design process and will depend on whether the access is closed to vehicles and the specific alignment of Granary Avenue.

Transit Strategy

The Port and City should work with WTA to develop a strategy to provide transit service to and from the site. This strategy would consider the feasible capital investment for an increased fleet and transit facilities, as well as the available operating funds for the transit system. The availability of funding should be balanced with the desire to achieve a greater non-auto mode share. Potential transit routes

and frequency of service should be evaluated and identified. The strategy should take into consideration operations both with and without Wharf Street.

Biennial Traffic Monitoring Program

A greater non-auto mode share would help address circulation issues on-site and at the site access locations. The actual mode share achievement would be monitored through biennial surveys of both the Marine Trades Area and the Downtown Waterfront, Log Pond, Shipping Terminal, and Cornwall Beach redevelopment areas. Data collection for the biennial monitoring program should be conducted during the PM peak hour and include the following components:

- **Traffic Counts.** Daily and peak hour traffic counts at all site access locations.
- **Vehicle Classification Counts.** Daily and peak hour vehicle classification counts at the site access locations including trucks, autos, and transit.
- **Pedestrian and Bicycle Counts.** Peak hour pedestrian and bicycle counts at each site access location.

Attachment C provides a more detailed description of the biennial monitoring program. The ability to achieve certain mode splits is influenced by the land uses within the site; therefore, separate monitoring should be conducted for the Marine Trades Area since it would contain industrial and marine uses, which typically have a higher auto use due to the nature of the land use. The data collected for each site would be used to confirm when improvements are required as shown in Tables 2 and 3 and make adjustments to the Waterfront Concurrency Service Area (CSA) to account for infrastructure improvements and mode splits. In addition, the data will assist in understanding whether mode share targets are being achieved. The ability to meet or exceed mode share targets may reduce the level of infrastructure improvements required to serve the site. Conversely, the inability to meet mode share targets may require a reduction in the overall level of development accommodated on-site or other improvements to increase capacity to accommodate development.

Designated Truck Routes

Construction traffic would have temporary off-site impacts due to the importing and exporting of materials and equipment to and from the site. Although barges would likely be used to transport a majority of the material and equipment, some trucks and employee vehicles would enter and exit the site via the local street system. Designated truck routes should be determined, and the routes should be used by all construction traffic to minimize impacts to the local street system. The designated routes would likely utilize Cornwall Avenue, Granary Avenue, and Wharf Street for truck access to and from the site. Truck routes would need to change over time as access points are opened and closed with the construction of different phases of the project. In particular, the closure of Wharf Street would increase the construction traffic along the Cornwall Avenue corridor. Construction impacts would be temporary, occurring during the phased construction of the development.

Increase Non-Auto Mode Share

A significant amount of transportation infrastructure improvements are included as part of the 2012 proposal. Even with these improvements, congestion will continue throughout the downtown area and at the site access locations. While the congestion will meet the City intersection level-of-service standards, it will affect how vehicles, pedestrians, bicyclists, and buses circulate through the site. The primary mitigation strategy to improve on-site circulation and access conditions is to have more aggressive mode share targets for non-auto modes. This mitigation strategy is intended to reduce congestion and the need for greater infrastructure improvements.

Additional analysis of congestion and mode share (completed as part of the 2010 SEIS Addendum) indicates that The Waterfront District would need to achieve an approximately 30 percent non-auto mode share, as compared to the City's Comprehensive Plan target mode shares assumed for the alternatives analysis, to reduce congestion on-site and allow for better circulation.

Incorporate Transit Facilities and Services

A key element of shifting trips to non-auto modes will be by providing improved transit facilities and high-quality service. Transit amenities would be provided on-site including bus shelters, bus turnouts, layover areas, and transit kiosks. These amenities would make transit a more attractive mode. The Port and City will work with WTA in partnership with WWU to develop a transit strategy that is functional for all users. It will be important that the routes within the redevelopment area connect to the rest of the City and region to reduce the number of transfers and encourage greater transit use.

Circulation within the site, and to and from the site, would need to be accommodated. Ideally an existing transit route would be re-routed to circulate within the site minimizing the need for transfers. If an existing route was not re-routed and an exclusive Waterfront District route was needed, it might be difficult for WTA to allocate additional bus hours to provide the frequent service that would be needed. In addition, not re-routing an existing circulation route would require transit users to transfer in downtown to all other destinations. This short distance transfer could make transit less attractive as it might be easier to walk to the transit station. The Wharf Street connection would allow for better overall transit circulation options; closing Wharf Street prevents existing routes on the State Street and Forest Street corridors from easily circulating into and out of the site.

Significant Unavoidable Adverse Impacts

As described in previous documents, the 2012 proposal would accommodate additional amounts of future development within the site which would contribute to travel demands and congestion along the on-site and off-site street system. The additional development and associated improvements would also increase traffic access and circulation in the area. This added congestion would contribute to measurably poorer performance of the transportation network, in terms of increased delays along several of the corridors and at some specific intersections. The increase in traffic and higher volumes of pedestrian and bicycles would result in more conflict points and increased hazards to safety.

