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MEMORANDUM

To: Kirkland Hearing Examiner

From: Christian Geitz, Planner
Eric R. Shields, AICP, Planning Director

Date: June 21, 2018

File: SHR17-00775

Subject: HEARING CONTINUANCE FOR SHORELINE VARIANCE FOR JUANTA BEACH PARK BATHHOUSE REPLACEMENT, PHASE II JUANITA BEACH PROJECT RENOVATION

HISTORY

During the open public hearing on May 30, 2018, several questions and requests for additional information were identified by the Hearing Examiner. This memo provides brief responses and supplemental materials relative to the proposal. The memo includes responses to the more technical and code based items from the Planning and Building Department as the regulator. The Applicant, the Capital Improvement Project Division of the Public Works Department on behalf of the Parks Department, has provided responses to items related to the site history and the proposal. Those responses are included as Enclosures and are identified below.

The following list of response items was developed based on the questions raised during the hearing and additional information requested from the Hearing Examiner.

1. Comprehensive Plan Policies
2. Use Definitions: water dependent, water enjoyment, water related
3. Substantial Development Permit Requirement
4. Consistency with 2006 Juanita Beach Park Master Plan
5. Changes to site over time (quantify past restoration work)
6. Avoidance update based on standard code requirements
7. Phase I Sensitive Area Decision Report

Staff Analysis of Additional Questions

1. Comprehensive Plan Policies– While the inclusion of Comprehensive Plan policies are not required within the Staff Advisory Report, the City historically has included relevant policies that provide explanation of intent that supports a recommendation. Kirkland Zoning Code section 83.40 establishes the relationship between the SMP and Comprehensive Plan, stating that the policies within the Shoreline Area chapter of the Comprehensive Plan establish intent for the supporting regulations in the SMP. The list below includes policies in addition to those provided in the original Staff Advisory Report dated May 22, 2018. See Enclosure 1 for the full text from each policy.

- Policy SA-2.2: Designate properties as Urban Conservancy to protect and restore ecological functions of open space, floodplain and other sensitive lands, while allowing a variety of compatible uses.
- Policy SA-2.5: Designate properties as Urban Mixed to provide for high-intensity land uses, including residential, commercial, recreational, transportation and mixed-use developments.
- Policy SA-10.3: Limit Land Surface Modification activities in the shoreline area.
- Policy SA-12.1: Include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low-impact development techniques in projects located within the shoreline, where feasible.
- Policy SA-13.1: Conserve and protect critical areas within the shoreline area from loss or degradation.
- Policy SA-13.2: Locate and design public access within and adjacent to critical areas to ensure that ecological functions are not impacted.
- Policy SA-13.4: Protect and manage shoreline-associated wetlands.
- Policy SA-13.5: Protect and restore critical freshwater habitat.
- Policy SA-18.5: Ensure that development of recreational uses does not adversely impact shoreline ecological functions.
- Policy SA-19.2: Promote habitat and natural resource conservation through acquisition, preservation, and rehabilitation of important natural areas, and continuing development of interpretive education programs.
- Policy SA-20.5: Control non-native species **which impact Kirkland's shoreline.**
- Policy SA-20.6: Implement low-impact development techniques, where feasible, in development of or renovations to recreational facilities along City shorelines.
- Policy SA-23.1: Provide a public access system that is both physical and visual, utilizing both private and public lands, consistent with the natural character, private rights and public safety.
- Policy SA-23.2: Enhance and maintain pedestrian and bicycle infrastructure within the shoreline area.
- Policy SA-23.4: Minimize impacts on adjacent uses and the natural environment through the appropriate design of public access. Public access should also be designed to provide for public safety.
- Policy SA-**26.1: Preserve public view corridors along the City's street networks** and public parks.

All of these policies provide support for both the public to gain and maintain access to the shoreline resources in a variety of ways, as well as ensuring environmental protection of the ecological functions of the shoreline. These policies directly support the overarching goals of the related Shoreline Area section. These sometimes competing interests are reflected in the regulations within Kirkland Zoning Code Chapter 83, which are analyzed in the Staff Advisory Report. The City maintains the original conclusion relative to the Comprehensive Plan review and discussion, finding the application is consistent with all relevant policies.

2. Use Definitions – Additional clarification of Section II.G in the Staff Report related to each proposed use area within the bathhouse structure as well as the exterior use areas within the application was requested by the Hearing Examiner. Upon further review of the use listing definitions (see Enclosure 2) and the intent of the SMP, the City stands by

the original staff report analysis which identified the proposed use a water-dependent use. The southern portion of Juanita Beach Park is designed around the shoreline and swimming beach. The Permitted Use Chart of KZC 83.170 allows the proposed development under the Recreational Uses header, the Water-dependent uses section, and the swimming beach and other public recreational use (see Enclosure 2, the KZC 83.170 Chart section).

This use listing in KZC 83.170 identifies that property located in the Urban Conservancy and Urban Mixed Use Shoreline Environment allows for the proposed swimming beach and other public recreational use through a Substantial Development Permit (see section 3 below regarding SDP review standards).

Staff also evaluated the different Shoreline Designations which exist on the parcel. Enclosure 3 illustrates where the boundary between the Urban Conservancy and Urban Mixed Shoreline Environments is situated on the park property. The boundary is located approximately along the western edge of the current playground. Each of the different Shoreline Environment codes, found in KZC 83.110 and 83.140, identify the purpose and designation criteria (see Enclosure 3). The Urban Mixed designation, where all the improvements are proposed, provides for high-intensity land uses that ensure active use of the shoreline areas. The park is currently developed as a swimming beach park with associated recreational uses within the Urban Mixed designation. The proposal to redevelop the park improvements is consistent with the Urban Mixed Shoreline Designation.

3. Substantial Development Permit – The Hearing Examiner asked staff for clarification on why the submitted application did not include a Substantial Development Permit for the proposed bathhouse replacement.

While the redevelopment of the bathhouse falls under the requirement for a Substantial Development Permit according to the Permitted Uses Chart of KZC 83.170, the Shoreline Variance to locate the structure within the inner 75% of the Wetland A buffer, plus the proposed fill of Wetlands C and D, is responsive to the SDP criteria. The staff report includes all applicable code review elements related to the SMP that would cover a standard SDP review.

The Washington Administrative Code (WAC) section 173-20-020 provides an intent statement identifying that regulations should provide minimum procedural requirements as necessary to comply with statutory requirements while providing latitude for local government to establish procedural systems based on local needs and circumstances (see Enclosure 2). Chapter 141 of the Kirkland Zoning Code establishes the procedural requirements for all shoreline permits. KZC 141.70.1.a establishes that an application for an SDP shall follow the procedures for a Process I permit review, while a proposal that requires an SDP that is part of a proposal that requires additional approval through a Process IIA or Process IIB will be decided upon using the higher review process (see Enclosure 2). A Shoreline Variance is required to be reviewed through a Process IIA permit.

Pursuant to KZC 141.70.1.c, SDP applications must satisfy the burden of proof criteria of WAC 173-27-140 and WAC 173-27-150. KZC Section 171.70.3.d establishes the burden of proof criteria for a Shoreline Variance application, which requires compliance with WAC 173-27-140 and WAC 173-27-170. Both permits respond to WAC 173-27-140. The

variance is specifically requesting relief from some of the dimensional standards established in the Master Program, which are the subject of WAC 173-27-150. The general SMP analysis provided in the Staff Advisory Report responds to the base requirements of WAC 173-27-150 where the applicant is not requesting a variance.

4. Master Plan Consistency – The Hearing Examiner requested additional information and explanation regarding how the proposed redevelopment is consistent with the Juanita Beach Park Master Plan. The applicant has provided a memo explaining the background of the project and identifying how the proposal is consistent with the Master Plan, as well as a copy of the 2006 Juanita Beach Park Master Plan (see Enclosures 4 and 5).
5. Changes to the site over time – Additional information was requested relative to any mitigation or restoration work completed to the Juanita Beach Park property in and around the stream and wetlands. The applicant has provided a response and included aerial imagery illustrating the changes to the property since 2002 when the City took ownership for the park from King County (see Enclosures 6 and 7).
6. Phase I report – A copy of the Phase I Juanita Beach Park Improvements Sensitive Area Decision report was requested to provide additional background. A copy has been included as Enclosure 9. The report provides background on the conditions of the park prior to the present application. Additionally, the report identifies the critical area conditions, proposed restoration, and required mitigation related to the first phase. The Phase I review was completed prior to the 2010 Shoreline Master Program update. The application was reviewed pursuant to the critical area ordinance in effect in 2009, KZC 90.

It is necessary to clarify the wetland naming and location between the 2009 Phase I proposal and the proposal submitted under SHR17-00775. In the 2009 approval, wetland E was bisected and the western portion was proposed to be paper filled, while the eastern extent was enhanced and improved. Wetland C in the current application is actually the western portion of the former wetland E (see page 21 of Enclosure 9).

7. Avoidance update/standard code limitations – Additional information was requested by the Hearing Examiner related to the Mitigation Sequencing discussion and avoidance. This information is located in the No Net Loss section of the staff report, Section II.M and the variance criteria from the WAC code analysis found in section II.E.3. An update to original Attachment 10 has been completed (see Enclosure 8). The update illustrates the location of all critical areas, their associated buffers, and buffer setbacks. Taking into consideration all the encumbrances shown in Enclosure 8, approximately 10,000 square feet of buildable area would be possible. The applicant has identified that strict application of all buffers and critical areas would prohibit redevelopment of the site.

A specific question related to avoidance and whether the stream buffer of Juanita Creek was also being impacted by the proposed boathouse. Pursuant to KZC 83.510, stream buffer modification affecting less than 1/3 or less of the standard buffer is reviewed through the underlying development permit or development activity. The closest structural improvement for the proposed bathhouse is a perimeter concrete apron, which is located approximately 60 feet from the edge of the Juanita Creek channel. For this proposal, the underlying Shoreline Variance is the mechanism for reviewing the stream buffer modification. The applicant has provided the necessary mitigation sequencing and buffer enhancement requirements through the submitted shoreline variance.

ENCLOSURES

1. City of Kirkland Comprehensive Plan Shoreline Area Chapter
 2. Excerpts from Kirkland Zoning Code Chapters 83, 141 and WAC Standards
 3. City of Kirkland Shoreline Designation Map
 4. Applicant's Analysis of Consistency with Juanita Beach Park Master Plan dated June 13, 2018
 5. Juanita Beach Park Master Plan Report by J.A. Brennan Associates dated May 1, 2006
 6. Shannon & Wilson, Inc. Memo on Park History dated June 13, 2018
 7. Aerial Comparisons of Juanita Beach Park from 2002 - 2017
 8. Updated Avoidance image
 9. Phase I Juanita Beach Park Improvements Sensitive Area Decision dated September 9, 2009
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XVI. Shoreline Area

Department of Ecology Approval: July 26, 2010



A. Introduction

The City of Kirkland's Shoreline Master Program consists of shoreline goals and policies contained in this chapter, shoreline regulations contained in Chapters 83 and 141 KZC and the Kirkland Shoreline Restoration Plan. The program is adopted under the authority of Chapter 90.58 RCW and Chapter 173-26 WAC.

Statutory Framework

The City of Kirkland manages the shoreline environment through implementation of the Shoreline Master Program. The Washington State Shoreline Management Act (SMA) provides guidance and prescribes the requirements for locally adopted shoreline master programs. The goal of the SMA, passed by the Legislature in 1971 and adopted by the public in a 1972 referendum, is to "prevent the inherent harm in an uncoordinated and piecemeal development of the State's shorelines." The SMA establishes a broad policy giving preferences to uses that:

- Protect shoreline natural resources, including water quality, vegetation, and fish and wildlife habitat;
- Depend on the proximity to the shoreline (i.e., "water-dependent uses");
- Preserve and enhance public access or increase recreational opportunities for the public along shorelines.

The SMA establishes a balance of authority between local and State government. Under the SMA, Kirkland adopts a shoreline master program that is based on State guidelines but tailored to the specific needs of the community. The program represents a comprehensive vision of how shoreline areas will be used and developed over time.

The Department of Ecology has issued State guidelines for shoreline master programs in Chapter 173-26 WAC. The guidelines are intended to assist local governments in developing master programs, which must be accepted and approved by the Department of Ecology as meeting the policy objectives of the SMA established under RCW

90.58.020 as well as the criteria for State review of local master programs under RCW 90.58.090.

Vision

The City of Kirkland's identity is strongly influenced and defined by its waterfront setting. Views of Lake Washington give Kirkland its sense of place and the City's integrated network of trails, parks, and open spaces along the shoreline provide abundant opportunities for public access to the shoreline. The City's waterfront parks provide places and host events where people can gather and interact. Kirkland's shoreline commercial districts also provide opportunities for residents and visitors to enjoy the City's unique natural setting along the shoreline. The waterfront provides many varied recreational opportunities to meet the needs of Kirkland citizens and provides a gateway to the City. It also provides vital habitat for fish and wildlife and the natural systems within the shoreline serve many essential biological, hydrological and geological functions.

The shoreline zone is one of the most valuable and fragile of Kirkland's natural resources and, as a result, the utilization, protection, restoration, and preservation of the shoreline zone must be carefully considered.

The City developed its first Shoreline Master Program in 1974 as a component of the Comprehensive Plan. Key considerations within this plan and subsequent amendments included conservation, public access to the shoreline, and the guidance for water-oriented recreational uses to locate along the Kirkland shoreline. These initial policy objectives are reflected in today's protection of the City's significant natural areas as open space, as well as the extensive shoreline trail system and network of shoreline parks which have been established over time.

Over the significant time that has spanned since the original adoption of the City's first Shoreline Master Program, there have been substantial changes to the lakefront environment. Industrial uses, such as the shipyard previously located at Carillon Point, have left Kirkland's shoreline. The City has added significant publicly owned properties to our waterfront park system, most significantly the Yarrow Bay wetlands, Juanita Bay Park, Juanita Beach Park, and David E. Brink Park. Water quality within Lake Washington, once severely impacted by nutrient loading from sewage, has remarkably improved since regional wastewater treatment plants were constructed and the final plant discharging directly into the lake was closed in 1967.

The lake environment has also been impacted by new challenges. The shoreline character has continued to change over time, as additional piers and bulkheads have

been built, contributing to a loss of woody debris and other complex habitat features along the shoreline. Impervious surfaces have increased both within the shoreline area and in adjacent watersheds and this, together with consequent reduction in soil infiltration, has been correlated with increased velocity, volume and frequency of surface water flows. These and other changes have impacted the habitat for salmonids. In 1999, Chinook salmon and bull trout were listed as threatened under the Federal Endangered Species Act. The region's response to this listing has resulted in new scientific data and research that has improved our understanding of shoreline ecological functions and their value in terms of fish and wildlife, water quality, and human health.

To address these changes, comply with the mandates of the Shoreline Management Act, and enable the City to plan for emerging issues, in 2008 the City initiated an extensive update of its Shoreline Master Program. The new program responds to current conditions and the community's vision for the future.

In updating the program, the City's primary objectives were to:

- Enable current and future generations to enjoy an attractive, healthy and safe waterfront.
- Protect the quality of water and shoreline natural resources to preserve fish and wildlife and their habitats.
- Protect the City's investments as well as those of property owners along and near the shoreline.
- Have an updated Shoreline Master Program (SMP) that is supported by Kirkland's elected officials, citizens, property owners and businesses, the State of Washington, and other key groups with an interest in the shoreline.
- Efficiently achieve the SMP mandates of the State.

The City of Kirkland, through adoption of the Shoreline Master Program update, intends to implement the Washington State Shoreline Management Act (Chapter 90.58 RCW) and its policies, including protecting the State's shorelines and their associated natural resources, planning for and fostering all reasonable and appropriate uses, and providing opportunities for the general public to have access to and enjoy shorelines.

The City of Kirkland's Shoreline Master Program represents the City's participation in a coordinated planning effort to protect the public interest associated with the shorelines of the State while, at the same time, recognizing and protecting private property rights consistent with the public interest. The program preserves the public's opportunity to

enjoy the physical and aesthetic qualities of shorelines of the State and protects the functions of shorelines so that, at a minimum, the City achieves a 'no net loss' of ecological functions, as evaluated under the Final Shoreline Analysis Report issued in December 2006. The Program also promotes restoration of ecological functions where such functions are found to have been impaired, enabling functions to improve over time.

The goals and policies of the SMA constitute one of the goals for growth management as set forth in RCW 36.70A.020 and, as a result, the goals and policies of this SMP serve as an element of Kirkland's Comprehensive Plan and should be consistent with other elements of the Comprehensive Plan. In addition, other portions of the SMP adopted under Chapter 90.58 RCW, including use regulations, are considered a part of the City's development regulations.

Organization

The policies are grouped under eight sections:

- Shoreline Land Use and Activities
- Shoreline Environment
- Parks, Open Space and Recreation
- Shoreline Transportation
- Shoreline Utilities
- Shoreline Design
- Shoreline Archaeological, Historic and Cultural Resources
- Restoration Planning

The Land Use section works together with other policies contained in this chapter of the Comprehensive Plan. The Land Use section addresses the general distribution and location of shoreline uses, the Shoreline Parks, Open Space and Recreation section more specifically addresses issues of public park operations and maintenance and standards for private shoreline recreation uses and modifications. The Environment section more specifically addresses shoreline critical areas, water quality, vegetation, and shoreline modifications such as filling and dredging. The Transportation section addresses both public access and circulation within the shoreline area. The Utilities section addresses utilities within the shoreline, while the Design section addresses

public view corridors and designing for orientation to Lake Washington. The Archaeological, Historic and Cultural Resources section addresses identifying important sites and preventing destruction of the sites, and having educational projects and programs to appreciate the importance of the shoreline history. The Restoration section addresses the City's adopted Restoration Plan for restoring the shoreline areas to achieve net benefit in ecological conditions.