**Attachment A. 2012 Land Use and
Infrastructure Plan**

PROJECTED MAXIMUM WATERFRONT DISTRICT BUILD-OUT BY PHASE

Development Area	2012 Existing Development	Phase 1 (2012-2017) Building Sq Ft	Phase 2 (2018-2022) Building Sq Ft	Phase 3 (2023-2027) Building Sq Ft	Phase 4 (2028-2032) Building Sq Ft	Phase 5 (Beyond 2033) Building Sq Ft	Phase 1-5 Total Building Sq Ft (in thousands)
Marine Trades (N of Waterway)	350,000 Ind.	50,000 Ind.	50,000 Ind.	50,000 Ind.	50,000 Ind. 100,000 office <u>50,000 Retail</u> 200,000 Total	450,000 Ind. 310,000 office <u>40,000 Retail</u> 800,000 Total	1,000 k Industrial 410 k Office <u>90 k Retail</u> 1,500 k total
Downtown Waterfront	0	180,000 Office 300,000 Res. <u>20,000 Retail</u> 500,000 Total	110,000 Office 300,000 Res. <u>40,000 Retail</u> 450,000 Total	100,000 Office 360,000 Res. <u>40,000 Retail</u> 500,000 Total	100,000 Office 350,000 Res. <u>50,000 Retail</u> 500,000 Total	510,000 Office 315,000 Res. <u>58,000 Retail</u> 883,000 Total	1,000 k Office 1,625 k Res. <u>208 k Retail</u> 2,833 k total
Cornwall Beach	7,000 Office			43,000 Res. <u>7,000 Retail</u> 50,000 Total	50,000 Res.	3,000 Office 257,000 Res. <u> </u> 260,000 total	10 k Office 350 k Res. <u>7 k Retail</u> 367 k Total
Log Pond	108,300 Ind.		50,000 Ind.		50,000 Ind.	41,700 Ind. <u>50,000 Retail</u> 91,700 Total	250 k industrial <u>50 k retail</u> 300 k total
Shipping Terminal	105,200 Ind.			50,000 Ind.		124,800 Ind. <u>20,000 Retail</u> 144,800 Total	280 k industrial <u>20 k Retail</u> 300 k total
Cumulative N Cumulative S Combined Cumulative	350,000 North 220,500 South 570,500 total	400,000 north <u>720,500</u> south 1,120,500 total	450,000 no <u>1,220,500 so</u> 1,670,500 total	500,000 north <u>1,820,500 south</u> 2.3 msf total	700,000 no <u>2,420,500 so</u> 3.1 msf total	1,500,000 north <u>3,800,000 south</u> 5.3 msf total	1,500 k north <u>3,800 k south</u> 5,300 k total
Transportation Capacity N. and S. of Waterway ⁴	North .5 South 1.7 Total 2.2	North .5 <u>South 1.3</u> Total 1.8	North .5 <u>South 1.6</u> Total 2.1	North .5 <u>South 2.7</u> Total 3.2	North .7 <u>South 2.7</u> Total 3.4	North 1.5 <u>South 3.8</u> Total 5.3	North 1.5 <u>South 3.8</u> Total 5.3

Proposed Land Use Mix – 2012 Amendment to Draft Master Plan

1,420,000 SF Office (including Institutional, and Civic)
 1,530,000 MSF Industrial
 1,975,000 SF Residential (1,646 residential units @1,200 square foot average size)
375,000 SF Retail (including restaurants, personal services and hospitality)
 5,300,000 SF Total Building Square footage North and South of Whatcom Waterway

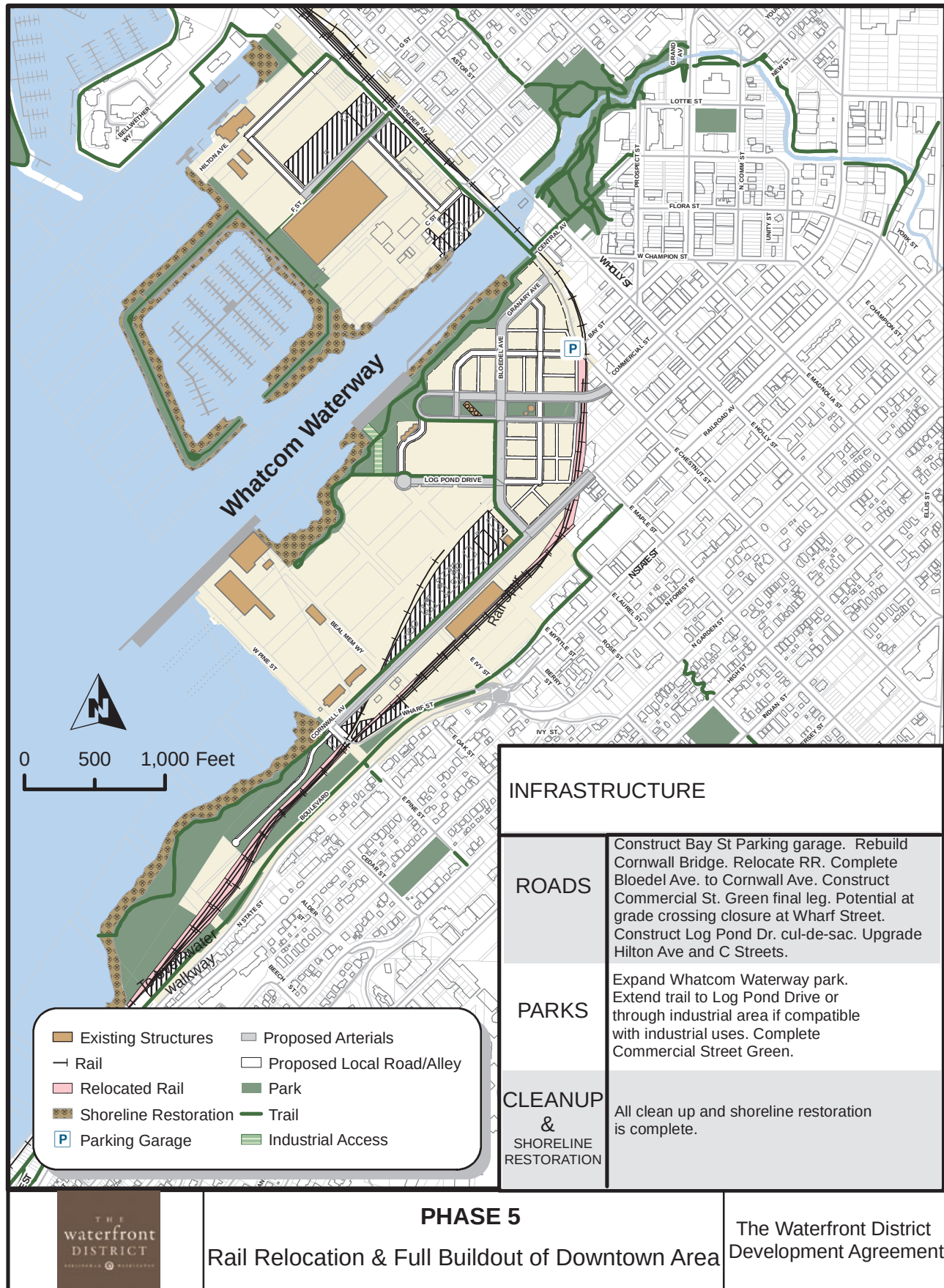
COMPARISON BETWEEN 2010 MASTER PLAN AND PROPOSED 2012 MASTER PLAN REVISION

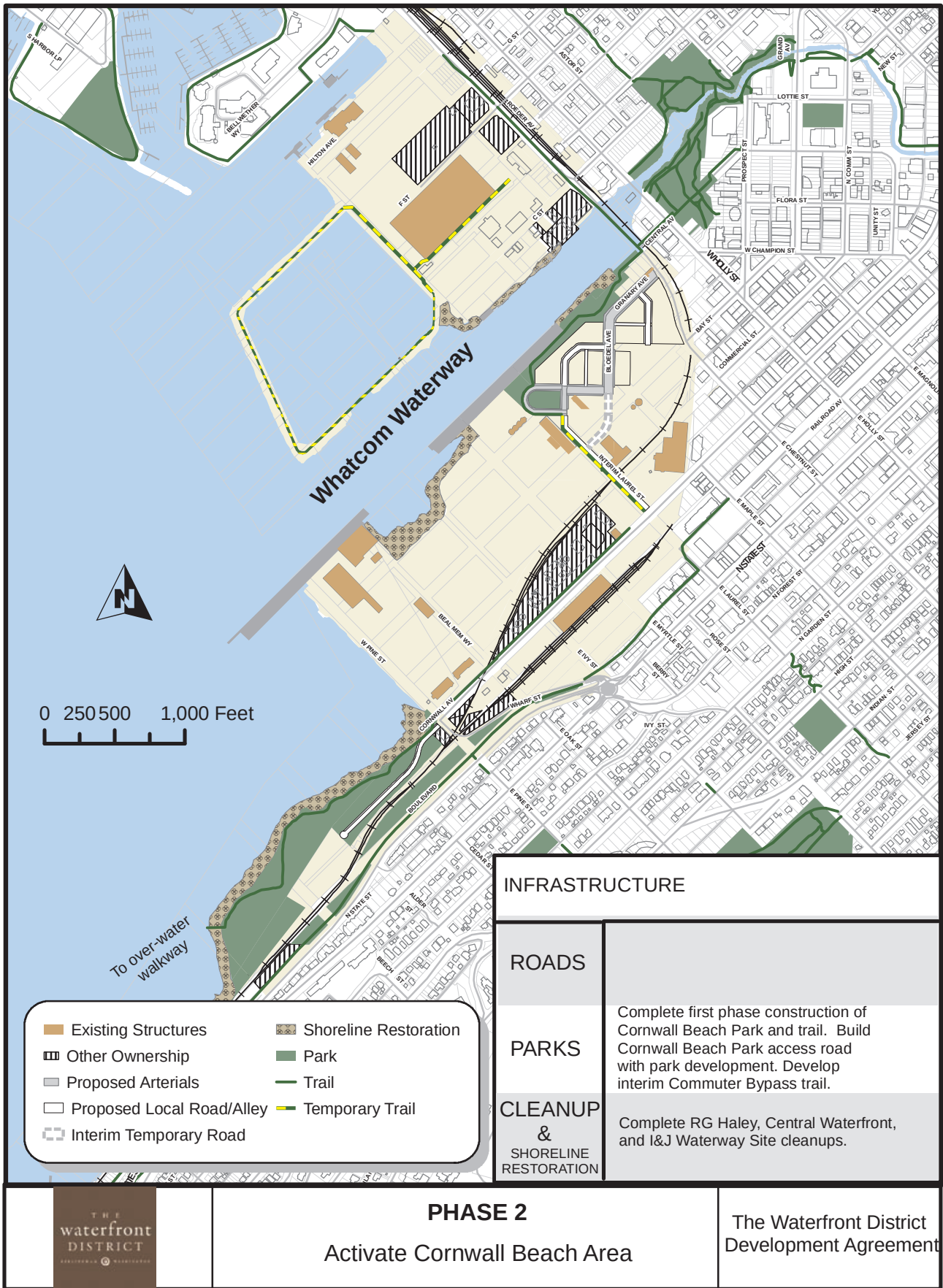
Land Use Category	2010 Draft Master Plan / FEIS Preferred Alternative (Building Sq ft/units at build-out)	Proposed 2012 Revision to Draft Master Plan (Building Sq ft/ units at build-out)	Decrease/Increase from 2010 (Percentage of 2010 sq ft)
Office	2,905,000 Sq Ft	1,420,000 Sq Ft	49%
Industrial	450,000 Sq Ft	1,530,000 Sq Ft	166%
<i>Jobs Subtotal (Industrial + office)</i>	<i>3,355,000 Sq. Ft.</i>	<i>2,950,000</i>	<i>88%</i>
Residential	2,270,000 Sq Ft (1,891 housing units)	1,975,000 Sq Ft (1,646 housing units)	87%
Retail	375,000 Sq Ft	375,000 Sq Ft	100%
Total	6,000,000 Sq Ft	5,300,000 Sq Ft	88%