B. Shoreline Goals and Policies

1. Shoreline Land Use and Activities

Goal SA-1: Provide a high quality shoreline environment where:

- (1) Natural systems are preserved.
- (2) Ecological functions of the shoreline are maintained and improved over time.
- (3) The public enjoys access to and views of the lake.
- (4) Recreational opportunities are abundant.

The Kirkland shoreline forms the western boundary of the City and encompasses 52,729 lineal feet (9.9 miles) of Lake Washington waterfront. A significant portion of the City's shoreline is area zoned or designated as park/open space. Approximately 43 percent of the area within the shoreline jurisdiction, or a total of 139.7 acres of the shoreline, is within areas designated as park or open space. Except for a few anomalies, the high-functioning portions of the shoreline have been appropriately designated and preserved within these areas. The City's extensive network of parks also provides the public with significant access opportunities throughout the City.

Much of the remaining shoreline is fully developed with single-family residential uses or areas of concentrated, compact development containing commercial, multifamily, or mixed uses. In general, this pattern of land use is stable and only minimal changes are anticipated in the planning horizon. Redevelopment on some properties may result in single-family residences converting over time to multifamily or with new commercial or mixed uses replacing existing commercial uses. Given the lack of existing vacant land (only nine percent of the land within the shoreline is vacant, and much of that is encumbered by sensitive areas), additional housing or commercial square footage within the shoreline area will come over time as redevelopment and additions occur to existing developed properties.

Management of the shoreline area will need to carefully balance and achieve both shoreline utilization and protection of ecological functions. To protect valuable shoreline resources, the Shoreline Master Program limits the extent and character of a number of land uses and activities. Shoreline policies allow for a broad range of uses within the shoreline, while establishing limits to protect these shoreline resources and adjacent uses.

Shoreline policies aimed at protecting the natural environment address issues at both a broader scale, focusing on natural systems, as well as at the scale of ecological functions, which are the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem.

Issues that must be addressed by the Shoreline Use section include:

- How to manage new growth and redevelopment to be sensitive to and not degrade habitat, ecological systems and other shoreline resources.
- How to foster those uses that are unique to or depend on the proximity to the shoreline or provide an opportunity for substantial numbers of the people to enjoy the shoreline.
- How to ensure that land uses and shoreline activities are designed and conducted to minimize damage to the ecology of the shorelines and/or interference with the public's use of the water and, where consistent with public access planning, provide opportunities for the general public to have access to the shorelines.
- How to protect the public right of navigation and ensure that uses minimize any interference with the public's use of the water.

Policy SA-1.1: Allow for a diversity of appropriate uses within the shoreline area consistent with the varied character of the shorelines within the City.

The City's shoreline area is a collection of varied neighborhoods and business districts, each containing their own distinctive character as well as biological and physical condition along the shoreline. Kirkland's shorelines contain valuable natural amenities, providing critical habitat for fish and wildlife within the Juanita Bay and Yarrow Bay wetlands, two high-functioning natural areas. The shoreline also contains portions of several business districts, each with its own distinctive identity, including the Central Business District, Juanita Business District, and Carillon Point. Medium to high density residential and commercial uses are located to the south of the Central Business District.

The shoreline in these more urban areas is heavily altered with shoreline armoring, overwater coverage, and impervious areas. Single-family residential uses are prevalent in the area north of the Central Business District. The City also contains a system of waterfront parks, which provide a broad range of passive and active recreational activities and environmental protection.

Policy SA-1.2: Preserve and enhance the natural and aesthetic quality of important shoreline areas while allowing for reasonable development to meet the needs of the City and its residents.

These different and unique shoreline areas each contain qualities that contribute to Kirkland's shoreline identity, including waterfront orientation, shoreline public views and access, numerous and diverse recreational opportunities, abundant open space, natural habitat, and waterfront access trails. The Shoreline Master Program should seek to support these and other features which significantly contribute to the City's desired character along the shoreline.

Policy SA-1.3: Maintain existing and foster new uses that are dependent upon or have a more direct relationship with the shoreline and Lake Washington.



Carillon Point Marina

Certain shoreline uses are more dependent on or have a more direct relationship with the shoreline than others. The Shoreline Management Act requires that shoreline master programs give priority to:

- Water-dependent uses. A water-dependent use is dependent on the water by reason of the intrinsic nature of its operations, and cannot exist in any other location. Examples include swimming beaches, boat launches, boat piers, and marinas. Industrial water-dependent uses, such as ship building facilities, are not currently found nor are planned along the City's waterfront. The Kirkland waterfront contains several facilities that would

be considered water-dependent uses. The City contains one public marina and several private marinas. Large private commercial marinas include Carillon Point Marina, Yarrow Bay Marina and Kirkland Homeport Marina. The Yarrow Bay Marina contains a retail fuel service facility for boats, while the tour boat operators working out of the City's public marina provide shoreline tours. The City should encourage these water-dependent uses to remain.

- **Water-related uses.** A water-related use is dependant on a shoreline location because it has a functional requirement associated with a waterfront location, such as the transport of goods by water, or uses that support water-dependent uses. Examples include boat sales and outfitters and manufacturers that transport goods by water. These uses are typically not located along Kirkland's shoreline, though the Yarrow Bay Marina contains a boat repair and service facility.
- **Water-enjoyment uses.** A water enjoyment use is a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use, or a use that draws substantial numbers of people to the shoreline and that provides opportunities, through its design, location or operation, for the public to enjoy the physical and aesthetic benefits of the shoreline. Examples include parks and trails, museums, restaurants, and aquariums. Water enjoyment uses such as restaurants, retail stores, and offices are the primary commercial use along Kirkland's shoreline.
- **Single-family residential uses.** There is a single-family residential neighborhood in the shoreline area within the Market Neighborhood.
- **Shoreline recreation.** The shoreline contains an extensive network of open spaces and public parks along the shoreline, providing places for fishing, swimming, boating, wildlife viewing and other recreational and educational activities.

Shoreline Environment Designations

Goal SA-2: Provide a comprehensive shoreline environment designation system to categorize Kirkland's shorelines into similar shoreline areas to guide the use and management of these areas.

Environment designations are analogous to zoning designations for areas under SMP jurisdiction. See Figure SA-1, Shoreline Environment Designations Map. Their intent is to encourage uses that will protect or enhance the current or desired character of a shoreline based on their physical, biological and development characteristics.

Policy SA-2.1: Designate properties as Natural in order to protect and restore those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions that are sensitive to potential impacts from human use.

This type of designation would be appropriate for associated wetlands in and adjacent to Juanita Bay Park, the Yarrow Bay wetlands complex, and the portion of Juanita Bay Park located within shoreline jurisdiction. The following management policies should guide development within these areas:

- a. Any use or development activity that would potentially degrade the ecological functions or significantly alter the natural character of the shoreline area should be severely limited or prohibited, as follows:
 - 1) Residential uses should be prohibited, except limited single-family residential development may be allowed as a conditional use if the density and intensity of such use is limited as necessary to protect ecological functions and be consistent with the purpose of the environment.
 - 2) Subdivision of the subject property as regulated under the provisions of KMC Title 22 should be prohibited.
 - 3) Commercial and industrial uses should be prohibited.
 - 4) Nonwater-oriented recreation should be prohibited.
 - 5) Roads, utility corridors, and parking areas that can be located outside of Natural designated shorelines should be prohibited unless no other feasible alternative exists. Roads, bridges and utilities that must cross a Natural designated shoreline should be processed through a Shoreline Conditional Use.
- b. Development activity in the natural environment should only be permitted when no suitable alternative site is available on the subject property outside of shoreline jurisdiction.
- c. Development, when feasible, should be designed and located to preclude the need for shoreline stabilization, flood control measures, native vegetation removal, or other shoreline modifications.
- d. Development activity or land surface modification that would reduce the capability of vegetation to perform normal ecological functions should be prohibited.

- e. Limited access may be permitted for scientific, historical, cultural, educational and low-intensity water-oriented recreational purposes, provided there are no significant adverse ecological impacts.

Policy SA-2.2: Designate properties as Urban Conservancy to protect and restore ecological functions of open space, floodplain and other sensitive lands, while allowing a variety of compatible uses.

This type of designation would be appropriate for many of the City's waterfront parks. The following management policies should guide development within these areas:

- a. Allowed uses should be those that preserve the natural character of the area and/or promote preservation and restoration within critical areas and public open spaces either directly or over the long term.
- b. Restoration of shoreline ecological functions should be a priority.
- c. Development, when feasible, should be designed and located to preclude the need for shoreline stabilization, flood control measures, native vegetation removal, or other shoreline modifications.
- d. Public access and public recreation objectives should be implemented whenever feasible and significant ecological impacts can be mitigated.
- e. Water-oriented uses should be given priority over nonwater-oriented uses. For shoreline areas adjacent to commercially navigable waters, water-dependent uses should be given highest priority.
- f. Commercial and industrial uses, other than limited commercial activities conducted accessory to a public park, should be prohibited.

Policy SA-2.3: Designate properties as Residential – Low (L) to accommodate low-density residential development.

This type of designation would be appropriate for single-family residential uses from one to nine dwelling units per acre for detached residential structures and one to seven dwelling units per acre for attached residential structures. The following management policies should guide development within these areas:

- a. Standards for density, setbacks, lot coverage limitations, shoreline setbacks, shoreline stabilization, vegetation conservation, critical area protection, and water

quality should mitigate adverse impacts to maintain shoreline ecological functions, taking into account the following:

- 1) The environmental limitations and sensitivity of the shoreline area;
 - 2) The level of infrastructure and services available; and
 - 3) Other Comprehensive Plan considerations.
- b. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
- c. Industrial, commercial, multifamily and institutional uses, except for government facilities, should be prohibited.

Policy SA-2.4: Designate properties as Residential – Medium/High (M/H) to accommodate medium and high-density residential development.

This type of designation would be appropriate for detached, attached, or stacked residential uses of up to 15 or more dwelling units per acre. The following management policies should guide development within these areas:

- a. Standards for density, setbacks, lot coverage limitations, shoreline setbacks, shoreline stabilization, vegetation conservation, critical area protection, and water quality should mitigate adverse impacts to maintain shoreline ecological functions, taking into account the following:
- 1) The environmental limitations and sensitivity of the shoreline area;
 - 2) The level of infrastructure and services available; and
 - 3) Other Comprehensive Plan considerations.
- b. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
- c. Visual and physical access should be implemented whenever feasible and adverse ecological impacts can be avoided. Continuous public access along the shoreline should be provided, preserved or enhanced.
- d. Industrial uses should be prohibited.
- e. Water-dependent recreational uses should be permitted.

- f. Limited water-oriented commercial uses which depend on or benefit from a shoreline location should also be permitted.
- g. Nonwater-oriented commercial uses should be prohibited, except for small-scale retail and service uses that provide primarily convenience retail sales and service to the surrounding residential neighborhood should be permitted along portions of the east side of Lake Washington Boulevard NE/Lake Street South.
- h. Institutional uses may be permitted in limited locations.

Policy SA-2.5: Designate properties as Urban Mixed to provide for high-intensity land uses, including residential, commercial, recreational, transportation and mixed-use developments.

This type of designation would be appropriate for areas which include or are planned for retail, office, and/or multifamily uses. The following management policies should guide development within these areas:

- a. Manage development so that it enhances and maintains the shorelines for a variety of urban uses, with priority given to water-dependent, water-related and water-enjoyment uses. Nonwater-oriented uses should not be allowed except as part of mixed-use developments, or in limited situations where they do not conflict with or limit opportunities for water-oriented uses or on sites where there is no direct access to the shoreline.
- b. Visual and physical access should be implemented whenever feasible and adverse ecological impacts can be avoided. Continuous public access along the shoreline should be provided, preserved or enhanced.
- c. Aesthetic objectives should be implemented by means such as sign control regulations, appropriate development siting, screening and architectural standards, and maintenance of natural vegetative buffers.

Policy SA-2.6: Designate properties as Aquatic to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high water mark.

This type of designation would be appropriate for lands waterward of the ordinary high water mark. The following management policies should guide development within these areas:

- a. Provisions for the management of the Aquatic environment should be directed towards maintaining and restoring shoreline ecological functions.
- b. Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.
- c. All developments and uses on navigable waters or their beds should be located and designed to minimize interference with surface navigation, to minimize adverse visual impacts, and to allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration.
- d. New overwater structures for water-dependent uses and public access are permitted, provided they will not preclude attainment of ecological restoration.
- e. Public recreational uses of the water should be protected against competing uses that would interfere with these activities.
- f. Underwater pipelines and cables should not be permitted unless demonstrated that there is no feasible alternative location based on an analysis of technology and system efficiency, and that the adverse environmental impacts are not significant or can be shown to be less than the impact of upland alternatives.
- g. Existing residential uses located over the water and in the Aquatic environment may continue, but should not be enlarged or expanded.



Figure SA-1

Managing Shoreline Land Uses

Goal SA-3: Locate, design and manage shoreline uses to prevent and, where possible, restore significant adverse impacts on water quality, fish and wildlife habitats, the environment and other uses.

It is important that shoreline development be regulated to control pollution and prevention of damage to the natural environment. Without proper management, shoreline uses can cause significant damage to the shoreline area through cumulative impacts from shoreline armoring, stormwater runoff, introduction of pollutants, and vegetation modification and removal.

Given existing conditions, there is very little capacity for future development within the shoreline. However, it is anticipated that expansion, redevelopment or alteration to existing development will occur over time. With remodeling or replacement, opportunities exist to improve the shoreline environment. In particular, improvements to nearshore vegetation cover and reductions in impervious surface coverage are two key opportunity areas on private property to restore ecological function along the shoreline. Reduction or modification of shoreline armoring and reduction of overwater cover and in-water structures provide other opportunities.

Policy SA-3.1: Establish development regulations that avoid, minimize and mitigate impacts to the ecological functions associated with the shoreline zone.

In deciding whether to allow uses and activities in shoreline areas, the potential adverse impacts associated with uses or activities should be considered and avoided, where possible. This can be done by carefully selecting allowed uses, providing policies and standards to prevent or minimize adverse impacts, and carefully reviewing development proposals to prevent or minimize adverse impacts.

Policy SA-3.2: Provide adequate setbacks and vegetative buffers from the water and ample open space and pervious areas to protect natural features and minimize use conflicts.

The purpose of a setback is to minimize potential impacts of adjacent land uses on a natural feature, such as Lake Washington, and maximize the long-term viability of the natural feature. Setbacks perform a number of significant functions including reducing water temperature; filtering sediments and other contaminants from stormwater; reducing nutrient loads to lakes; stabilizing stream banks with vegetation; providing riparian wildlife habitat; maintaining and protecting fish habitats; forming aquatic food webs; and providing a visually appealing greenbelt and recreational opportunities.

Establishing the width of a setback so it is effective depends on the type and sensitivity of the natural feature and the expected impacts of surrounding land uses. In determining appropriate setbacks in the shoreline jurisdiction, the City should consider shoreline ecological functions as well as aesthetic issues.

Policy SA-3.3: Require new development or redevelopment to include establishment or preservation of appropriate shoreline vegetation to contribute to the ecological functions of the shoreline area.

Shoreline vegetation plays an important role in maintaining temperature, removing excessive nutrients, attenuating wave energy, removing sediment and stabilizing banks, and providing woody debris and other organic matter along Lake Washington.

The *Final WRIA 8 Chinook Salmon Conservation Plan* notes the importance of providing a vegetated riparian/lakeshore buffer and overhanging riparian vegetation to improve the habitat for juvenile Chinook salmon¹. As a result, when substantial new upland development occurs, the on-site landscaping should be designed to incorporate native plant buffers along the shoreline. Proper plant selection and design should be done to ensure that views are not diminished.

Policy SA-3.4: Incorporate low-impact development practices, where feasible, to reduce the amount of impervious surface area.

Low-impact development strives to mimic nature by minimizing impervious surface, infiltrating surface water through biofiltration and bio-retention facilities, retaining contiguous forested areas and maintaining the character of the natural hydrologic cycle. Utilizing these practices can have many benefits, including improvement of water quality and reduction of stream and fish habitat impacts.

Policy SA-3.5: Limit parking within the shoreline area.

Facilities providing public parking are permitted within the shoreline area as needed to support adjoining water-oriented uses. Private parking facilities should be allowed only as necessary to support an authorized use. All parking facilities, wherever possible, should be located out of the shoreline area.

Policy SA-3.6: Minimize the aesthetic impacts of parking facilities.

Parking areas should be placed, screened, and buffered to mitigate impacts through use of design techniques, such as location, lighting, landscaping or other similar design features to minimize the aesthetic impacts of parking facilities. Exterior parking areas

should be located away from the shoreline or attractively landscaped with vegetation that will not obstruct views of the lake from the public right-of-way.