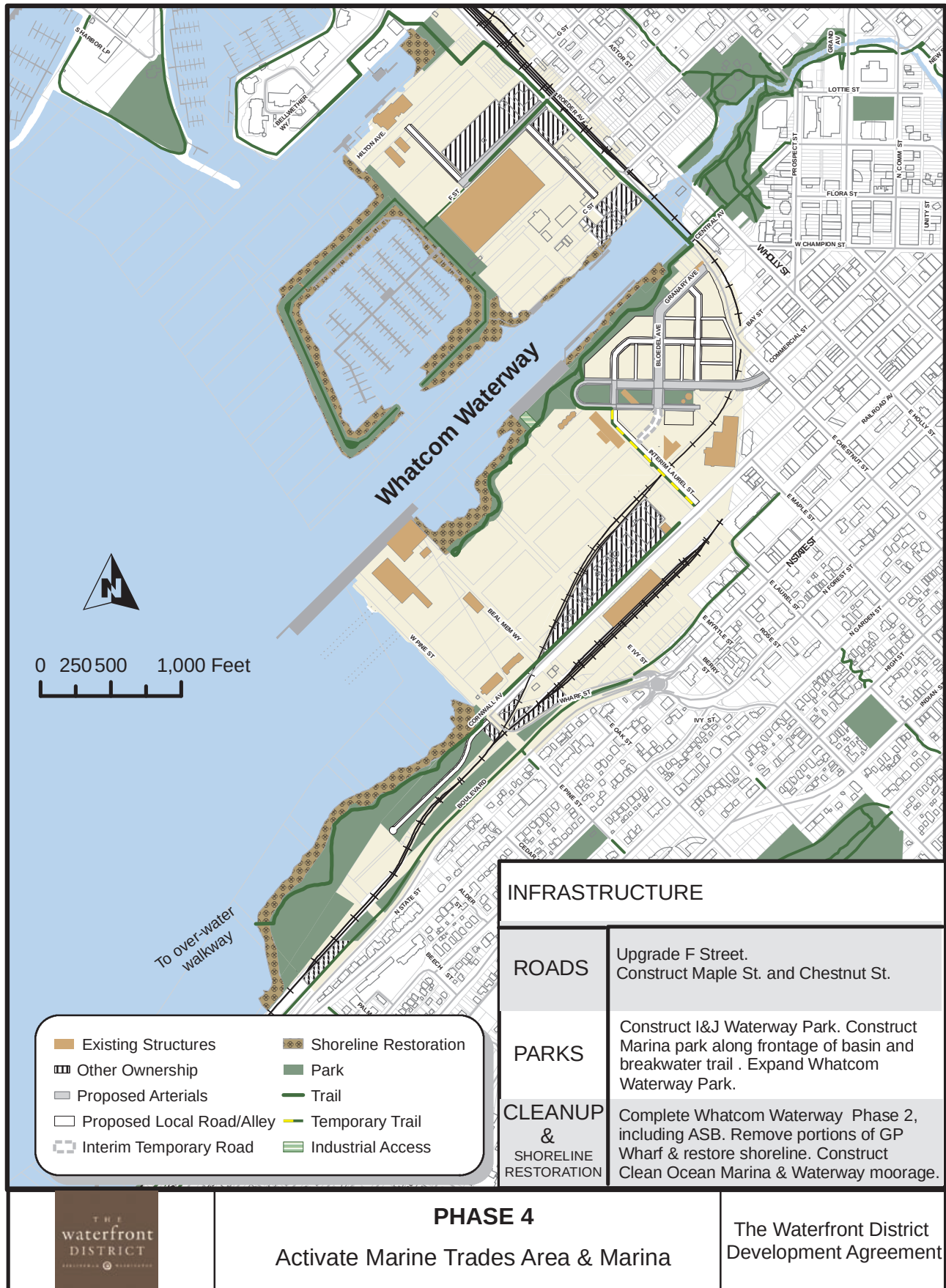
Comparison of Park Acres to Residential Units

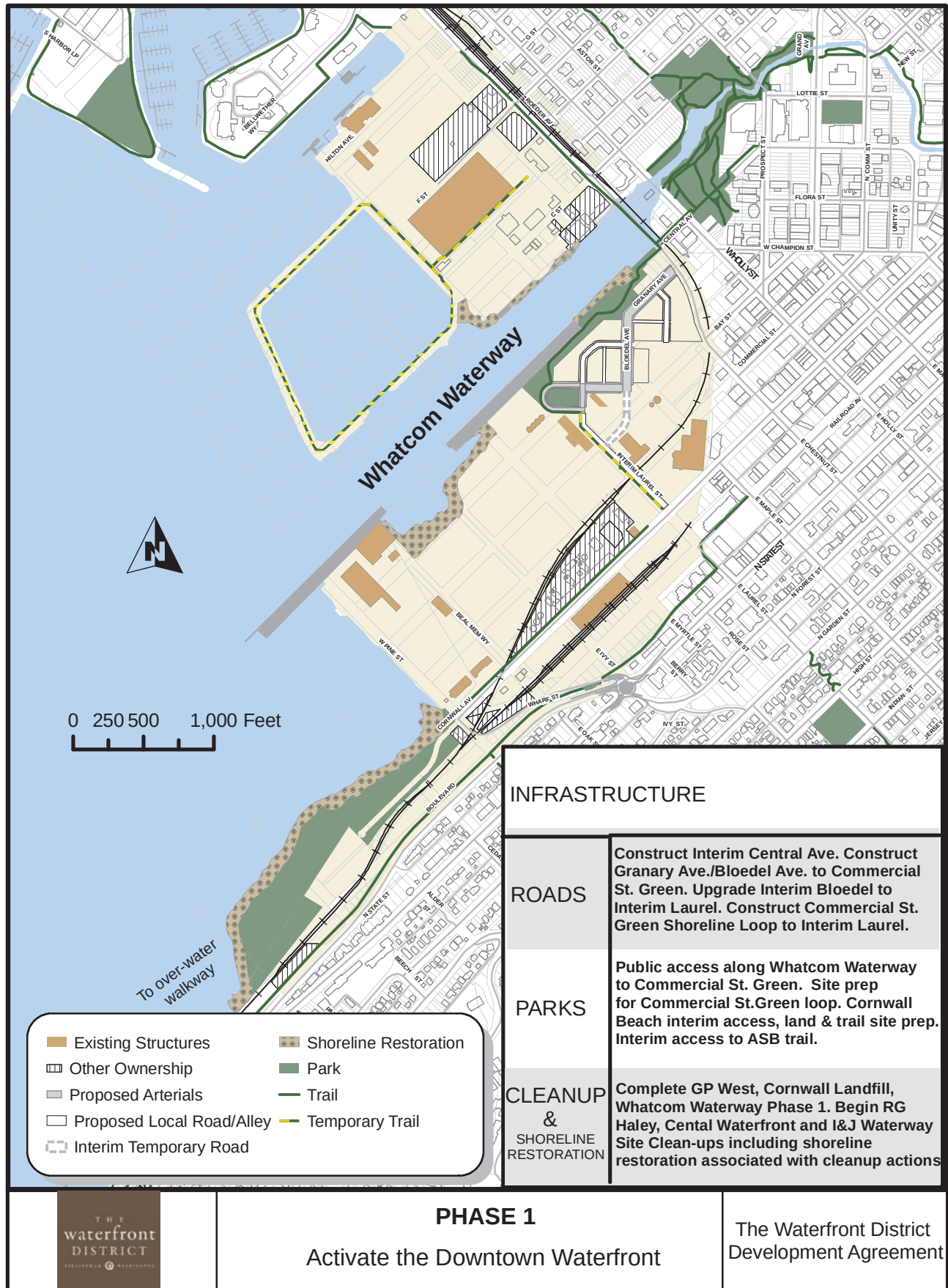
2010 Plan: 33 acres of Park/ 1,891 Residential units= .017 acres per unit or 1 acre per 60 units

2012 Plan: 33 acres of Park/ 1,646 Residential units= .020 acres per unit or 1 acre per 50 units









Attachment B. 2012 Trip Generation

Mode Split and Occupancy									
Mode	Census	Comp Plan 2022		Office/					
		Average		Institutional	Light Ind	Residential	Retail	Restaurant	Marina
Auto	84%	75%	79%	80%	80%	75%	75%	75%	90%
Transit	4%	6%	5%	5%	5%	6%	5%	5%	5%
Walk/Bike/									
Other	12%	19%	16%	15%	15%	19%	20%	20%	5%
AVO	1.08		1.30	1.1	1.3	1.2	1.2	1.52	1.5

Calculation of Daily Person Trip Rates			
Land Use	Vehicle	AVO	Person
Office	11.01	1.10	12.11
Institutional	8.11	1.10	8.92
Light Industrial	6.97	1.30	8.36
Low-Rise	6.72	1.20	8.06
Mid-Rise	6.72	1.20	8.06
High-Rise	6.72	1.20	8.06
Retail	42.94	1.20	51.53
Restaurant	127.15	1.52	193.27
Boat Launch	2.96	1.5	4.44

Percent of Daily Trips During Peak Hours		
Land Use	PM	AM
Office	14%	14%
Institutional	13%	15%
Light Industrial	14%	13%
Low-Rise	9%	8%
Mid-Rise	9%	8%
High-Rise	9%	8%
Retail	9%	2%
Restaurant	9%	9%
Marina	6%	3%

Note: Based on ratio of ITE daily trip rate to peak hour trip rate.

ITE Vehicle Trip Rates		
Land Use	PM	AM
Office	1.49	1.55
R&D	1.08	1.24
Light Industrial	0.98	0.92
Low-Rise	0.62	0.51
Mid-Rise	0.62	0.51
High-Rise	0.62	0.51
Retail	3.75	1.03
Restaurant	10.92	11.52
Marina	0.19	0.08