Policy SA-3.7: Limit outdoor lighting levels in the shoreline to the minimum necessary for safe and effective use.

Artificial lighting can be used for many different purposes along the waterfront, including to aid in nighttime activities that would be impossible or unsafe under normal nighttime conditions, for security, or simply to make a property more attractive at night. At the same time, the shoreline area can be vulnerable to impacts of light and glare, potentially interrupting the opportunity to enjoy the night sky, impacting views and privacy and affecting the fish and wildlife habitat value of the shoreline area. To protect the scenic value, views, and fish and wildlife habitat value of shoreline areas, excessive lighting is discouraged. Shoreline development should use sensitive waterfront lighting to balance the ability to see at night with the desire to preserve the scenic and natural qualities of the shoreline. Parking lot lighting, lighting on structures or signs, and pier and walkway lighting should be designed to minimize excessive glare and light trespass onto neighboring properties and shorelines.

Policy SA-3.8: Encourage the development of joint-use overwater structures, such as joint-use piers, to reduce impacts to the shoreline environment.

The presence of an extensive number of piers has altered the shoreline. The construction of piers can modify the aquatic ecosystem by blocking sunlight and creating large areas of overhead cover. Minimizing the number of new piers by using joint facilities is one technique that can be used to minimize the effect of piers on the shoreline environment.

Policy SA-3.9: Allow variations to development standards that are compatible with surrounding development to facilitate restoration opportunities along the shoreline.

The City should consider appropriate variations to development standards to maximize the opportunities to restore shoreline functions. For example, reductions in setbacks could be used to facilitate restoration in highly altered areas that currently provide limited function and value for such attributes as large woody debris recruitment, shading, or habitat.

Goal SA-4: Incorporate a variety of management tools, including improvement of City practices and programs, public acquisition, public involvement and

education, incentives, and regulation and enforcement to achieve its goals for the shoreline area.

Because Kirkland's natural resources are located on both public and on private land, a variety of approaches is needed for effective management of the shoreline. Kirkland should ensure that it uses a mix of public education and involvement, acquisition, program funding, and improvement of City practices on City land, together with regulation and enforcement.

Goal SA-5: Ensure that private property rights are respected.

A significant portion of Kirkland's shoreline is located in private ownership. Aspects of the Shoreline Master Program, including development regulations, setback requirements, environmental regulations and other similar regulatory provisions, may take the form of limitations on the use of private property. In establishing and implementing these types of land use controls, the City should be careful to consider the public and private interests as well as the long-term costs and benefits.

Residential

Goal SA-6: Protect and enhance the character, quality and function of existing residential neighborhoods within the City's shoreline area.

Policy SA-6.1: Permit structures or other development accessory to residential uses.

Accessory uses such as garages, sheds, accessory dwelling units, and fences are common features normally applicable to residential uses. They should be permitted if located landward of the ordinary high water mark and outside of any critical area or critical area buffer.

Policy SA-6.2: New overwater residences are not a preferred use and shall not be permitted. Existing nonconforming overwater residential structures should not be enlarged or expanded.



Overwater residences on the lake

The City contains a number of existing overwater residential structures that were constructed prior to the City's limitation on overwater structures to water-dependent uses. These existing structures have created large areas of overhead cover, impacting the aquatic environment. Many of these structures are likely to be remodeled and modernized in the future and these activities should be carefully reviewed to prevent additional adverse impacts and to improve existing conditions, where possible.

Policy SA-6.3: Manage new subdivisions of land within the shoreline to:

- Avoid the creation of new parcels with building sites that would impact wetlands, streams, slopes, frequently flooded areas and their associated buffers;
- Ensure no net loss of ecological functions resulting from the division of land or build-out of the lots;
- Prevent the need for new shoreline stabilization or flood risk measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions;
- Implement the provisions and policies for shoreline designations and the general policy goals of this program; and
- Provide public access along the shoreline.

Though there is not a great capacity to add new units to the shoreline area through subdivision, if properties are divided they should be designed to ensure no net loss, minimize impacts, and prevent the need for new shoreline stabilization structures.

Policy SA-6.4: Evaluate new single-family development within areas impacted by critical areas to protect ecological functions and ensure some reasonable economic use for all property within Kirkland's shoreline.

West of and contiguous with the Yarrow Bay wetlands adjacent to the City limits there are a number of properties that were previously platted for residential use but remain vacant, forested, and impacted by critical areas. In addition, a few properties along the Forbes Creek corridor and Juanita Bay may be similarly encumbered. When considering development proposals on these properties, the City should use a process designed to assure that proposed regulatory or administrative actions do not unconstitutionally infringe upon private property rights.

Commercial

Goal SA-7: Plan for commercial development along the shoreline that will enhance and provide access to the waterfront.

Policy SA-7.1: Permit water-enjoyment uses within the shoreline area of the Central Business District.

Downtown Kirkland is an active urban waterfront which strongly benefits from its adjacency to Moss Bay. The Downtown area has a strong land use pattern that is defined by its restaurants, art galleries and specialty shops, which are connected within a pedestrian-oriented district. These uses draw substantial numbers of people to the Downtown and can provide opportunities, if appropriately designed and located, for the public to enjoy the physical and aesthetic benefits of the shoreline. For these reasons, water-enjoyment uses, such as restaurants, hotels, civic uses, and retail or other commercial, uses should be encouraged within the Downtown provided they are designed to enhance the waterfront setting and pedestrian activity.

Policy SA-7.2: Manage development in the shoreline area of the Central Business District to enhance the waterfront orientation.

The Central Business District contains extensive public use and views of the waterfront provided by public parks, street ends, public and private marinas, public access piers and shoreline public access trails. Yet, development along the shoreline has historically "turned its back" to Lake Washington, with active areas located opposite the lake and separated from it by large surface parking lots, limiting the ability to fully capitalize on the Downtown waterfront setting. Future growth and redevelopment along the shoreline in the Downtown should continue to reflect the waterfront setting and ensure that development is oriented to the lake. One key opportunity is to develop a large public

plaza over the Marina Park parking lot in order to better connect the Downtown to the lake and the park.

Policy SA-7.3: Maximize public access, use, and visual access to the lake within Carillon Point and the surrounding commercial area.



Public access at Carillon Point

Carillon Point is a vibrant mixed-use development that contains office space, restaurants, and retail space in addition to a hotel, day spa and marina facilities. The site has been designed to provide both visual and physical access to the shoreline, including expansive view corridors which provide a visual linkage from Lake Washington Boulevard NE to the lake, as well as an internal pedestrian walkway system and outdoor plazas. The Central Plaza of Carillon Point is frequently used for public gatherings and events. The Plaza is encompassed by a promenade and Carillon Point's commercial uses. If new development or redevelopment occurs on this site, existing amenities related to public access, use and visual access to the lake should be preserved.

Immediately south of Carillon Point, the Yarrow Bay Marina and new office development provides opportunities for public use and enjoyment of the waterfront, including boat rental facilities, a public waterfront trail and waterfront access area with seating and interpretative signs. In addition, public views across the site have been preserved in an expansive view corridor.

If new development or redevelopment occurs in the commercial area, the strong public access to and along the water's edge, waterfront public use areas, water-dependent uses such as the marinas, and views from Lake Washington Boulevard should be preserved to the greatest extent feasible.

Policy SA-7.4: Enhance the physical and visual linkages to Lake Washington in the Juanita Business District.

The shoreline area of the Juanita Business District presently contains a mix of retail, office and residential uses. Visual linkages to the lake in the Juanita Business District are limited, with existing development blocking most of the shoreline. Waterfront access trails are missing in several key locations, limiting access between Juanita Bay Park and Juanita Beach Park, which border the Business District on the north and south.

The ability to enhance physical and visual access to the lake is challenging in this area. Several of the shoreline properties are developed with residential condominiums, which are unlikely to redevelop. Some of the commercial properties are significantly encumbered by wetlands that are associated with Lake Washington. Should properties redevelop in this area, public access should be required as a part of redevelopment proposals, where feasible.

Despite these challenges, future redevelopment along the shoreline in the Juanita Business District should emphasize Juanita Bay as a key aspect of the district's identity, highlighting recreational opportunities available at Juanita Beach Park and providing better visual and pedestrian connections to both Juanita Bay and Juanita Beach Park and Lake Washington.

Policy SA-7.5: Allow limited commercial uses in the area located between the Central Business District and Planned Area 15 if public access to and use of the shoreline is enhanced.

Commercial uses which are open to and will attract the general public to the shoreline, such as restaurants, are appropriate within the urban area located between Downtown Kirkland and Carillon Point. These uses will enhance the opportunity for public access to this segment of the shoreline, and will complement neighboring shoreline parks and, as a result, should be encouraged. To assure that these uses enhance the opportunity for the public to take advantage of the shoreline, these uses should include amenities where the public can view and enjoy the shoreline. These uses should also be limited and designed to assure that they do not adversely impact the natural environment and interfere with nearby uses.

Policy SA-7.6: Allow limited commercial uses, such as a hotel/motel and limited marina use, within Planned Area 3B.

Planned Area 3B is fully developed with multifamily residential uses and contains a private marina facility. The site is also used for overnight lodging. The site has also been

improved with a public trail along its entire perimeter, providing public access to Lake Washington and visual access to the Yarrow Bay wetlands.

Policy SA-7.7: Nonwater-oriented commercial development may be allowed if the site is physically separated from the shoreline by another property or right-of-way.

There are several commercial properties which do not have direct frontage on Lake Washington, either because they are separated by right-of-way (Lake Washington Boulevard NE, Lake Street, and 98th Avenue NE) or by another property. These properties should be allowed a greater flexibility of uses, given the physical separation from the waterfront area.

Policy SA-7.8: Prohibit overwater commercial development other than piers and similar features that support water-dependent uses.

Overwater structures can adversely impact the shoreline environment and should be avoided, except where necessary to support water-dependent uses, and then only when appropriately mitigated.

Boating Facilities

Goal SA-8: Manage boating facilities to avoid or minimize adverse impacts.

Policy SA-8.1: Locate new boating facilities and allow expansion of existing facilities at sites with suitable environmental conditions, shoreline configuration, and access.

One public marina and several private marinas are located on the lake within Kirkland. The City's public pier is located Downtown at Marina Park. Large private marinas include Carillon Point Marina, Yarrow Bay Marina and Kirkland Homeport Marina. Other private marinas providing moorage for multifamily developments are also located along the shoreline.

As new boating facilities are established or existing ones expanded, the facility should be designed to:

- Meet health, safety, and welfare requirements, including provisions for pump-out facilities;
- Mitigate aesthetic impacts;
- Minimize impacts to neighboring uses;

- Provide public access;
- Assure no net loss of shoreline ecological functions and prevent other significant adverse impacts; and
- Protect the rights of navigation and access to recreational areas.

Policy SA-8.2: Require restoration activities when substantial improvements or repair to existing boating facilities is planned.

The Kirkland waterfront has been extensively modified with piers and other overwater structures. These overwater structures impact the nearshore aquatic habitat, blocking sunlight and creating large areas of overhead cover. These impacts, where they exist, should be mitigated when substantial improvements or repair to existing boating facilities are planned.

Restoration activities could include reducing or eliminating the number of boathouses and solid moorage covers, minimizing widths of piers and floats, increasing light transmission through overwater structures, enhancing the shoreline with native vegetation, improving shallow-water habitat, reducing the overall number and size of pier piles, and improving the quality of stormwater runoff.

Goal SA-9: Promote use of best management practices to control pollutants from boat use, maintenance and repair, as well as proper sewage disposal for boats and potential invasive vegetation transfer.

Marinas and the operation, maintenance and cleaning of boats can be significant sources of pollutants in water and sediments, as well as in animal and plant tissues. Significant steps have been taken at all levels of government and in the private sector to reduce the impacts of marinas and boating on the aquatic environment. The Federal Clean Water Act provides the federal government with the authority to regulate the discharge of boat sewage. In addition, the Department of Ecology has developed environmentally protective guidelines for the design and siting of marinas and sewage disposal facilities. The State Parks and Recreation Commission's boater education program provides technical assistance and signage and other materials to marinas. At the local level, governments and private businesses participate in boater programs as well, educating their moorage clients and providing them with the means to dispose of their wastes properly. The City should work cooperatively with State agencies, marina operators and boat owners to continue to minimize the impacts of boating on the aquatic environment.

Managing Shoreline Modifications

Goal SA-10: Manage shoreline modifications to avoid, minimize, or mitigate significant adverse impacts.

Significant adverse impacts caused from shoreline modifications should be avoided, minimized, or mitigated in the following sequential order of preference:

- Avoiding the impact altogether by not taking a certain action or part of an action.
- Minimizing the impact(s) by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
- Minimizing or eliminating the impact by restoring or stabilizing the area through engineered or other methods;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;
- Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;
- Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
- Monitoring the hazard or other required mitigation and taking remedial action when necessary.

Policy SA-10.1: Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions.

Shoreline modifications are manmade alterations to the natural lake edge and nearshore environment and primarily include a variety of armoring types (some associated with fill), piers, and other in-water structures. These modifications alter the function of the lake edge, change erosion and sediment movement patterns, affect the distribution of aquatic vegetation and are often accompanied by upland vegetation loss. Impacts from these shoreline modifications can be minimized by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.

Fill

Policy SA-10.2: Limit fill waterward of the ordinary high water mark to support ecological restoration or to facilitate water-dependent or public access uses.

Fill allows for the creation of dry upland areas by the deposition of sand, silt, gravel or other materials onto areas waterward of the ordinary high water mark. Fill has traditionally been used in the shoreline area to level or expand residential yards and, in many cases, has been associated with armoring of the shoreline. This use of fill has resulted in an alteration of the natural functions of the lake edge and has often been accompanied by a loss of upland vegetation. As a result, this use of fill should be discouraged.

Alternatively, fill can also be used for ecological restoration, such as beach nourishment, when materials are placed on the lake bottom waterward of the ordinary high water mark. This type of fill activity should be encouraged; provided, that it is designed, located and constructed to improve shoreline ecological functions.

Land Surface Modification

Policy SA-10.3: Limit Land Surface Modification activities in the shoreline area.

Land Surface Modification activities are typically associated with upland development. These activities have the potential to cause erosion and siltation, increase runoff and flood volumes, reduce flood storage capacity and damage habitat and therefore should be carefully considered to ensure that any potential adverse impacts are avoided or minimized. Impacts from Land Surface Modification activities can be avoided through proper site planning, construction timing practices, and use of erosion and drainage control methods. Generally, these activities should be limited to the maximum extent necessary to accommodate the proposed use, and should be designed and located to protect shoreline ecological functions and ecosystem-wide processes.

Dredging

Policy SA-10.4: Design and locate new shoreline development to avoid the need for dredging.

Policy SA-10.5: Discourage dredging operations, including disposal of dredge materials.

Dredging is typically associated with a reconfiguration of the lake bed or stream channel to remove sediments, expand a channel, or relocate or reconfigure a channel. For instance, dredging can be used to excavate moorage slips that have been filled in with sediments or are located in shallow water. In other cases, dredging can be used to

remove accumulated sediment that has disrupted water flow and, as a result, water quality, as is the case at Juanita Beach Park.

Dredging activities can have a number of adverse impacts, such as an increase in turbidity and disturbance to or loss of animal and plant species. Dredging activities can also release nutrients in sediments, and may temporarily result in increased growth of nuisance macrophytes such as milfoil after construction is completed. Dredging can also release toxic materials into the water column. As a result, dredging activities should be limited except when necessary for habitat or water quality restoration, or to restore access, and where impacts to habitat are minimized and mitigated.

Shoreline Stabilization

Policy SA-10.6: Limit use of hard structural stabilization measures to reduce shoreline damage.



Bulkheads along the lake

Lake Washington is an important migration and rearing area for juvenile Chinook salmon. The juvenile Chinook salmon using the lake depend on the following habitat characteristics:

- Shoreline areas with shallow depths (>1 m).
- Gentle slope.
- Fine substrates such as sand and gravel.
- Overhanging vegetation/small woody debris.
- Small creeks with a shallow, low-gradient at the creek mouth².

Remaining areas with these characteristics should be protected and maintained, while developed areas along Kirkland's shoreline should be enhanced with these habitat features, where feasible.

Bulkheads and other forms of hard stabilization measures impact the suitability of the shoreline for juvenile Chinook salmon habitat, in particular the slope, depth and substrate materials of the shoreline. Shoreline protective structures such as bulkheads create deeper water with steeper gradient and a coarser bottom substrate. Waves no longer are able to dissipate energy over distance as they hit shallower bottom, rocks, or shoreline vegetation. Rather, the wave reflects off a vertical wall, causing scouring of sediment at the base of the wall. The finer sands are removed as the gravel is eroded away and the bottom substrate becomes coarser. The result is a much deeper and steeper nearshore environment, and often elimination of a beach.

Despite these potential ecological impacts, there are some areas along the City's shoreline, especially on shallow lots with steep banks, which may need some form of shoreline armoring in order to protect existing structures and land uses. It is the intent of this policy to require that shoreline stabilization be accomplished through the use of nonstructural measures, such as building setbacks or on-site drainage improvements, or soft structural measures, such as bioengineering or beach enhancement unless these methods are determined to be infeasible, based on a scientific or geotechnical analysis. In those circumstances where alternatives are demonstrated to not be feasible, the shoreline stabilization measures used should be located, designed, and maintained in a manner that minimizes adverse effects on shoreline ecology.

Policy SA-10.7: Design, locate, size and construct new or replacement structural shoreline protection structures to minimize and mitigate the impact of these activities on the Lake Washington shoreline.

Shoreline protective structures should be allowed to protect a legally established structure or use that is in danger of loss or substantial damage. The potential for damage must be conclusively shown, as documented by a geotechnical analysis, to be caused by shoreline erosion associated with wave action.

Where allowed, shoreline protection structures should minimize impacts on shoreline hydrology, navigation, habitat, and public access. Shoreline protective structures should be designed for the minimum height, bulk and extent necessary to address an identified hazard to an existing structure. As noted above, vegetation and nonstructural solutions should be used rather than structural bank reinforcement, unless these methods are determined to be infeasible, as documented by a geotechnical analysis.

Policy SA-10.8: Locate and design new development to eliminate the need for new shoreline modification or stabilization.



Soft shoreline restoration with native vegetation along the lake

New development should be located and designed so that new structural shoreline protection features are not needed.

Policy SA-10.9: Encourage salmon-friendly shoreline design during new construction and redevelopment by offering incentives and regulatory flexibility to improve the design of shoreline protective structures and revegetate shorelines.

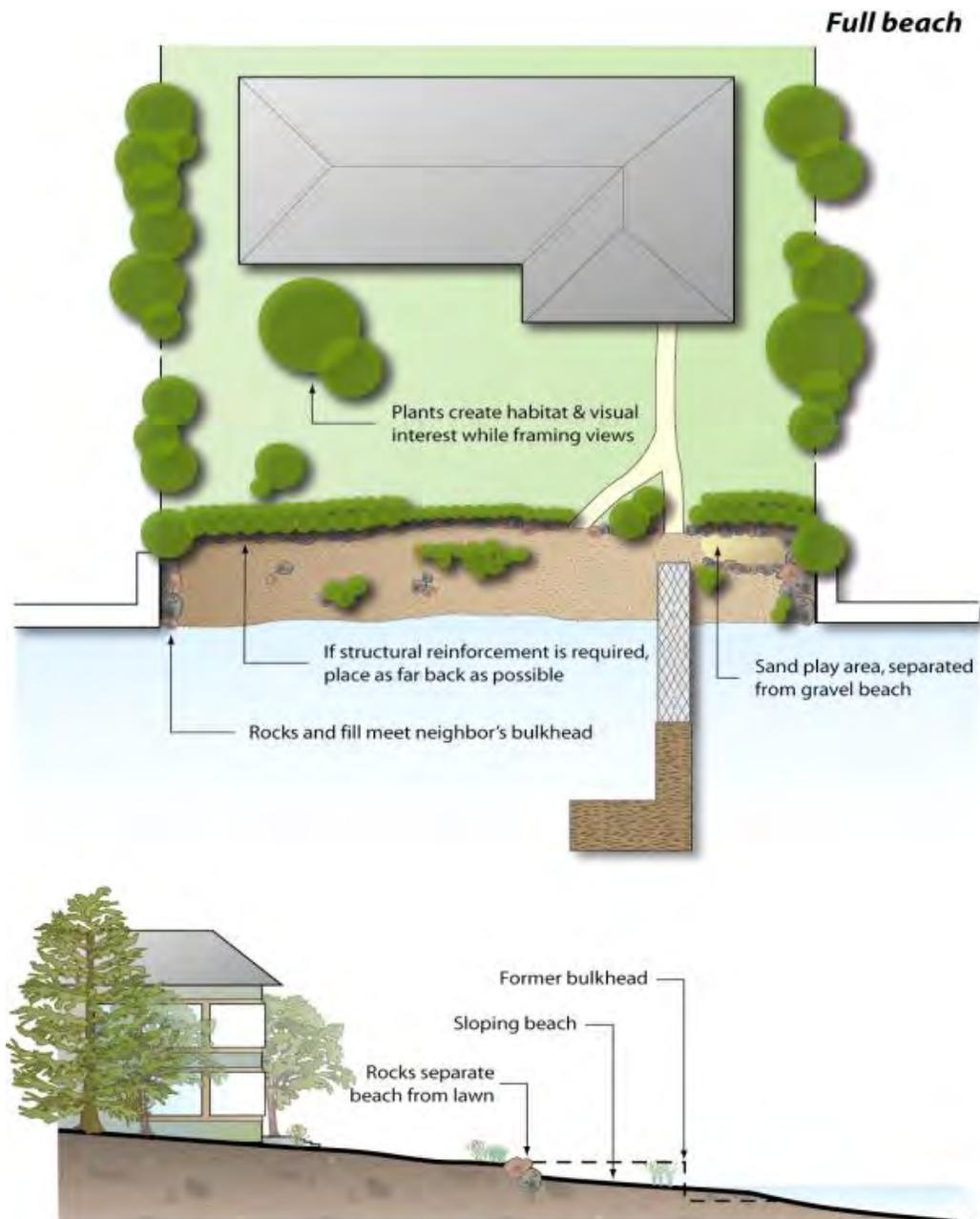


Illustration of soft shoreline restoration with native vegetation

In recent years, many bioengineered techniques have been developed to provide alternative shoreline protection methods. These features may employ the use of gravel substrate material, terraces, large flat rocks, shallow pools, logs, and vegetation to prevent erosion and provide an attractive, usable shoreline. The aim of these designs is to reduce bank hardening, restore overhanging riparian vegetation, and replace bulkheads with sand beaches and gentle slopes. These techniques can provide many ecological benefits, including:

- Less turbulence.

- Shallower grade.
- Protection from predators.
- Finer sandy bottom.
- Increased food source.

The WRIA 8 Conservation Strategy notes the importance of reducing bank hardening, restoring overhanging riparian vegetation, replacing bulkheads and riprap with sandy beaches with gentle slopes to improve the habitat for juvenile Chinook salmon³. In order to facilitate the use of alternatives to shoreline stabilization composed of concrete, riprap, or other hard structural or engineered materials, the City should identify appropriate regulatory flexibility or offer incentives to shoreline property owners to voluntarily remove bulkheads and to revegetate the shoreline.

Policy SA-10.10: Expand outreach to lakeside property owners about shoreline landscape design, maintenance, and armoring alternatives.

The City should evaluate different outreach and education actions to foster stewardship of shoreline property owners and the general public, including but not limited to the following:

- Distribute educational materials on a range of topics, including salmon habitat needs, household and landscape best management practices, the value of large woody debris, the value of tree cover, and stormwater issues.
- Establish a contact list of shoreline property owners to facilitate educational outreach.
- Offer shoreline property owners workshops on “salmon-friendly” design.
- Use restoration projects sites for demonstration purposes and provide interpretation at restoration sites, including signage, tours, and other methods.
- Provide information about opportunities for involvement in community stewardship projects.
- Offer education to landscape designers/contractors on riparian design.
- Create local informational TV spots that could run on the City’s television channel.
- Focus environmental/science curricula on local watershed issues.

Public outreach efforts should focus on the opportunity to improve existing habitat, but also on the potential benefits that alternative shoreline stabilization can offer, including:

- Easier access to beach and water, especially with a kayak or other human-powered craft.
- Shallow gradient shore and water can be safer, especially for small children.
- More usable shoreline with beach and cove.
- Reduced maintenance.
- Potential for increased property values.

In-stream Structures

Policy SA-10.11: Limit the use of in-stream structures.

“In-stream structure” means a structure placed by humans within a stream waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. Within Kirkland, these features typically include those for flood control, transportation, utility service transmission, and fish habitat enhancement.

In-stream structures should only be used in those circumstances where it is demonstrated to provide for the protection and preservation of ecosystem-wide processes, ecological functions, and cultural resources, including, but not limited to, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. The location and planning of in-stream structures should be determined with due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring priority habitats and species.

Breakwaters and Similar Features

Policy SA-10.12: Limit the use of breakwaters and other similar structures.

A breakwater typically refers to an off-shore structure designed to absorb and/or reflect wave energy back into the water body. Breakwaters can be floating or fixed in location and may or may not be connected to the shore. These modifications are limited within the City, but can be found at Kirkland Homeport Marina as well as at Juanita Beach Park, where a breakwater has been installed around the overwater boardwalk to shelter the swimming area. Breakwaters have the potential to adversely impact the shoreline

environment, including impacts to sediment transport, deflection of wave energy, a decrease in water flushing and water exchange, to name a few. As a result, the installation of new breakwaters should be limited to those circumstances when it is shown to be necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose. In these circumstances, the feature should be carefully designed to avoid, minimize, and then mitigate any adverse ecological impacts.

Piers

Goal SA-11: Minimize impacts to the natural environment and neighboring uses from new or renovated piers.



Piers near Juanita Bay

Policy SA-11.1: Design and locate private piers so that they do not interfere with shoreline recreational uses, navigation, or the public's safe use of the lake and shoreline.

Private piers should be located and designed to provide adequate separation from public parks, other adjoining moorage facilities and adjacent properties in order to limit any adverse impacts to safe navigation or recreational uses.

Policy SA-11.2: Design and construct new or expanded piers and their accessory components, such as boat lifts and canopies, to minimize impacts on native fish and wildlife and their habitat.

The Kirkland waterfront has been extensively modified with piers and other overwater structures. These overwater structures impact the nearshore aquatic habitat, blocking sunlight and creating large areas of overhead cover. Piers and other overwater structures also shade the lake bottom and inhibit the growth of aquatic vegetation⁴.

These types of structural modifications to shorelines are now known to benefit non-native predators (like largemouth and smallmouth bass), while reducing the amount of complex aquatic habitat formerly available to salmonids rearing and migrating through Lake Washington⁵. This can impact juvenile salmonids, in particular, due to their affinity to nearshore, shallow-water habitats. Chemical treatments of pier components, such as creosote pilings, installed prior to today's standards, have also impacted water and sediment quality in the lake.

The combined effect of an overwater structure and a dramatic change in aquatic vegetation results in a behavior modification in juvenile salmonids, which will often change course to circumvent large piers or other overwater structures rather than swimming beneath them⁶. These behavior modifications disrupt natural patterns of migration and can expose juvenile salmonids to increased levels of predation.

Minimizing overwater coverage and associated support structures can benefit salmon. Studies related to shading effects from varying types of pier decking indicate that grated decking provides significantly more light to the water surface than traditional decking methods and may lead to improved migratory conditions for juvenile Chinook salmon⁷.

Impact minimization measures, which have been identified by State and federal agencies, include, but are not limited to:

- Shared use of piers;
- Reducing or eliminating the number of boathouses and solid moorage covers (e.g., use of clear, translucent materials proven to allow light transmission for new canopies);
- Minimizing the size and widths of piers and floats;
- Increasing light transmission through any overwater structures (e.g., use of grated decking);
- Maximizing the height of piers above the water surface;
- Enhancing the shoreline with native vegetation;
- Improving shallow-water habitat;
- Reducing the overall number and size of pier piles; and
- Improving the quality of stormwater runoff.

Policy SA-11.3: Minimize aesthetic impacts of piers and their accessory components.

To minimize aesthetic impacts, ensure that lighting does not spill over onto the lake water surface, and minimize glare, piers should make use of nonreflective materials, minimize lighting facilities to that necessary to find the pier at night and focus illumination downward and away from the lake.

Shoreline Habitat and Natural Systems Enhancement Projects

Goal SA-12: Restore shoreline areas that have been degraded or diminished in ecological value and function as a result of past activities.

Policy SA-12.1: Include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low-impact development techniques in projects located within the shoreline, where feasible.

Shoreline habitat and natural systems enhancement projects include those activities proposed and conducted specifically for the purpose of establishing, restoring, or enhancing habitat for priority species in shorelines. Such projects may include shoreline modification actions such as modification of vegetation, removal of non-native or invasive plants, shoreline stabilization, dredging, and filling; provided, that the primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline.

The City's shoreline has been impacted by past actions and, as a result, there are many opportunities available for restoration activities that would improve ecological functions. For example, enhancement of riparian vegetation, reductions or modifications to shoreline hardening, and improvements to fish passage would improve the ecological function of the City's shoreline. Many of these restoration opportunities exist throughout the City on private property, as well as on City property, including parks, open spaces, and street ends. Both public and private efforts are needed to restore habitat areas. Opportunities include public-private partnerships, partnerships with other agencies and affected tribes, capital improvement projects, and incentives for private development to restore and enhance fish and wildlife habitat.

¹WRIA 8 Steering Committee. 2005. Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan. July 2005.

²Tabor, R.A. and R.M. Piaskowski. 2002. Nearshore habitat use by juvenile Chinook salmon in lentic systems of the Lake Washington Basin, Annual Report, 2001. U.S. Fish and Wildlife Service, Lacey, WA.

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WRIA 8 Steering Committee. 2005. Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan. July 2005.

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Fresh, K.L. and G. Lucchetti. 2000. Protecting and restoring the habitats of anadromous salmonids in the Lake Washington Watershed, an urbanizing ecosystem. Pages 525-544 in E.E. Knudsen, C.R. Steward, D.D. MacDonald, J.E. Williams, and D.W. Reiser (editors). Sustainable Fisheries Management: Pacific salmon. CRC Press LLC, Boca Raton, FL.

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Kahler, T., M. Grassley, and D. Beauchamp. 2000. A summary of the effects of bulkheads, piers, and other artificial structures and shorezone development on ESA-listed salmonids in lakes. Final Report. Prepared for City of Bellevue by The Watershed Company. 74 pp. Kerwin, J. 2001. Salmon and steelhead habitat limiting factors report for the Cedar-Sammamish Basin (Water Resource Inventory Area 8). Washington Conservation Commission. Olympia, WA.

Tabor, R.A., H.A. Gearns, C.M. McCoy III, and S. Camacho. 2006. Nearshore habitat use by juvenile Chinook salmon in lentic systems of the Lake Washington Basin, Annual Report, 2003 and 2004. U.S. Fish and Wildlife Service, Lacey, WA.

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2. Shoreline Environment

Goal SA-13: Preserve, protect, and restore the shoreline environment.

Kirkland is enriched with valued natural features within the shoreline area that enhance the quality of life for the community. Natural systems serve many essential functions that can provide significant benefits to fish and wildlife, public and private property, and enjoyment of the shoreline area.

Shoreline Critical Areas

Note: The Natural Environment Chapter of the Comprehensive Plan contains a set of policies relating to critical areas, including Goals NE-1, together with related Policies NE-1.1 through NE-1.6, Goal NE-2, together with related policies NE-2.1 through NE-7, and Goal NE-4.

Critical areas found within the shoreline area include geologically hazardous areas, frequently flooded areas, wetlands, and fish and wildlife habitat conservation areas. Floodplains, while not a designated critical area, are also addressed in this section due to the relationship with frequently flooded areas within the City. No critical aquifer recharge areas are mapped within the City.

Policy SA-13.1: Conserve and protect critical areas within the shoreline area from loss or degradation.

Environmentally critical areas within the shoreline area are important contributors to Kirkland's shoreline environment and high quality of life. Some natural features are critical to protect in order to preserve the important ecological functions they provide. The City also regulates and restricts development within critical areas because of the hazards they present to public health and safety. This policy is intended to ensure that the ecological functions and ecosystem-wide processes of these natural systems are maintained and improved.

Policy SA-13.2: Locate and design public access within and adjacent to critical areas to ensure that ecological functions are not impacted.

While public access for educational and public access purposes is an important objective, the location and design of public access must be carefully considered to avoid impacts to critical areas.

Geologically Hazardous Areas

Policy SA-13.3: Manage development to avoid risk and damage to property and loss of life from geological conditions.

Geologically hazardous areas include landslide hazard areas, erosion hazard areas and seismic hazard areas. These areas, as a result of their slope, hydrology, or underlying soils, are potentially susceptible to erosion, sliding, damage from earthquakes or other geological events. These areas can pose a threat to health and safety, if development is not appropriately managed and the area studied as a condition of permitting construction.

Wetlands

Policy SA-13.4: Protect and manage shoreline-associated wetlands.

Wetlands are areas that, under normal conditions, are inundated or saturated by surface or groundwater at a frequency and duration to support a prevalence of vegetation typically adapted for life in saturated soil conditions. The wetlands located within the shoreline area perform many ecological functions, including habitat for fish and wildlife, flood control, and groundwater recharge, as well as surface and groundwater transport, storage and filtration. Additionally, wetlands provide opportunities for research and scientific study, outdoor education, and passive recreation.

Kirkland's shoreline contains two extensive high-quality wetland systems: the wetlands located contiguous with the shoreline at Juanita Bay Park and extending up through the Forbes Valley (Forbes 1) and the Yarrow Bay wetlands (Yarrow 1). It is estimated that these wetlands combined are over 156 acres in size. The Forbes 1 wetland has several different vegetation classes, including forested, scrub-shrub, emergent, open water, and aquatic bed. The wetland contains a variety of plant species and types, including native red alder, willow, cottonwood, salmonberry, spiraea, red osier dogwood, skunk cabbage, buttercup, small-fruited bulrush, lady fern, soft rush, horsetail, cattail, and non-native Himalayan blackberry, reed canarygrass and purple loosestrife. Within the *Final Kirkland Shoreline Analysis Report* (2006), this system has been rated "high quality" for several functions, including habitat, water and sediment storage, water quality improvement, wave energy attenuation and bank stabilization, and nutrient and toxic compound removal.