TAZ /					Daily Person Trips				PM Peak Hour Person Trips				PM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips			AM Peak Hour Person Trips				AM Peak Hour Vehicle Trips			AM Peak Hour Vehicle Trips		
					By Mode				By Mode				Based on Person Trips			Based on ITE			By Mode				Based on Person Trips			Based on ITE		
Area	Land Use	Size	Units		Auto	Transit	Bike/Other	Total	Auto	Transit	Bike/Other	Total	In	Out	Total	In	Out	Total	Auto	Transit	Bike/Other	Total	In	Out	Total	In	Out	Total
Marina Trade	Office	410,000 sf			3,972	248	745	4,965	556	35	104	695	86	419	505	104	507	611	556	35	104	695	444	61	505	560	76	636
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	1,000,000 sf			6,688	418	1,254	8,360	936	59	175	1,170	86	634	720	118	862	980	870	54	163	1,087	589	80	669	810	110	920
	Low-Rise (200,000 sf)	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mid-Rise (250,000 sf)	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Retail	70,000 sf			2,705	180	722	3,607	244	16	65	325	97	106	203	126	137	263	54	4	14	72	27	18	45	44	28	72
	Restaurant	20,000 sf			2,899	193	773	3,865	261	17	70	348	105	67	172	133	85	218	261	17	70	348	89	83	172	120	110	230
	Boat Launch	460 berths			1,838	102	102	2,042	111	6	6	123	44	30	74	52	35	87	55	3	3	61	12	25	37	12	25	37
	Existing Area Trips	353 emp			1,480	0	0	1,480	148	0	0	148	31	117	148	31	117	148	155	0	0	0	129	26	155	129	26	155
Internal Trips				2,768	184	591	3,543	302	20	65	387	127	126	253	87	87	174	226	15	46	287	96	95	191	59	59	118	
Net New Trips Subtotal				13,854	957	3,005	17,816	1,658	113	355	2,126	260	1,013	1,273	415	1,422	1,837	1,415	98	308	1,976	936	146	1,082	1,358	264	1,622	
Downtown Waterfront	Office	567,800 sf			5,501	344	1,031	6,876	770	48	145	963	119	581	700	144	702	846	770	48	145	963	616	84	700	774	106	880
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mid-Rise	769 du			4,649	372	1,177	6,198	419	33	106	558	227	122	349	310	167	477	372	30	94	496	62	248	310	78	314	392
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Retail	105,611 sf			4,082	272	1,088	5,442	368	25	97	490	147	160	307	190	206	396	82	5	22	109	41	27	68	66	43	109
	Restaurant	12,492 sf			1,811	121	482	2,414	163	11	43	217	65	42	107	83	53	136	163	11	43	217	56	51	107	75	69	144
	Existing Area Trips	230 emp			970	0	0	970	97	0	0	97	20	77	97	20	77	97	101	0	0	0	84	17	101	84	17	101
	Internal Trips				2,453	179	621	3,253	247	18	60	325	110	111	221	75	74	149	174	13	40	227	80	79	159	48	47	95
	Net New Trips Subtotal				12,620	930	3,157	16,707	1,376	99	331	1,806	428	717	1,145	632	977	1,609	1,112	81	264	1,558	611	314	925	861	468	1,329
	Office	126,700 sf			1,227	77	230	1,534	172	11	32	215	27	129	156	32	157	189	172	11	32	215	137	19	156	172	24	196
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mid-Rise	172 du			1,040	83	263	1,386	94	8	23	125	51	27	78	70	37	107	83	7	21	111	14	55	69	18	70	88	
High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Retail	23,566 sf			911	61	242	1,214	82	5	22	109	33	35	68	42	46	88	18	1	5	24	9	6	15	15	9	24	
Restaurant	2,787 sf			404	27	108	539	37	2	10	49	15	9	24	18	12	30	37	2	10	49	12	12	24	17	15	32	
Existing Area Trips	0 emp			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Internal Trips				548	40	139	727	55	4	13	72	24	25	49	17	16	33	39	3	9	51	18	18	35	11	10	21	
Net New Trips Subtotal				3,034	208	704	3,946	330	22	74	426	102	175	277	145	236	381	271	18	59	348	154	74	229	211	108	319	
Office	257,000 sf			2,490	156	466	3,112	349	22	65	436	54	263	317	65	318	383	349	22	65	436	279	38	317	350	48	398	
Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Light Industrial	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mid-Rise	348 du			2,104	168	533	2,805	189	15	48	252	103	55	158	140	76	216	168	13	43	224	28	112	140	35	142	177	
High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Retail	47,802 sf			1,847	123	493	2,463	167	11	44	222	67	72	139	86	93	179	37	2	10	49	19	12	31	30	19	49	
Restaurant	5,654 sf			820	55	218	1,093	74	5	19	98	30	19	49	38	24	62	74	5	19	98	25	24	49	34	31	65	
Existing Area Trips	0 emp			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Internal Trips				1,110	81	281	1,472	112	8	27	147	50	50	100	34	34	68	79	6	18	103	36	36	72	22	21	43	
Net New Trips Subtotal				6,151	421	1,429	8,001	667	45	149	861	204	359	563	295	477	772	549	36	119	704	315	150	465	427	219	646	