The Yarrow Bay wetland complex similarly contains a number of wetland classes, including forested, scrub-shrub, emergent, open water, and aquatic bed. The Yarrow Bay complex also contains a mixture of plant species and types, including native red alder, willow, cottonwood, salmonberry, spiraea, red osier dogwood, and cattail and non-native Himalayan blackberry and reed canarygrass. The *Final Kirkland Shoreline Analysis Report* (2006) also rates this system "high quality" for numerous functions.

The Forbes 1 and Yarrow 1 wetlands are also mapped as priority wetlands by Washington Department of Fish and Wildlife (WDFW) (2006). Priority wetlands are those wetlands that have “[c]omparatively high fish and wildlife density, high fish and wildlife species diversity, important fish and wildlife breeding habitat, important fish and wildlife seasonal ranges, limited availability, [and] high vulnerability to habitat alteration.”

This policy is intended to ensure that the City achieves no net loss of wetlands through retention of wetland area, functions and values. Mitigation sequencing is used to ensure impacts to wetlands are avoided, where possible, and mitigated, when necessary.

Wetlands are protected in part by buffers, which are upland areas adjacent to wetlands. Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment loads; remove waterborne contaminants such as excess nutrients, synthetic organic chemicals (e.g., pesticides, oils, and greases), and metals; provide shade for surface water temperature moderation; provide wildlife habitat; and deter harmful intrusion into wetlands.

Fish and Wildlife Habitat Conservation Areas

Policy SA-13.5: Protect and restore critical freshwater habitat.

Fish and wildlife habitat conservation areas provide food, protective cover, nesting, breeding, or movement for threatened, endangered, sensitive, monitor, or priority species of plants, fish, or wildlife. Within the City, there are several areas that fall within this classification.

Lake Washington is known to support a diversity of salmonids, including Chinook salmon, steelhead trout, bull trout (listed as threatened under the Endangered Species Act), Coho salmon, sockeye salmon, and kokanee salmon.

Several streams pass through the City of Kirkland, discharging into Lake Washington. Several of these streams are known to support fish use, including Chinook (juvenile use of the mouths of several streams), Coho, sockeye salmon, and steelhead and cutthroat trout. Some of the most prominent fish-bearing streams include Yarrow Creek, Forbes Creek, and Juanita Creek, which are protected within City parks at their outlet to Lake Washington. Salmonid and other fish species are also known to inhabit other Lake Washington tributaries such as Carillon Creek.

The Forbes Creek corridor is designated by WDFW as a priority “riparian zone” because it has been determined to meet these criteria: “[h]igh fish and wildlife density, high fish and wildlife species diversity, important fish and wildlife breeding habitat, important

wildlife seasonal ranges, important fish and wildlife movement corridors, high vulnerability to habitat alteration, unique or dependent species.”

Both the Yarrow Bay wetlands and Juanita Bay Park extending up the Forbes Creek corridor provide excellent habitat for birds (including songbirds, raptors, and waterfowl), amphibians, mammals and even reptiles. Bald eagles and ospreys regularly perch in trees adjacent to Juanita and Yarrow Bays, and forage in the Bays. Pileated woodpeckers (a State Candidate species) also reportedly nest in the Juanita Bay wetlands, and according to the East Lake Washington Audubon Society, purple martins (a State Candidate species) used nesting gourds installed in early 2006 around the Juanita Bay. Although a bald eagle nest is mapped in the Yarrow Bay wetlands, it was last active in 1999 and the nesting pair relocated to Hunts Point. However, the mapped great blue heron nesting colony is still active.

This policy is intended to ensure that the ecological functions and ecosystem-wide processes associated with critical freshwater habitats are protected to assure no net loss, and that improvements are made through restoration activities. The City has worked to protect these valuable habitat areas through acquisition and management of public areas, as well as development controls, including protection of streams and wetlands and their associated buffers and coordination with federal and State agencies on protection issues associated with listed species.

Frequently Flooded Areas and Floodplains

Goal SA-14: Limit new development in floodplains.

Policy SA-14.1: Regulate development within the 100-year floodplain to avoid risk and damage to property and loss of life.

Frequently flooded areas help to store and convey storm and flood water; recharge groundwater; provide important riparian habitat for fish and wildlife; and serve as areas for recreation, education, and scientific study. Development within these areas can be hazardous to those inhabiting such development, and to those living upstream and downstream. Flooding also can cause substantial damage to public and private property that results in significant costs to the public as well as to private individuals.

The primary purpose of frequently flooded areas regulations is to regulate development in the 100-year floodplain to avoid substantial risk and damage to public and private property and loss of life. Lake Washington does not have a floodplain due to its lake elevation control by the Corps. However, floodplains are designated for both Yarrow

Creek wetlands in association with Yarrow Creek and the low-gradient riparian area associated with Forbes Creek.

In both cases, the potential channel migration zone is protected as wetlands associated with Lake Washington. This protection limits development and modifications in those areas where the creeks have the potential to migrate. This protection limits the potential for migration to affect existing or future structures.

Water Quality and Quantity

Note: The Natural Environment Chapter of the Comprehensive Plan contains a set of policies relating to water systems and addressing water quality and quantity, including Goal NE-2, together with related policies NE-2.1 through NE-2.7. The Utilities Chapter also contains policies addressing storm water, including Goal U-4, together with related policies U-4.1 through U-4.11.

Goal SA-15: Manage activities that may adversely impact surface and groundwater quality or quantity.

While most of the storm water entering streams and the lake does not come from the shoreline jurisdiction, surface water management is still a key component of the shoreline environment, due to the potential of activities in the larger watershed basin to contribute to water quantity and quality conditions in streams and the lake.

As part of Kirkland's Surface Water Utility, Surface Water Master Plan, and implementation of the NPDES Phase II Municipal Stormwater permit requirements, the City is pursuing activities and programs within the larger watershed basin to address flood protection, water quality improvement, and habitat protection and restoration.

Within the shoreline jurisdiction, the City can regulate development and provide education and incentives to minimize impacts to water quality and limit the amount of surface water runoff entering the lake.

Policy SA-15.1: Manage storm water quantity to ensure protection of natural hydrology patterns and avoid or minimize impacts to streams.

Native forest communities with healthy soil structure and organic contact help to manage the amount and timing of runoff water that reaches streams and lakes by intercepting, storing, and slowly conveying precipitation. As these systems are impacted and forests

are replaced by impervious surfaces like roads, parking areas, and rooftops, larger quantities of water leave the developed watershed more quickly. Impervious surfaces affect the amount of water that seeps into the ground and washes into streams; they also affect how quickly the water gets there. When land is covered with pavement or buildings, the area available for rainwater and snowmelt to seep into the ground and replenish the groundwater is drastically reduced; in many urban areas it is virtually eliminated. The natural movement of water through the ground to usual discharge points such as springs and streams is altered. Instead, the natural flow is replaced by storm sewers or by more concentrated entrance points of water into the ground and surface drainages.

Changing the timing and amount of water runoff can lead to too much water going directly into streams in the rainy months of winter instead of soaking into the ground. Consequently, there is not enough water in the ground to slowly release into streams in the dry months of summer. Too much water in the winter causes unnaturally swift currents that can erode stream banks and scour and simplify the stream channels, damaging fragile fish habitat. In contrast, not enough water in streams in the summer leads to water temperatures too high to support fish and isolation of fish in small pools. These fundamental changes to hydrology alter watersheds in several ways, including the following:

- The size, shape, and layout of stream channels change to accommodate the new flow regime, thus changing physical habitat conditions for aquatic species.
- Erosion increases suspended solid concentrations and turbidity in receiving properties which can impair survival of aquatic species, including salmon.
- Opportunities for soils and vegetation to filter pollutants from stormwater are reduced, leading to water quality degradation. Stormwater can also carry heavy metals, household wastes, excess nutrients, and other pollutants to the shoreline area.
- Reduced streamside vegetation can lead to increased water temperatures that reduce survival of aquatic species, including salmon. Fine sediment smothers fish eggs, impacting future populations.

Discharges into the tributary streams, such as Forbes Creek, can have a significant impact on in-stream habitat complexity, peak flow magnitude and duration, bank stability, substrate composition, and a number of other parameters.

Policy SA-15.2: Prevent impacts to water quality.

This policy is intended to prevent impacts that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities or recreational opportunities.

Water is essential to human life and to the health of the environment. Water quality is commonly defined by its physical, chemical, biological and aesthetic (appearance and smell) characteristics. A healthy environment is one in which the water quality supports a rich and varied community of organisms and protects public health. Water quality influences the way in which Kirkland uses water for activities such as recreation and scientific study and education, and it also impacts our ability to protect aquatic ecosystems and wildlife habitats.

The degradation of water quality adversely impacts wildlife habitat and public health. This is particularly relevant to the shoreline, since all of the regulated surface waters, both natural and piped, are discharged ultimately to Lake Washington. The water quality impact of stormwater inputs is also significant. Stormwater runoff carries pesticides, herbicides and fertilizers applied to lawns and sports fields; hydrocarbons and metals from vehicles; and sediments from construction sites, among other things. All of these things can harm fish and wildlife, their habitats, and humans.

Presently, Lake Washington is considered at risk for chemical contamination from hydrocarbon input from the urbanized watershed. The lake has also exhibited problems with levels of fecal coliform, ammonia, and PCBs present (*Final Kirkland Shoreline Analysis Report*, 2006).

The City has various programs to control stormwater pollution through maintenance of public facilities, inspection of private facilities, water quality treatment requirements for new development, source control work with businesses and residents, and spill control and response. These programs are managed under the Surface Water Utility, whose goals are:

- Flood protection;
- Water quality improvement; and
- Habitat protection and restoration.

Kirkland has also adopted a *Surface Water Master Plan* that sets goals and recommends actions for flood reduction, water quality improvement, and aquatic habitat restoration. This plan contains plans and programs to address water quality and high

flow impacts from creeks and shoreline development through a number of mechanisms, including the following:

- Participation in WRIA 8 activities.
- Adoption of regulations and best management practices consistent with the NPDES Phase II permit requirements.
- Increased public education and outreach.
- Construction of projects that address existing flooding problems.
- Increased inspection and rehabilitation of the existing stormwater system.
- Identifying pollution “hot spots” for possible water quality treatment.
- Examining City practices and facilities to identify where water quality improvements can be made.
- Combining flow controls with in-stream habitat improvement projects in Juanita and Forbes creek watersheds.

Policy SA-15.3: Require environmental cleanup of previously contaminated shorelines.

Some of Kirkland’s shorelines previously supported industrial or commercial practices that may have resulted in environmental contamination. If not addressed, environmental contamination can continue to impact the environmental quality of Kirkland’s shorelines. The potential liability associated with contamination can complicate business development, property transactions or expansion on the property as well. Sites which are suspected of having past activities that may have resulted in environmental contamination should be evaluated and developers should comply with State and federal regulations and programs addressing environmental contamination, including the Model Toxics Control Act, as well as the the Department of Ecology’s Voluntary Cleanup Program.

Policy SA-15.4: Support public education efforts to protect and improve water quality.

Many residential yards within the shoreline area are dominated by lawn and landscaping, which can contribute water quality contaminants such as fertilizers, herbicides, and pesticides. Fertilizers and herbicides can affect the aquatic vegetation community, stimulating overgrowth of some species which can have a multitude of

deleterious effects and suppress growth of other species. Pesticides also directly affect fish. Fish use their olfactory sense to find their way home. Garden chemicals that get into our lakes and streams may mask the smell fish use for homing. Scientists have found that pesticides also interfere with the ability of salmon to reproduce and avoid predators. Other effects include impaired reproduction, skeletal deformities, decreased swimming ability, and toxicity to salmon food sources.

Presently, nutrient levels in Lake Washington do not represent a problem for salmonids (*Final Kirkland Shoreline Analysis Report, 2006*). Encouraging natural yard care practices and salmon-friendly landscape design can help to reduce the contaminant load into Lake Washington. Should nutrient levels continue to increase and represent a more significant problem, regulations limiting the use of pesticides, fertilizers and herbicides in the shoreline environment may become necessary.

Boat maintenance can also impact the aquatic environment with hydrocarbons, oils and other chemicals, and solvents. Providing information on boating practices, including operation and maintenance practices that can help prevent harmful substances from entering the water such as gasoline, two-stroke engine fuel, paint, and wood conditioner and other boat related substances, can also improve water quality. The City should also assist property owners by providing information on environmentally friendly methods of maintaining piers and decks.

Finally, the City should continue its efforts to increase the public's awareness of potential impacts of certain practices on water bodies and water quality, including improper disposal of hazardous materials.

Vegetation Management

Note: The Natural Environment Chapter of the Comprehensive Plan contains policies relating to vegetation, including Goal NE-3, together with related policies NE-3.1 through NE-3.3. The Natural Resources Management Plan also addresses issues relating to vegetation management in Section C, Land and Vegetation.

Goal SA-16: Protect, conserve and establish vegetation along the shoreline edge.

Policy SA-16.1: Plan and design new development or substantial reconstruction to retain or provide shoreline vegetation.

Vegetation within the shoreline environment is essential for fish and wildlife habitat, providing habitat complexity and, in the case of riparian vegetation, supporting the insects that provide an important food source for salmon¹. Shoreline vegetation is also important in helping to camouflage young salmon as they hide amidst root wads, beneath overhanging vegetation, or within branches that have fallen into the water². Vegetation also helps to support soil stability, reduce erosion, moderate temperature, produce oxygen, and absorb significant amounts of water, thereby reducing runoff and flooding.



Cove with native shoreline vegetation along lake

Presently, shoreline vegetation and riparian structure are not properly functioning within Lake Washington (*Final Kirkland Shoreline Analysis Report*, 2006). The intent of this policy is to protect existing shoreline vegetation, in particular existing trees, and establish new vegetation, including native trees, shrubs and groundcover, along the shoreline edge to improve shoreline vegetation and riparian structure and the ecological functions that these shoreline conditions affect.

Policy SA-16.2: Minimize tree clearing and thinning activities along the shoreline and require mitigation for trees that are removed.

As a result of the functions that shoreline vegetation provides, it is important that vegetation conservation measures be implemented along the shoreline. New trees or other appropriate restoration should be installed to replace functions of trees that are removed, either through development or as part of ongoing management of property. Tree removal or topping for the purposes of creating views should be prohibited. Limited thinning of trees to enhance views or for maintenance of health and vigor of the tree may be appropriate in certain circumstances; provided, that this activity does not adversely impact tree health, ecological functions, and/or slope stability.

Applicants are encouraged to make trees that are removed available for City shoreline restoration projects.

Policy SA-16.3: Provide outreach and education materials to lakeside property owners about the importance and role of shoreline vegetation.

The City should offer shoreline property owners workshops or other materials to address the value of riparian vegetation, invasive species, erosion control, the value of large woody debris for salmon habitat, and natural yard care practices.

Public outreach efforts should focus on the opportunity to improve existing habitat and on the ability to use shoreline vegetation to:

- Create an attractive landscape that offers variety and seasonal color;
- Reduce maintenance;
- Provide privacy without sacrificing views;
- Increase property values;
- Improve water quality; and
- Reduce use by geese and other waterfowl.

Goal SA-17: Design aquatic vegetation management efforts to use a mix of various control methods with emphasis on the most environmentally sensitive methods.

Noxious weeds of Washington State are non-native, invasive plants defined by law as a plant that when established is highly destructive, competitive or difficult to control by cultural or chemical practices. These plants have been introduced intentionally and unintentionally by human actions. Most of these species have no natural enemies, such as insects or diseases, to help keep their population in check. As a result, these plants can often multiply rapidly. The two most common invasive species that are impacting Lake Washington's and Kirkland's marinas, residential waterfront owners and wildlife are Eurasian watermilfoil and white water lily. Eurasian watermilfoil, an aquatic plant found in lakes and slow-moving streams, can lower dissolved oxygen and increase pH, displace native aquatic plants, and increase water temperature.

Some aquatic weeds are controlled because they interfere with human needs such as boating and swimming in the lakes. Others pose a threat to the environment. The introduction of any non-native species has an effect on native species and habitats,

although it is often difficult to predict those effects. However, there is a growing number of non-native aquatic plant and animal species whose current or potential impacts on native species and habitats are known to be significant. Potential threats may be evidenced by the degree of negative impact these species have upon the environment, human health, industry and the economy (WDFW 2001). Potential negative impacts relevant to the Lake Washington environment include:

- Loss of biodiversity;
- Threaten ESA-listed species such as salmon;
- Alterations in nutrient cycling pathways;
- Decreased habitat value of infested waters;
- Decreased water quality;
- Decreased recreational opportunities;
- Increased safety concerns for swimmers; and
- Decreased property values.

Non-native species can be controlled through a variety of mechanisms, including mechanical and physical means (hand pulling, hand tools, bottom barrier, weed roller, mechanical cutters, and harvesters), biological controls and herbicides.

In response to the problem of invasive, non-native species entering Washington waters, laws have now been enacted requiring that all boats leaving a Washington boat launch be free of aquatic weeds and other debris, or otherwise risk being ticketed.

Aquatic vegetation management will likely take coordination on a larger scale to be effective. As a result, the City should work with landowners and neighboring jurisdictions to develop aquatic vegetation management plans on a large-scale basis.

¹Christensen, D.L., B.R. Herwig, D.E. Schindler, and S.R. Carpenter. 1996. Impacts of lakeshore residential development on coarse woody debris in north temperate lakes. *Ecological Applications* 6:1143-1149.

²Tabor, R.A. and R.M. Piaskowski. 2002. Nearshore habitat use by juvenile Chinook salmon in lentic systems of the Lake Washington Basin, Annual Report, 2001. U.S. Fish and Wildlife Service, Lacey, WA.

Tabor, R.A., M.T. Celedonia, F. Mejia, R.M. Piaskowski, D.L. Low, B. Footen, and L. Park. 2004a. Predation of juvenile Chinook salmon by predatory fishes in three areas of the Lake Washington Basin.

Miscellaneous report. U.S. Fish and Wildlife Service, Western Washington Fish and Wildlife Office, Lacey, WA.

3. Shoreline Parks, Recreation, and Open Space

Public Parks

Note: The Comprehensive Park, Open Space and Recreation Plan provides policies and planning for parks, open space and recreating within the City of Kirkland, including waterfront parks.

Goal SA-18: Provide substantial recreational opportunities for the public in the shoreline area.

With miles of shoreline, the City has preserved significant portions of its waterfront in public ownership as parks. Kirkland's waterfront parks are the heart and soul of the City's park system. They bring identity and character to the park system and contribute significantly to Kirkland's charm and quality of life. The 14 waterfront parks stretch from the Yarrow Bay wetlands to the south to Juanita Bay, Juanita Beach and O. O. Denny Parks to the north, providing Kirkland residents year-round waterfront access. Kirkland's waterfront parks are unique because they provide citizens a diversity of waterfront experiences for different tastes and preferences. Park activities and facilities include public docks and fishing access, boat moorage, boat launches, swimming, interpretative trails, and picnicking. Citizens can enjoy the passive and natural surroundings of Juanita Bay and Kiwanis Parks and the more active swimming and sunbathing areas of Houghton and Waverly Beach Parks.



Houghton Beach Park

Policy SA-18.1: Acquire, develop, and renovate shoreline parks, recreational facilities, and open spaces that are attractive, safe, functional, and respect or enhance the integrity and character of the shoreline.

While Kirkland is blessed with many extraordinary waterfront parks, we should never lose sight of capturing opportunities when additional waterfront property on Lake Washington becomes available. If privately held lakefront parcels adjacent to existing beach parks or at other appropriate locations become available, effort should be made to acquire these pieces. As new shoreline parks are acquired and developed, the ecological functions of the shoreline should be protected and enhanced.

Policy SA-18.2: Encourage water-oriented activities and programs within shoreline parks.

Kirkland's recreational programs provide opportunities for small craft programs such as canoeing/kayaking, sailing, rowing, and sail-boating. Programs oriented around non-motorized boating activities provide excellent opportunities to teach recreation skills emphasizing water and boating safety and should be expanded, where appropriate.

In addition, the City awards contracts to parties interested in occupying dock space in the Kirkland Marina and Second Avenue South Dock for commercial use. The City may also expand concession facilities within its parks. These types of commercial recreational uses, which expand opportunities for the public to enjoy the shoreline, should be encouraged within the City's shoreline parks.

Policy SA-18.3: Continue use of opened waterfront street ends for public access.

Street ends are also wonderful opportunities to expand the public's access to the waterfront. The City has developed four street ends for the public's use and enjoyment. They are located along Lake Washington Boulevard at Street End Park, Settler's Landing, Fifth Avenue South and Second Street West. The City also has plans in place for development of the Lake Avenue West Street End Park.

Policy SA-18.4: Explore opportunities for use and enjoyment of unopened street ends.

Presently, two waterfront street ends, 4th Street West and 5th Street West, remain unopened for public use. The ability to use these street ends for public use is presently impacted by a lack of public access from the land to the street end. If the City decides to open the street end for public use, it should work with the community and neighboring residents to prepare and adopt a development and use plan.

Policy SA-18.5: Ensure that development of recreational uses does not adversely impact shoreline ecological functions.

The development of recreational facilities has the potential to adversely impact shoreline ecological functions, for instance by increasing the amount of physical access and activity as well as overwater coverage and motorized watercraft access. As a result, recreational uses shall be appropriately sited and planned to minimize any resultant impacts.

Goal SA-19: Protect and restore publicly owned natural resource areas located within the shoreline area.

Policy SA-19.1: Manage natural areas within the shoreline parks to protect and restore ecological functions, values and features.

Kirkland is fortunate to have two of Lake Washington's largest and most important wetland and wildlife resources in its public park system: Juanita Bay Park and the Yarrow Bay wetlands, both of which have been mapped as priority wetlands by the Washington Department of Fish and Wildlife (WDFW). Both the Yarrow Bay wetlands and Juanita Bay Park extending up Forbes Creek corridor provide excellent habitat for birds, amphibians, mammals and reptiles. The outlets for three of the most prominent streams within the City, Juanita Creek, Forbes Creek and Yarrow Creek, are also located within the City's shoreline parks. These streams are known to support salmonids. In addition, the Forbes Creek corridor has been designated by WDFW as a priority "riparian zone" due to its high fish and wildlife density, species diversity, important fish and wildlife breeding habitat, important wildlife seasonal ranges, high vulnerability to habitat alteration, and presence of unique or dependent species.

Preserving wildlife habitat, water quality, and forested areas is an important aspect of good park resource management. The existence of these natural areas also offers a variety of opportunities for aesthetic enjoyment, and passive and low-impact recreational and educational activities.

In order to protect wildlife habitat within Juanita and Yarrow Bay, it may be necessary to manage watercraft access, such as establishing restricted areas or limiting vessel speeds or other operations.

Policy SA-19.2: Promote habitat and natural resource conservation through acquisition, preservation, and rehabilitation of important natural areas, and continuing development of interpretive education programs.

The City parks also present an opportunity to implement restoration activities to improve degraded wetlands and habitat, control the spread of noxious plants, and improve the water quality of streams. As noted in the *Final Kirkland Shoreline Analysis Report* (December 2006), the City has initiated several studies to address restoration opportunities within Juanita Beach Park and Juanita Bay Park. In addition, the City has adopted a 20-Year Forest Restoration Plan to restore Kirkland's urban forests by removal of invasive plants and planting native species for the sustainability of the forest and its habitat. The City has acquired properties within the shoreline area near the Yarrow Bay wetlands impacted by critical areas and will continue to explore similar acquisition opportunities. The Parks Department has also established an interpretative program in Juanita Bay Park and will evaluate appropriate opportunities to expand this type of educational resource within natural areas.

Goal SA-20: Use a system of best management practices and best available technologies in the construction, maintenance and renovation of recreational facilities located in the shoreline environment.

The high visibility and use of Kirkland's waterfront parks require high levels of maintenance, periodic renovation, and security. Swimming beaches, piers, recreational moorage facilities, boat ramps, and shoreline walkways must be kept safe and in good condition for the public's enjoyment and use. Maintenance of these recreational facilities should be done in a way that minimizes any adverse effects to aquatic organisms and their habitats. Renovation of these areas also provides an opportunity to restore areas impacted by historical shoreline modifications such as alteration of shoreline vegetation, construction of bulkheads, and piers and docks.

Policy SA-20.1: Incorporate salmon-friendly pier design for new or renovated piers and environmentally friendly methods of maintaining docks in its shoreline parks.



Marina Park pier with grated decking

Overwater coverage and in-water structures can adversely impact ecological functions and ecosystem-wide processes. As the City renovates or constructs new overwater structures, it should incorporate impact minimization measures, such as minimizing widths of piers and floats, increasing light transmission through any overwater structures, enhancing the shoreline with native vegetation, improving shallow-water habitat, and reducing the overall number and size of pier piles, in order to minimize the impacts of these structures. Opportunities exist to reduce overwater coverage and in-water structures in a number of shoreline parks, including Juanita Beach Park, Waverly Beach Park, the Lake Avenue West Street End Park, Marina Park, David E. Brink Park, Marsh Park, and Houghton Beach Park.

Kirkland contains a number of piers within its shoreline parks, including at Houghton Beach Park, Marsh Park, David E. Brink Park, Marina Park, Waverly Beach Park, Juanita Beach Park, Juanita Bay Park, Settler's Landing, and the Second Avenue Right-of-Way in the Downtown. To maintain these piers, replacement of the decking is needed on a routine basis. The City has obtained a Hydraulic Project Approval from the

The City's parks and natural areas are a reflection of the values of the Kirkland community. The Parks Department strives to ensure that the public landscape remains attractive, while meeting the expectations of our users and preserving our parks and natural spaces for generations to come.

Opportunities exist to improve nearshore native vegetation in a number of shoreline parks, including Juanita Beach Park, Waverly Beach Park, the Lake Avenue West street end park, Marina Park, David E. Brink Park, Settler's Landing, Marsh Park, and Houghton Beach Park. Restoration activities could include such practices as native plant buffers at the shoreline edge, control of noxious and invasive species, implementation of sound horticultural practices, use of Integrated Pest Management (IPM) techniques, organic fertilizers, and natural lawn care practices.

Since 1998, the Kirkland Parks Department has been following an Integrated Pest Management (IPM) program. IPM is a sustainable approach to managing pests by combining cultural, mechanical, biological and chemical methods in a way that provides effective and efficient maintenance of the City's park system.

The objectives of the IPM policy are:

- Protect the health, safety and welfare of the environment and community.
- Provide efficient, cost effective maintenance of the City's park system using non-chemical controls whenever possible.
- Design new and renovate existing landscape areas that suit site conditions with sustainable maintenance practices.
- Restore, create and protect environmentally valuable areas such as wetlands, riparian areas, forests, meadows, and wildlife habitat.

The IPM decision making process brings into play multiple strategies that are utilized as tools to help implement the program, including (but not limited to):

- The use of sound horticultural practices to optimize plant health and suppress insects, disease and weed growth.
- Site appropriate design with the use of disease and drought tolerant native plants.
- The use of natural control agents that act as predators or parasites of pest species.
- The use of beneficial organisms that improve plant health by enhancing the soil quality.

- The use of a variety of tools, equipment and, most importantly, people to assist with pest control.

The long-range goal of this program is for the parks and open spaces to be pesticide-free.

The Kirkland Parks Department is undertaking efforts to control invasive vegetation, including eradication and replanting with native vegetation, within Juanita Bay Park, under the recommendations contained within the Juanita Bay Park Vegetation Management Plan prepared in 2004 by Sheldon and Associates, Inc. It divides the park into 10 management areas by habitat type that are distributed among three landscape zones based on location and historic use. Goals and objectives were established for each landscape zone, and then treatments were suggested for each management area within the landscape zones. The primary objective for the less developed landscape zones is removal of invasive species and replacement with native species, as well as supplementation of existing native vegetation to increase species and habitat diversity.

The Kirkland Parks Department has also initiated a program to install water intakes in Lake Washington for use as irrigation of Kirkland Parks. The water withdrawn from Lake Washington by Parks would be used to irrigate eight parks, which are currently provided with irrigation water from the City's potable water system. In conjunction with this project, the Parks Department plans to install vegetation along the shoreline edge.

Policy SA-20.4: Minimize impacts from publicly initiated aquatic vegetation management efforts.

The Kirkland Parks Department undertakes mechanical aquatic vegetation management efforts at both Houghton and Waverly Beach Parks to control milfoil. After attempts to use biological and mechanical means to control aquatic invasive species at Juanita Bay Park, the Kirkland Parks Department has initiated an herbicide application. Aquatic vegetation management efforts can have potential negative impacts relevant to the Lake Washington environment and therefore control efforts should be designed to use a mix of various methods with emphasis on the most environmentally sensitive methods.

Policy SA-20.5: Control non-native species which impact Kirkland's shoreline.

The City Parks Department periodically undertakes programs to control non-native species along the shoreline. For instance, the Parks Department has planned improvements within Juanita Beach Park to reduce waterfowl impacts at this park. Programs aimed at controlling impacts associated with non-native species use of the

waterfront should continue. Any programs initiated should be designed to minimize any potential impacts to native species.

Policy SA-20.6: Implement low-impact development techniques, where feasible, in development of or renovations to recreational facilities along City shorelines.

Low-impact development strives to mimic nature by minimizing impervious surface, infiltrating surface water through biofiltration and bio-retention facilities, retaining contiguous forested areas, and maintaining the character of the natural hydrologic cycle. Utilizing these practices can have many benefits, including improvement of water quality and reduction of stream and fish habitat impacts. The Parks Department has successfully incorporated low-impact development techniques with park development efforts, such as Waverly Park and Watershed Park. These techniques should also be considered for any improvements within shoreline parks.

Opportunities exist to reduce impervious surface coverage in a number of shoreline parks, including Waverly Beach Park, Street End Park, and Marsh Park and LID should be explored as a means to reduce this coverage.

Policy SA-20.7: Reduce or modify existing shoreline armoring within Kirkland's shoreline parks to improve and restore the aquatic environment.

Bulkheads or other types of shoreline armoring can adversely impact ecological functions and ecosystem-wide processes. Kirkland contains a number of structural shoreline stabilization measures, such as concrete or rip-rap bulkheads, within its shoreline parks. Opportunities exist to reduce shoreline armoring in a number of shoreline parks, including Waverly Beach Park, Marina Park, David E. Brink Park, Settler's Landing, Marsh Park, and Houghton Beach Park. If repair or replacement is needed to these existing structures, the Parks Department should explore the use of nonstructural measures. Further, new development within the City's parks should be located and designed to eliminate the need for new shoreline modification or stabilization.

Goal SA-21: Undertake restoration opportunities to improve shoreline ecological functions and ecosystem-wide processes where feasible.

The City's shoreline parks present opportunities for restoration that would improve ecological functions, including reduction of shoreline armoring, reduction of overwater cover and in-water structures, improvement of nearshore native vegetation cover, reduction of impervious surface coverage, control of invasive vegetation, and improvement of fish passage where possible.

In addition, many projects planned under the Surface Water Management Utility would provide wetland enhancement, fish passage improvement, bioengineered streambank erosion, restoration of armored streambanks, flood abatement, and water quality improvement. While many of these projects are planned “upstream” of shoreline jurisdiction, they can still have positive effects on the shoreline environment.

4. Shoreline Transportation

Note: The Transportation Chapter of the Comprehensive Plan contains a set of goals and policies relating to vehicular, bicycle and pedestrian circulation.

Streets

Goal SA-22: Provide for safe and efficient movement of vehicles, bicycles and pedestrians within the shoreline area, while recognizing and enhancing the unique, fragile and scenic character of the shoreline area.

Policy SA-22.1: Maintain a roadway network which will efficiently and safely provide for vehicular circulation within the shoreline area.

The existing vehicular circulation system in Kirkland’s shoreline area is largely complete, with several major roadways located within the shoreline jurisdiction, including portions of Lake Washington Boulevard NE/Lake Street South and Market Street/98th Avenue NE, as well as neighborhood access streets and driveways. The City should undertake improvements, as necessary, to address needed safety, capacity or efficiency improvements within the shoreline area.

Policy SA-22.2: Enhance Lake Washington Boulevard NE and Lake Street South to improve their function for scenic views and recreational activities, as well as for local access and as a commute route.

Lake Washington Boulevard is designated as a major arterial and provides the major north-south route through Kirkland south of the Central Business District and west of I-405. The Boulevard also provides local access for a substantial number of residential developments and businesses. The Boulevard functions as a major pedestrian and bicycle corridor, serving waterfront park users, joggers, strollers, and Downtown shoppers. The City should continue to manage this network to meet the needs of the broad variety of users, while maintaining the scenic quality of this roadway network.

Traffic along Lake Washington Boulevard and Lake Street South has increased over time, restricting local access to and from these streets and creating noise, safety problems, and conflicts for pedestrians, bicyclists, and adjacent residents. Solutions to these problems should be sought which recognize that these streets have a scenic and recreational function which is as important as their function as a commute route. Improvements to these streets should help accommodate their broader amenity function in such a manner that the safety of all the diverse users is enhanced. Accordingly, the following improvements would be desirable:

Widening of sidewalks or development of landscape strips or landscaped median islands to separate traffic and provide pedestrian safety.

Installation of pedestrian crossings at intersections and adjacent to waterfront parks where safety considerations allow such installation.

Continuation and widening of bicycle lanes.

Limitations on the number of new curb cuts and consolidation of driveways, where possible.

Restrictions on turning movements by installation of c-curbs or other techniques, where needed.

Policy SA-22.3: Design transportation improvement projects within the shoreline to avoid, minimize and mitigate environmental impacts.

Transportation facilities should be designed to have the least possible effect on shoreline features. When planning transportation facilities, both public and private, the environmental impacts of the facility need to be evaluated and minimized, and appropriate mitigation included. Environmental impacts of transportation facilities and services can include wetland and stream encroachment, vegetation removal, air quality deterioration, noise pollution, and landform changes.

Policy SA-22.4: Design transportation improvement projects to maximize opportunities to improve existing shoreline ecological functions.

Transportation improvement projects located within the shoreline should include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low-impact development techniques, where practicable and feasible.

Policy SA-22.5: Design transportation improvement projects to enhance scenic amenities and reflect neighborhood character.