TAZ /					Daily Person Trips				PM Peak Hour Person Trips				PM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips			AM Peak Hour Person Trips				AM Peak Hour Vehicle Trips			AM Peak Hour Vehicle Trips		
					By Mode				By Mode				Based on Person Trips			Based on ITE			By Mode				Based on Person Trips			Based on ITE		
Area	Land Use	Size	Units		Auto	Transit	Bike/Other	Total	Auto	Transit	Bike/Other	Total	In	Out	Total	In	Out	Total	Auto	Transit	Bike/Other	Total	In	Out	Total	In	Out	Total
5	Office	48,500 sf			470	29	88	587	66	4	12	82	10	50	60	12	60	72	66	4	12	82	53	7	60	66	9	75
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	26,050 sf			174	11	33	218	25	2	4	31	2	17	19	3	23	26	22	1	5	28	15	2	17	21	3	24
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mid-Rise	66 du			399	32	101	532	36	3	9	48	20	10	30	27	14	41	32	3	8	43	5	22	27	7	27	34
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Retail	13,450 sf			520	35	138	693	47	3	12	62	19	20	39	24	26	50	11	1	2	14	5	4	9	9	5	14
	Restaurant	1,849 sf			268	18	71	357	24	2	6	32	10	6	16	12	8	20	24	2	6	32	8	8	16	11	10	21
	Existing Area Trips	0 emp			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Internal Trips				280	20	71	371	28	2	7	37	13	12	25	8	9	17	19	1	4	24	9	8	17	5	5	10
Net New Trips Subtotal				1,551	105	360	2,016	170	12	36	218	48	91	139	70	122	192	136	10	29	175	77	35	112	109	49	158	
Log Pond	Office	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	37,550 sf			251	16	47	314	35	2	7	44	3	24	27	4	33	37	33	2	6	41	22	3	25	31	4	35
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mid-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Retail	6,384 sf			247	16	66	329	23	2	5	30	9	10	19	12	12	24	5	0	2	7	2	2	4	4	3	7
	Restaurant	1,127 sf			164	11	43	218	15	1	4	20	6	4	10	7	5	12	15	1	4	20	5	5	10	7	6	13
	Existing Area Trips	20 emp			80	0	0	80	8	0	0	8	2	6	8	2	6	8	9	0	0	0	7	2	9	7	2	9
	Internal Trips				101	7	26	134	10	1	2	13	4	4	8	3	3	6	7	0	2	9	2	3	5	2	1	3
Net New Trips Subtotal				481	36	130	647	55	4	14	73	12	28	40	18	41	59	37	3	10	59	20	5	25	33	10	43	
7	Office	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	73,594 sf			492	31	92	615	69	4	13	86	6	47	53	9	63	72	64	4	12	80	43	6	49	60	8	68
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mid-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Retail	9,991 sf			386	26	103	515	35	2	9	46	14	15	29	18	19	37	8	1	1	10	4	3	7	6	4	10
	Restaurant	1,945 sf			282	19	75	376	26	2	6	34	10	7	17	13	8	21	26	2	6	34	9	8	17	11	11	22
	Existing Area Trips	0 emp			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Internal Trips				177	12	44	233	19	1	4	24	7	8	15	5	5	10	12	1	2	15	5	5	10	3	3	6
Net New Trips Subtotal				983	64	226	1,273	111	7	24	142	23	61	84	35	85	120	86	6	17	109	51	12	63	74	20	94	
Log Pond	Office	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	134,450 sf			899	56	169	1,124	126	8	23	157	12	85	97	16	116	132	117	7	22	146	79	11	90	109	15	124
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mid-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Retail	22,857 sf			884	59	235	1,178	80	5	21	106	32	35	67	41	45	86	18	1	5	24	9	6	15	15	9	24
	Restaurant	4,034 sf			585	39	156	780	53	4	13	70	21	14	35	27	17	44	53	4	13	70	18	17	35	24	22	46
	Existing Area Trips	0 emp			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Internal Trips				362	25	92	479	37	3	9	49	15	15	30	11	10	21	24	2	5	31	10	9	19	6	6	12
Net New Trips Subtotal				2,006	129	468	2,603	222	14	48	284	50	119	169	73	168	241	164	10	35	209	96	25	121	142	40	182	
Shipping Terminal	Office	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Light Industrial	258,356 sf			1,728	108	324	2,160	242	15	45	302	22	164	186	30	223	253	225	14	42							

TAZ /					Daily Person Trips				PM Peak Hour Person Trips				PM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips			AM Peak Hour Person Trips				AM Peak Hour Vehicle Trips			AM Peak Hour Vehicle Trips		
					By Mode				By Mode				Based on Person Trips			Based on ITE			By Mode				Based on Person Trips			Based on ITE		
Area	Land Use	Size	Units		Auto	Transit	Walk/ Bike/Other	Total	Auto	Transit	Walk/ Bike/Other	Total	In	Out	Total	In	Out	Total	Auto	Transit	Walk/ Bike/Other	Total	In	Out	Total	In	Out	Total
<u>Sub-Total Project Trips</u>																												
	Office	1,420,000 sf			13,757	860	2,578	17,195	1,927	121	360	2,408	298	1,453	1,751	360	1,756	2,116	1,927	121	360	2,408	1,540	211	1,751	1,936	265	2,201
	Institutional	0 sf			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Light Industrial	1,530,000 sf			10,232	640	1,919	12,791	1,433	90	267	1,790	131	971	1,102	180	1,320	1,500	1,331	82	250	1,663	900	123	1,023	1,240	169	1,409
	Low-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mid-Rise	1,647 du			9,958	796	2,521	13,275	897	72	226	1,195	487	261	748	665	357	1,022	796	64	202	1,062	133	531	664	168	672	840
	High-Rise	0 du			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Retail	315,500 sf			12,194	813	3,250	16,257	1,101	72	290	1,463	440	477	917	568	615	1,183	246	16	63	325	122	83	205	199	126	325
	Restaurant	59,500 sf			8,627	576	2,297	11,500	778	52	205	1,035	312	200	512	396	252	648	778	52	205	1,035	264	248	512	357	327	684
	Boat Launch	460 berths			1,838	102	102	2,042	111	6	6	123	44	30	74	52	35	87	55	3	3	61	12	25	37	12	25	37
	Total Project Trips				56,606	3,787	12,667	73,060	6,247	413	1,354	8,014	1,712	3,392	5,104	2,221	4,335	6,556	5,133	338	1,083	6,554	2,971	1,221	4,192	3,912	1,584	5,496
<u>Sub-Total Trip Reductions</u>																												
	Existing Area Trips	645 emp			2,760	0	0	2,760	276	0	0	276	59	217	276	59	217	276	286	0	0	0	236	50	286	236	50	286
	Internal Trips				8,656	610	2,082	11,348	896	62	209	1,167	385	386	771	264	263	527	645	45	142	832	283	280	562	173	168	341
	Net New Project Trips				45,190	3,177	10,585	58,952	5,075	351	1,145	6,571	1,268	2,789	4,057	1,898	3,855	5,753	4,202	293	941	5,722	2,452	891	3,344	3,503	1,366	4,869

Attachment C. Description of Monitoring Program

Biennial Traffic Monitoring Program for the Waterfront District

The Waterfront District EIS identified a biennial traffic monitoring program as a mitigation strategy to monitor the traffic being generated and the mode share being achieved by development on-site. The following describes the purpose of the traffic monitoring program, the data to be collected, and how the information will be used.