Roadways should be designed to maximize views of the lake, where feasible. Shoreline roadways should also be designed with pedestrian improvements, such as widened sidewalks, and amenities such as benches or view stations and public sign systems that identify significant features along the shoreline such as historic or scenic features, parks and public access easements. In addition, appropriate landscaping and street tree selection should be used for rights-of-way with public views to maintain the views as the vegetation matures.

Policy SA-22.6: Incorporate best management practices into road and utility maintenance activities.

Road maintenance activities are necessary to clean out sediment and debris from drainage systems, which provides benefits to salmon habitat by preventing pollutants and sediments entrapped in stormwater facilities from entering surface or groundwater. The activities can also have adverse water quality impacts, directly affecting aquatic species. In order to minimize any potential adverse impacts, the City road maintenance crews should continue to use best management practices, such as those incorporated into the Regional Road Maintenance ESA Program Guidelines, to guide their maintenance activities. The Regional Road Maintenance ESA Program Guidelines (Regional Program) describe physical, structural, and managerial best management practices designed so that when they are used, singularly or in combination, they reduce road maintenance activities' impacts on water and habitat.

Pedestrian/Bicycle Circulation

Goal SA-23: Provide the maximum reasonable opportunity for the public to view and enjoy the amenities of the shoreline area.

Policy SA-23.1: Provide a public access system that is both physical and visual, utilizing both private and public lands, consistent with the natural character, private rights and public safety.

Public access includes the ability of the general public to reach, touch, and enjoy the water's edge, to travel on the waters of the State, and to view the water and the shoreline from adjacent locations. Public access is a key component of the Shoreline Management Act and is one of the preferred uses in the shoreline area and should be encouraged, both in private and public developments and public acquisition.

Developing public access to the shoreline area has long been a priority of the City. Except for single-family residential areas or environmentally sensitive areas, the City has sought development to provide public access to the water's edge and along the

shoreline as much as possible. Based on this approach, the City has made significant progress towards establishing continuous pedestrian access along the water's edge along portions of the shoreline.

In addition to these public access easements, the City has, over time, acquired many shoreline properties and designated these properties for park/open space and developed access trails.

Policy SA-23.2: Enhance and maintain pedestrian and bicycle infrastructure within the shoreline area.

Pedestrian and bicycle movement on and off roadways in the shoreline area should be encouraged wherever feasible. Access points to and along the shoreline as well as shoreline recreational facilities should be linked by pedestrian and bicycle pathways developed as close to the water's edge as reasonable.

The City should work to infill key gaps in existing shoreline access by connect existing pathways and linking existing access points to and along the shoreline, where feasible. In addition, the City should work to complete bicycle improvements by infilling gaps in existing routes and making any necessary safety improvements.

The following identifies some of the key opportunities available to improve public access. Some of the sites are located within the shoreline area, while others located outside the shoreline jurisdiction are represented since they provide an important connection to the shoreline. These connections should be sought, either through a required condition of development, or, where appropriate, through use of public funds to acquire and develop public pedestrian walkways:

Connecting Juanita Bay Park and Juanita Beach Park. The City should seek to complete a public pedestrian walkway along the shoreline from Juanita Bay Park to Juanita Beach Park. Because of the presence of wetlands, the walkway should be designed so as to cause the least impact. The City should also pursue improvements to connect the existing bicycle lanes along Market Street to those on Juanita Drive.

Juanita Bay Park – provide an additional connection from the causeway to the lake if protection of the natural features can be reasonably ensured.

Forbes Valley Pedestrian Facility – provide a sidewalk adjacent to Forbes Creek Drive to connect Crestwoods Park and Juanita Bay Park.

9th Street West – between Market Street and 20th Street across Juanita Bay Park should be improved for both pedestrians and bicycles.

10th Street West – connecting Kiwanis Park and Juanita Bay Park.

Waverly Way – should be improved with sidewalk on the west side of the street. View stations at the unopened street ends at 4th Street West and 5th Street West along Waverly Way should also be considered.

Lake Avenue West Street End Park – complete a pedestrian pathway across Heritage Park from Waverly Way to the Street End Park.

In Downtown south of Marina Park. In this area, buildings and parking lots interrupt the shoreline trail system that has been established on adjoining properties. Whenever possible, this shoreline trail system should be completed, in order to build upon this community amenity and open space.

Lake Washington Boulevard NE – gaps in the existing public waterfront trail with connections to the Boulevard should be a required element of all shoreline developments other than single-family homes. Public use areas also should be encouraged adjacent to the westerly margin of Lake Washington Boulevard. The Boulevard is now a popular path for pedestrians, joggers, and bicyclists, and the continued improvement of this corridor as a promenade with wide sidewalks and public use areas, such as benches or view stations, pedestrian scale lighting, and public sign systems, would be a significant public asset.

The City of Kirkland Active Transportation Plan (ATP), together with any additional routes identified in Neighborhood Plans, maps most of the bicycle and pedestrian facilities planned for future development. The Capital Improvement budget process prioritizes when routes will receive funding for improvements.

Policy SA-23.3: Require public access to and along the water's edge and waterfront public use areas with new development or substantial redevelopment, except in limited circumstances.

In general, new development or substantial redevelopment should be required to install a public trail along the entire length of the waterfront with connections to Lake Washington Boulevard at or near each end. Areas which are available for other public waterfront activities also should be strongly encouraged. A public trail should not be required associated with the construction of an individual new single-family residence or where it is demonstrated to be infeasible due to impact to the shoreline environment or due to constitutional limitations.

Policy SA-23.4: Minimize impacts on adjacent uses and the natural environment through the appropriate design of public access. Public access should also be designed to provide for public safety.

Developments required to provide public pedestrian access should be designed to minimize the impacts of the public access to adjoining properties, where possible, such as visually or physically separating the public pedestrian access from adjacent private spaces, or by placing an intervening structural or landscape buffer. The City may permit the establishment of reasonable limitations on the time, extent, and nature of public access in order to protect the natural environment and the rights of others.

In addition, public access trails should be located and designed to assure that users are visible and that pathways are well illuminated, if open in hours of darkness.

Public access through sensitive areas should be designed to avoid or minimize impacts to sensitive areas such as wetlands or streams or their protective buffers.

Policy SA-23.5: Cooperate on interagency and public-private partnerships to preserve and enhance water trails along Kirkland's shoreline where feasible.

The Lakes-To-Locks Water Trail is a day use trail with over 100 public places in a series of lakes and rivers extending from Issaquah to Elliott Bay to launch and land small non-motorized boats. The Lakes-to-Locks Water Trail contains nearly a dozen launch, landing and rest sites along Kirkland's Shoreline. The City should continue to participate in this type of partnership to increase access and use of the City's shoreline.

Air and Water Access

Goal SA-24: Provide opportunities for transportation alternatives, such as access by land or water.

Policy SA-24.1: Explore opportunities to establish passenger-only ferry service along Kirkland's shorelines.

As the roads and highways in the region have increasingly reached full capacity, there has been renewed interest in re-establishing waterborne transportation in Lake Washington, particularly passenger-only ferries. King County has established a countywide Ferry District, which plans to consider the delivery of passenger-only ferry services serving destinations in King County, including a route between Kirkland and Seattle. The City should participate in this effort and ensure that issues affecting the businesses and residents of Kirkland, such as location, traffic and parking, and the shoreline environment, are adequately addressed.

Policy SA-24.2: Allow limited floatplane moorage in commercial shoreline areas.

Floatplanes can be used for both commercial and recreational purposes. Commercial operations can include a variety of activities including air charter and scheduled air operations. These activities are water-dependent and should be permitted within high intensity shoreline commercial districts in limited circumstances, if evaluated through a public review process and where it has been determined that the facility or operation has been designed to minimize impacts, including impacts on native fish and wildlife and their habitat, as well as impacts to shoreline views and community character. Further, the operation of these facilities should ensure protection of adjacent development and uses as well as human safety, including limiting noise and other impacts on residential uses. Floatplane facilities should be located so they do not interfere with public swimming beaches or boating corridors. The floatplane operations should comply with State and federal requirements.

Policy SA-24.3: Limit helicopter landing facilities in the shoreline area.

Helicopter operations are not water-dependent and can include significant environmental issues such as noise pollution. As a result, helicopter landing facilities should not be permitted in the shoreline area, except as needed for emergency medical airlift.

5. Shoreline Utilities

Goal SA-25: Manage the provision of public and private utilities within the shoreline area to provide for safe and healthy water and sanitary sewer service, while protecting and enhancing the water quality and habitat value of the shoreline.

Policy SA-25.1: Locate new utilities and related appurtenances outside of the shoreline area, unless this location is reasonably necessary for the efficient operation of the utility.

Utilities are services that produce and carry electric power, gas, sewage, water, communications and oil. The provision of these services and the appurtenances associated with them can create substantial impacts on the landscape and the functioning of the natural ecosystem. To minimize potential impacts, these facilities should be located outside of the shoreline area, and in particular, outside of the aquatic environment, where feasible. If necessary within the shoreline, utility facilities should be located and designed in a manner that preserves the natural landscape and shoreline ecology, and minimizes conflicts with present and planned land uses.

Alternative energy use such as solar- and wind-based energy systems should be encouraged within the shoreline environment, provided that any potential adverse impacts are minimized.

Policy SA-25.2: Minimize impacts from the location, design, and maintenance of utility facilities located within the shoreline.

Careful planning and design is required to address impacts such as soil disturbance and intrusion on the visual setting. Potential adverse impacts should be minimized through the location, design and construction techniques used. For instance, where utility systems cross shoreline areas, clearing for installation or maintenance should be kept to a minimum width necessary to minimize impacts to trees and vegetation. Utilities should also be properly installed and maintained to protect the shoreline environment and water from contamination. The City should require location of utility lines prior to construction to avoid damaging the lines, incurring biological impacts, during construction.

Upon completion of utility installation or maintenance projects on shorelines, the shoreline area should be restored to pre-project configuration, replanted with native species and provided with maintenance care until the newly planted vegetation is established.

Even with revegetation, planting restrictions may limit the species that are replanted. As a result, existing functions may not be able to be fully restored. For this reason, utility corridors should be located outside of the shoreline jurisdiction, where possible.

Policy SA-25.3: Encourage consolidation of utilities within existing rights-of-way or corridors.

In order to minimize the extent of shoreline modified by improvements, utility facilities should utilize existing transportation and utility sites, rights-of-way and corridors whenever practicable, rather than creating new corridors in the shoreline environment. Joint use of rights-of-way and corridors in shoreline areas should be encouraged.

Policy SA-25.4: Locate utility facilities and corridors to protect scenic views and prevent impacts to the aesthetic qualities of the shoreline.

Utility lines and facilities, when they must be placed in a shoreline area, should be located so that they do not obstruct or destroy scenic views. Whenever feasible, these facilities should be placed underground, or designed to do minimal damage to the aesthetic qualities of the shoreline area.

6. Shoreline Design

Goal SA-26: Maintain and enhance Kirkland's orientation to and linkages with Lake Washington.

Policy SA-26.1: Preserve public view corridors along the City's street networks and public parks.

The street and waterfront park system provides a large number of local and regional views. The view corridors that lie within the public domain are valuable for the beauty, sense of orientation, and identity that they provide to Kirkland. The views also maintain the visual connection and perception of public accessibility to the lake. As a result, these views should be kept free of obstruction.

Policy SA-26.2: Locate and design new development to provide view corridors of Lake Washington from Lake Washington Boulevard and Lake Street South south of the Central Business District.

Kirkland's history, identity and character are strongly associated with its proximity and orientation to Lake Washington. Lake Washington Boulevard and Lake Street are the streets from which most residents and visitors view the lake, providing a lasting visual impression and helping to establish the visual identity of the City. As a result, visual access to Lake Washington from Lake Washington Boulevard and Lake Street should be an integral element in the design of development along the west side of these streets. Both public and private development in these areas should be designed to include an open area that provides an unobstructed view of the water beyond. View corridors should be situated on the property to provide the widest view of the lake. Existing structures in some areas block views of the lake. with renovation of existing structures, opening up of views should be encouraged.

The Central Business District (CBD) is a community activity area focused around its historic waterfront with extensive public use and views of the waterfront provided by public parks, street ends, public and private marinas, public access piers and shoreline public access trails. Because of this configuration and the desire to provide continuous pedestrian-oriented retail activity at the street, view corridors across private properties in the CBD should not be required.

Policy SA-26.3: Explore opportunities to provide visual and pedestrian access from Central Way and Lake Street with redevelopment efforts.

The City should explore opportunities to participate in a public/private partnership to redevelop the commercial block between Kirkland Avenue and Central Way with visual

and pedestrian access from a series of at-grade pedestrian connections from Central Way and Lake Street which would open to a large public plaza constructed west of the buildings to enhance the Downtown's lake front setting.

Policy SA-26.4: Design water-enjoyment uses to provide significant opportunities for public enjoyment of the aesthetic, natural and recreational amenities of the shoreline.

Water-enjoyment uses, such as restaurants, hotels or other mixed-use commercial projects, bring substantial numbers of people to the shoreline and provide opportunities for the public to enjoy shoreline amenities. These uses are encouraged in urban mixed areas, such as Kirkland's Downtown area, and should be designed to respond to their shoreline location through a variety of measures, including the following:

Architectural or site design elements that connect visually or physically to the lake.

Orientation of views and windows to the lake.

Orientation of entries, sight lines, buildings, pathways and other design elements to the shoreline.

Incorporating interpretative signs.

Locating service areas away from the shoreline.

Incorporating substantial landscaping and open space.

Providing outdoor seating or gathering places along the shoreline.

Designing signs to be compatible with the aesthetic quality of the shoreline.

Enhancement of views should not take precedence over vegetation conservation and, as such, removal of vegetation necessary for shoreline function should not be allowed in cases where views are partially impaired by existing vegetation. New landscaping should be appropriately designed to preserve designated view corridors.

7. Shoreline Archaeological, Historic and Cultural Resources

Goal SA-27: Identify, protect, preserve, and restore important archeological, historical, and cultural sites located in the shoreline area.

Kirkland's shoreline area has a long history, dating back to use of Juanita Bay by Native Americans and use of Lake Washington for fish harvest by the Muckleshoot Tribe. The

shoreline area also contains many historic structures, including residential structures and vessels moored along the City's shoreline.

Policy SA-27.1: Prevent destruction or damage to historic, cultural, scientific or educational resources located along the shoreline.

Steps should be taken to identify, recover and preserve any artifacts or other resources that may exist along the City's shoreline. The City should work with property owners and tribal, State, and federal governments as appropriate to assess sites and make arrangements to preserve historical, cultural and archaeological values in advance of planned development. Proposed development should be designed and operated to be compatible with continued protection of the historic, cultural or archaeological resource. If development occurs in areas documented to contain archaeological resources, a site inspection or evaluation by a professional archaeologist in coordination with affected tribes should be required prior to issuance of permits. If archaeological resources are uncovered during excavation, work on the site should immediately stop and notification to the City, the State Office of Archaeology and Historic Preservation, and affected tribes should be made to determine the appropriate course of action.

Policy SA-27.2: Encourage educational projects and programs that foster an appreciation of the importance of shoreline history.

Site development plans should incorporate measures for historic, cultural and archaeological resource preservation, restoration and education with open space or recreation areas whenever possible. Wherever feasible, shoreline development should recognize the former use of much of the City's shoreline area for such uses as boat yards, ferry landings and industrial sites.

8. Restoration Planning

Goal SA-28: Implement the projects, programs and plans established within the Restoration Plan as funding and staffing resources permit.

Restoration planning is an important component of the environmental protection policy of the Shoreline Management Act. Continued improvement of shoreline ecological functions requires a comprehensive watershed approach that combines upland and shoreline projects and programs. The City of Kirkland has adopted a Restoration Plan for the City's shorelines that provides the framework for the community's efforts to restore degraded portions of the City's shorelines.

The Restoration Plan provides multiple programmatic and site-specific opportunities for restoring the City's shoreline areas that outline opportunities to achieve a net benefit in ecological conditions. Ecological benefits that would be realized by implementing this plan include: increased use of soft approaches for shoreline stability and corresponding reductions in low-functioning hard shorelines; increased organic inputs, habitat, and filtration from shoreline riparian vegetation; improved wildlife corridor connectivity; improved habitat for salmon; displacement of noxious vegetation; and eventual introduction of woody debris.

KZC 5.10.730 Public Park: A natural, landscaped, or developed area, which may or may not contain structures, provided by a unit of government to meet the active or passive, outdoor or indoor, recreational needs of people.

KZC 83.80.133. **Water-Dependent Use** – A use or portion of a use that cannot exist in a location that is not adjacent to the water and that is dependent on the water by reason of the intrinsic nature of its operation.

KZC 83.80.134. **Water-Enjoyment Use** – A recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and that through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that foster shoreline enjoyment.

KZC 83.80.135. **Water-Oriented Use** – A use that is water-dependent, water-related, or water-enjoyment or a combination of such uses.

KZC 83.80.137. **Water-Related Use** – A use or portion of a use that is not intrinsically dependent on a waterfront location, but whose economic viability is dependent upon a waterfront location because:

- a. The use has a functional requirement for a waterfront location, such as the arrival or shipment of materials by water or the need for large quantities of water; or
- b. The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers makes its services less expensive and/or more convenient.