What is the purpose of the traffic monitoring program?

The current transportation infrastructure phasing for the Waterfront District is based on the anticipated outbound PM peak hour trips generated by development on-site. Achieving greater non-auto mode splits, or reduced trip generation, may allow for changes to the transportation infrastructure phasing plan as the site develops over time, such as delaying or eliminating the need for certain improvements. Conversely, the inability to meet mode share targets may require a reduction in the overall level of development accommodated on-site, additional transportation demand management strategies, or other improvements that are necessary to accommodate development. The traffic monitoring program for the Waterfront District is intended to monitor the actual number of trips (vehicle, transit, bike, and pedestrian) being produced, the mode share being achieved, and reconfirm the timing of the infrastructure improvements and off-site mitigation.

The outcome of the traffic monitoring program will be recommendations related to the transportation infrastructure phasing as well as adjustments to the Waterfront Concurrency Service Area (CSA) to account for infrastructure improvements and mode splits. Conducting the monitoring on a biennial basis will allow for the Port of Bellingham and City of Bellingham to plan and budget appropriately for the various transportation infrastructure and mitigation needs outlined in the Waterfront District EIS.

How does the traffic monitoring program work?

The traffic monitoring program will be initiated every two years by both the Port and the City to report on the development activity that has taken place, the infrastructure that has been constructed, the amount of trips being produced by the development, and the mode share being achieved. Separate monitoring will be conducted for both the Marine Trades area and the areas south of the Whatcom Waterway due to differing on-site and off-site infrastructure needs identified for each respective development area.

The data collection will include vehicle, pedestrian, bicycle, and transit counts at each access point to the site. The data will be used to determine the current mode splits being achieved for the Waterfront District as well as updated baseline vehicle forecasts for the weekday PM peak hour outbound traffic at each access point. The updated forecasts for the Waterfront District will be compared to the transportation infrastructure phasing plan to identify if any modifications should be considered. Modifications could be in the form of delaying the timing of specific improvements or recommending modifications to the scope of the improvements. Based upon the modifications identified, the Port and the City could choose to adjust the transportation infrastructure phasing plan based on the information provided as part of the traffic monitoring program.

What are the data collection needs?

The traffic monitoring program will collect a variety of transportation data. Table 1 outlines the type, location, and timing of data to be collected by the program. Figure 1 illustrates the specific locations for the data collection.

Table 1. Data Required for Collection

Type	Method ¹	Locations ²	Time Period	Date ³
Intersection Vehicle Turning Movements	Manual and video data collection of intersection turning movements.	Site Access and Key Off-Site Intersections	Weekday PM Peak Hour (4:00 to 6:00 p.m.)	April/May or October
Daily Traffic Volumes & Vehicle Classification	Tube counts that would identify total traffic volumes as well as vehicle classifications including trucks, autos, and transit.	Site Access Locations	A minimum of three 24-hour periods during a weekday (Tues, Wed, Thur).	April/May or October
Pedestrian and Bicycle Volumes	Conduct manual or video data collection along the access roadways for the site.	Site Access Locations	Weekday PM Peak Hour (4:00 to 6:00 p.m.)	April/May or October
Ridership Data	Obtain average daily ridership data from Whatcom Transportation Authority (WTA).	On-Site Bus Stops and Downtown Transit Center	Weekday PM Peak Hour (4:00 to 6:00 p.m.)	April/May or October

1. The monitoring program may use data collected by the City or other sources, if available, rather than collecting new data.

2. See Figure 1 for specific data collection locations.

3. Data should be collected when public schools and Western Washington University are in session.

What will the traffic monitoring report contain?

The traffic monitoring program will include the publication of a report that will be similar to a report card such as the City's Transportation Report on Annual Concurrency (TRAC). The report will contain four main chapters as summarized in Table 2. The report will be the overall outcome of the traffic monitoring report and provide the basis for modifying the infrastructure phasing plan or the planned development capacity on-site.

Table 2. Biennial Traffic Monitoring Report Outline

Chapter	Required Contents
CHAPTER 1 Introduction/Purpose	Provide context and summarize the intent of the monitoring report.
CHAPTER 2 Summary of Assumptions	Land Use: Describe the existing land use within the Waterfront District as well as specific on-site developments that are anticipated to occur in the next few years. Pipeline Development: Identify known development proposals in the vicinity of the Waterfront District (i.e., along Roeder Avenue/Chestnut Street/Holly Street between Hilton Avenue and State Street and along State Street between Chestnut Street and Wharf Street). Transportation Infrastructure: Identify the Waterfront District transportation infrastructure that has been constructed for general vehicles, trucks, pedestrians, bicyclists, and transit. Also summarize the improvements currently funded within the next 6 years for the site and surrounding the site.
CHAPTER 3 Summary and Comparison of Data	Data. Summarize the data that was collected. Current Conditions. Determine the current conditions for the site including mode splits and outbound PM peak hour traffic volumes at each access point. Future Development Trip Generation. Determine trip generation for the planned developments on-site that were described in Chapter 2. Include pipeline development off-site. Consider the updated mode splits in the calculation of the future on-site trips. Future Trip Distribution and Assignment. Distribute and assign trips to the existing infrastructure network based on the current travel patterns, as well as the location of the planned development. Future with Project Conditions. Calculate the future traffic volumes anticipated at each site access. Transportation Infrastructure Phasing Plan. Compare the total site trip generation (i.e., current plus future traffic) to the infrastructure phasing table.
CHAPTER 4 Recommendations	Infrastructure Plan. Based on the current and projected traffic data, identify needed modifications to the infrastructure phasing plan or on-site development capacity, if any.