83.170 Shoreline Environments, Permitted and Prohibited Uses and Activities Chart 

<p>The chart is coded according to the following legend.</p> <p>SD = <u>Substantial Development</u>¹</p> <p>CU = <u>Conditional Use</u></p> <p>X = Prohibited; the use is not eligible for a Variance or <u>Conditional Use</u> Permit</p>	<p>Natural</p>	<p>Urban Conservancy</p>	<p>Residential – L</p>	<p>Residential – M/H</p>	<p>Urban Mixed</p>	<p><u>Aquatic</u></p>
<p><u>SHORELINE USE</u></p>						
<p><u>Recreational Uses</u></p>						
<p>Water-dependent uses</p>						
<p>Marina¹²</p>	<p>X</p>	<p>CU</p>	<p>X</p>	<p>SD</p>	<p>SD</p>	<p>See adjacent upland environments</p>
<p>Piers, docks, boat lifts and canopies serving detached dwelling unit¹²</p>	<p>X</p>	<p>X</p>	<p>SD</p>	<p>SD</p>	<p>SD¹³</p>	
<p>Piers, docks, boat lifts and canopies serving detached, attached or stacked dwelling units¹²</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>SD</p>	<p>SD</p>	
<p>Float</p>	<p>X</p>	<p>SD³</p>	<p>X</p>	<p>X</p>	<p>SD³</p>	
<p>Tour boat facility</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>SD¹⁴</p>	

<p>The chart is coded according to the following legend.</p> <p>SD = <u>Substantial Development</u>¹</p> <p>CU = <u>Conditional Use</u></p> <p>X = Prohibited; the use is not eligible for a Variance or <u>Conditional Use</u> Permit</p>	Natural	Urban Conservancy	Residential - L	Residential - M/H	Urban Mixed	<u>Aquatic</u>
Moorage buoy ¹²	X	SD	SD	SD	SD	
Public access pier or boardwalk	CU	SD	SD	SD	SD	
Boat launch (for motorized boats)	X	X	X	X	CU	
Boat launch (for nonmotorized boats)	SD	SD	SD	SD	SD	
Boat houses or other covered moorage not specifically listed	X	X	X	X	X	
Swimming beach and other public recreational use	CU	SD	SD	SD	SD	
Any water-dependent recreational development other than those specifically listed in this chart	CU	SD	SD	SD	SD	
Water-related, water-enjoyment uses						

<p>The chart is coded according to the following legend.</p> <p>SD = <u>Substantial Development</u></p> <p>CU = <u>Conditional Use</u></p> <p>X = Prohibited; the use is not eligible for a Variance or <u>Conditional Use</u> Permit</p>	<p>Natural</p>	<p>Urban Conservancy</p>	<p>Residential - L</p>	<p>Residential - M/H</p>	<p>Urban Mixed</p>	<p><u>Aquatic</u></p>
<p>Any water-oriented recreational development other than those specifically listed in this chart</p>	<p>X</p>	<p>CU</p>	<p>CU</p>	<p>CU</p>	<p>SD</p>	<p>X</p>
<p>Other public park improvements¹⁵</p>	<p>CU</p>	<p>SD</p>	<p>SD</p>	<p>SD</p>	<p>SD</p>	<p>X</p>
<p>Public access facility</p>	<p>SD¹⁶</p>	<p>SD</p>	<p>SD</p>	<p>SD</p>	<p>SD</p>	<p>See adjacent upland environments</p>
<p>Non-water-oriented uses</p>						
<p>Nonwater-oriented recreational development</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>SD¹⁰</p>	<p>X</p>

83.110 Urban Conservancy

1. Purpose – To protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.
2. Designation Criteria – An Urban Conservancy shoreline environment designation should be assigned to shoreline areas appropriate and planned for development that is compatible with maintaining or restoring the ecological functions of the area, that are not generally suitable for water-dependent uses and that lie in incorporated municipalities or urban growth areas if any of the following characteristics apply:
 - a. They are suitable for water-related or water-enjoyment uses;
 - b. They are open space, floodplain or other sensitive areas that should not be more intensively developed;
 - c. They have potential for ecological restoration;
 - d. They retain important ecological functions, even though partially developed; or
 - e. They have the potential for development that is compatible with ecological restoration.

83.140 Urban Mixed

1. Purpose – To provide for high-intensity land uses, including residential, commercial, recreational, transportation and mixed-use developments. The purpose of this environment is to ensure active use of shoreline areas that are presently urbanized or planned for intense urbanization, while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded.
2. Designation Criteria – An Urban Mixed shoreline environment designation should be assigned to shoreline areas within incorporated municipalities and urban growth areas if they currently support high-intensity uses related to commerce, transportation or navigation; or are suitable and planned for high-intensity water-oriented uses.

WAC 173-27-020

Purpose.

RCW [90.58.140](#)(3) requires local governments to establish a program, consistent with rules adopted by the department of ecology, for the administration and enforcement of the permit system for shoreline management. The local program should be integrated with other local government systems for administration and enforcement of land use regulations. It is the intent of these regulations to provide minimum procedural requirements as necessary to comply with statutory requirements while providing latitude for local government to establish procedural systems based on local needs and circumstances. It is also the intent of these regulations to provide for integration of the shoreline permit into a consolidated environmental review and permit process.

This regulation is drafted to also reflect RCW [90.58.050](#) which provides that the Shoreline Management Act is intended to establish a cooperative program between local government and the state. According to this provision, local government shall have the primary responsibility for initiating the planning required by the act and administering the regulatory program of shoreline management consistent with the policy and provisions of the act, whereas the department shall act primarily in a supportive and review capacity with an emphasis on providing assistance to local government and on insuring compliance with the policies and provisions of the Shoreline Management Act.

WAC 173-27-140

Review criteria for all development.

(1) No authorization to undertake use or development on shorelines of the state shall be granted by the local government unless upon review the use or development is determined to be consistent with the policy and provisions of the Shoreline Management Act and the master program.

(2) No permit shall be issued for any new or expanded building or structure of more than thirty-five feet above average grade level on shorelines of the state that will obstruct the view of a substantial number of residences on areas adjoining such shorelines except where a master program does not prohibit the same and then only when overriding considerations of the public interest will be served.

WAC 173-27-150

Review criteria for substantial development permits.

(1) A substantial development permit shall be granted only when the development proposed is consistent with:

(a) The policies and procedures of the act;

(b) The provisions of this regulation; and

(c) The applicable master program adopted or approved for the area. Provided, that where no master program has been approved for an area, the development shall be reviewed for consistency with the provisions of chapter [173-26](#) WAC, and to the extent feasible, any draft or approved master program which can be reasonably ascertained as representing the policy of the local government.

(2) Local government may attach conditions to the approval of permits as necessary to assure consistency of the project with the act and the local master program.

WAC 173-27-170

Review criteria for variance permits.

The purpose of a variance permit is strictly limited to granting relief from specific bulk, dimensional or performance standards set forth in the applicable master program where there are extraordinary circumstances relating to the physical character or configuration of property such that the strict implementation of the master program will impose unnecessary hardships on the applicant or thwart the policies set forth in RCW [90.58.020](#).

(1) Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW [90.58.020](#). In all instances the applicant must demonstrate that extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.

(2) Variance permits for development and/or uses that will be located landward of the ordinary high water mark (OHWM), as defined in RCW [90.58.030](#) (2)(c), and/or landward of any wetland as defined in RCW [90.58.030](#) (2)(h), may be authorized provided the applicant can demonstrate all of the following:

(a) That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property;

(b) That the hardship described in (a) of this subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;

(c) That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program and will not cause adverse impacts to the shoreline environment;

(d) That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;

(e) That the variance requested is the minimum necessary to afford relief; and

(f) That the public interest will suffer no substantial detrimental effect.

(3) Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM), as defined in RCW [90.58.030](#) (2)(c), or within any wetland as defined in RCW [90.58.030](#) (2)(h), may be authorized provided the applicant can demonstrate all of the following:

(a) That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes all reasonable use of the property;

(b) That the proposal is consistent with the criteria established under subsection (2)(b) through (f) of this section; and

(c) That the public rights of navigation and use of the shorelines will not be adversely affected.

(4) In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW [90.58.020](#) and shall not cause substantial adverse effects to the shoreline environment.

(5) Variances from the use regulations of the master program are prohibited.

141.70 Procedures

1. Substantial Development Permits

a. General

- 1) Applications for a shoreline substantial development permit shall follow the procedures for a Process I permit review pursuant to Chapter [145](#) KZC, except as otherwise provided in this section.

- 2) If the proposal that requires a substantial development permit is part of a proposal that requires additional approval through Process IIA or Process IIB under Chapter [150](#) KZC or Chapter [152](#) KZC, respectively, the entire proposal will be decided upon using that other process.
 - 3) If the proposal that requires a substantial development permit is part of a proposal that requires additional approval through the Design Review Board (DRB) under Chapter [142](#) KZC, the design review proceedings before the DRB shall be conducted in accordance with Chapter [142](#) KZC.
- b. Notice of Application and Comment Period
- 1) In addition to the notice of application content established in Chapter [145](#) KZC, notice of applications for shoreline substantial development permits must also contain the information required under WAC [173-27-110](#).
 - 2) The minimum notice of application comment period for shoreline substantial development permits shall be no fewer than 30 days. However, the minimum comment period for applications for shoreline substantial development permits for limited utility extensions and bulkheads, as described by WAC [173-27-120](#), shall be 20 days.
- c. Burden of Proof
- 1) WAC [173-27-140](#) establishes general review criteria that must be met.
 - 2) WAC [173-27-150](#) establishes that a substantial development permit may only be granted when the proposed development is consistent with all of the following:
 - a) The policies and procedures of the Shoreline Management Act;
 - b) The provisions of Chapter [173-27](#) WAC;
 - c) Chapter [83](#) KZC.

d. Decision

1) At the time of a final decision, the Planning Official shall mail a copy of the decision, staff advisory report and permit data transmittal sheet to the applicant and Department of Ecology, pursuant to RCW [90.58.140](#) and WAC [173-27-130](#). The permit decision shall be sent to the Department of Ecology by return receipt requested mail. The permit shall state that construction pursuant to a permit shall not begin or be authorized until 21 days from the date that the Department of Ecology received the permit decision from the City as provided in RCW [90.58.140](#); or until all review proceedings are terminated if the proceedings were initiated within 21 days from the date of filing as defined in RCW [90.58.140](#). "Date of filing" is the date that the Department of Ecology received the City's permit decision. The Department of Ecology must notify the City and the applicant of the actual date of filing.

2) When the City issues a permit decision on a substantial development permit along with a shoreline conditional use permit and/or a shoreline variance, the date of filing is the postmarked date that the City mails the permit decision to the Department of Ecology.

3) An appeal of a shoreline substantial development permit shall be to the State Shorelines Hearings Board and shall be filed within 21 days of the date of filing of the City's permit decision to the Department of Ecology as set forth in RCW [90.58.180](#).

e. Effect of Decision – For shoreline substantial development permits, no final action or construction shall be taken until the termination of all review proceedings initiated within 21 days after the filing date which is the date that the Department of Ecology received the permit decision from the City or unless otherwise noted in this section.

f. Complete Compliance Required

1) General – Except as specified in subsection (2) of this section, the applicant must comply with all aspects, including conditions and restrictions, of an approval granted under this chapter authorized by that approval.

2) Exception – Subsequent Modification – WAC [173-27-100](#) establishes the procedure and criteria under which the City may approve a revision to a permit issued under the Shoreline Management Act and the shoreline master program.

g. Time Limits – Construction and activities authorized by a shoreline substantial development permit are subject to the time limitations of WAC [173-27-090](#).

2. Conditional Use (N/A)

3. Variances

a. General – Applications for a shoreline variance permit shall follow the procedures for a Process IIA permit review pursuant to Chapter [150](#) KZC, except as otherwise provided in this section. If the proposal that requires a shoreline variance is part of a proposal that requires additional approval through a Process IIB, the entire proposal will be decided upon using that other process.

b. Notice of Application and Comment Period

1) In addition to the notice of application content established in Chapter [150](#) KZC, notice of applications for shoreline variance permits must also contain the information required under WAC [173-27-110](#).

2) The minimum notice of application comment period for shoreline variance permits shall be no fewer than 30 days.

c. Notice of Hearing – The Planning Official shall distribute notice of the public hearing at least 15 calendar days before the public hearing.

d. Burden of Proof

1) WAC [173-27-140](#) establishes general review criteria that must be met.

2) WAC [173-27-170](#) establishes criteria that must be met for a variance permit to be granted.

e. Decision

- 1) Approval by Department of Ecology. Once the City has approved a variance permit it will be forwarded to the State Department of Ecology for its review and approval/disapproval jurisdiction under WAC [173-27-200](#).
 - 2) The permit shall state that construction pursuant to a permit shall not begin or be authorized until 21 days from the date that the Department of Ecology transmits its decision as provided in WAC [173-27-200](#); or until all review proceedings are terminated if the proceedings were initiated within 21 days from the filing date as defined in RCW [90.58.140](#).
 - 3) Appeals of a shoreline variance permit shall be to the State Shoreline Hearings Board and shall be filed within 21 days of the filing date which is the postmarked date that the City mailed the permit decision to the Department of Ecology, as set forth in RCW [90.58.180](#).
- f. Effect of Decision – For shoreline variance permits, no final action or construction shall be taken until the termination of all review proceedings initiated within 21 days from the date the Department of Ecology transmits its decision on the shoreline variance permit.
- g. Complete Compliance Required
- 1) General – Except as specified in subsection (2) of this section, the applicant must comply with all aspects, including conditions and restrictions, of an approval granted under this chapter as authorized by that approval.
 - 2) Exception – Subsequent Modification – WAC [173-27-100](#) establishes the procedure and criteria under which the City may approve a revision to a permit issued under the Shoreline Management Act and the shoreline master program.
- h. Time Limits – Construction and activities authorized by a shoreline variance permit are subject to the time limitations under WAC [173-27-090](#).



Boundary between
Urban Mixed and
Urban Conservancy
Shoreline Designations

Existing
Bathhouse

Existing Playground

- Legend**
- Address
 - Other Address
 - Current Address
 - Current ADU
 - Pending Address
 - City Limits
 - Grid
 - QQ Grid
 - Cross Kirkland Corridor
 - Regional Rail Corridor
 - Streets
 - Parcels
 - Place Names
 - Buildings
 - Schools
 - Shoreline Designation
 - N
 - R-L
 - R-MH
 - UC
 - UM
 - Olympic Pipeline Corridor



NAD_1993_StatePlane_Washington_North_FIPS_4601_Feet

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Notes



CITY OF KIRKLAND

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MEMORANDUM

To: Christian Geitz, Planner
City of Kirkland Planning and Building Department

From: Anneke Davis, P.E., Senior Capital Projects Coordinator
Capital Improvement Program (CIP)
City of Kirkland Public Works Department

Date: June 13, 2018

Subject: Juanita Beach Park Bathhouse Replacement, SHR17-00775
*Analysis of Project Consistency with Juanita Beach Park Master Plan Report,
adopted by City Council May 16, 2006 (Resolution R-4570)*

Purpose

The purpose of this memorandum is to document how the design development of Juanita Beach Park Bathhouse Replacement project is consistent with the guidance provided in the Juanita Beach Park Master Plan Report.

Background

The Juanita Beach Park Master Plan was formally adopted by City Council May 16, 2006 (Resolution R-4570) following an extensive public participation process. The City of Kirkland completed its first phase of implementing the Juanita Beach Park Master Plan in September of 2011. The current proposal is the second phase of this master plan implementation, called the Juanita Beach Park Bathhouse Replacement project; the City of Kirkland Parks and Community Services would like to begin construction in the fall (2018) and open to the public for use the following summer (2019).

The master plan serves as a guiding document in the development of park projects. The master plan represents a collaborative process between the citizens of Kirkland, City of Kirkland Parks and Community Services staff, and various public agencies and organizations. A park master plan provides continuity over time and describes the vision of the future for the park, developed by stakeholders and interested citizens. It is the guiding aspirations for the project and a valuable resource during project design development.

Analysis

The project selected the terminology of "bathhouse" for this project, as a historical reference to past of Juanita Beach, even though the building does not function as a traditional bathhouse. We will not provide a dance floor and offer swimsuits for rent, but we can meet the needs of today's users. It should be noted that, throughout the master plan, the proposed bathhouse

and/or proposed programming functions of the bathhouse are referred to in several different ways.

The master plan refers to the “bathhouse” or its programmed functions as:

- “bathhouse”
- “toilet building”
- “boathouse”
- “restroom building”
- “restroom/concession building”
- “boat rental building”

Table 1 identifies excerpts (Column C) from the Juanita Beach Park Master Plan Report, including the page number (Column A) and section (Column B) the excerpt was derived. An analysis of the proposed project as it relates to the excerpt (Column D) is paired with a consistency rating (Column E). A dark green indicates clear and complete adherence or consistency with the master plan. A light green indicates very close adherence to the master plan with some minor changes. Inconsistencies or contradictions with the master plan, as it relates to the Juanita Beach Park Bathhouse Replacement project, were not found.

The items on the left side of the table below were selected based on a word search in the report for “bath,” “restroom,” and “building” to ensure a thorough analysis of the Juanita Beach Park Master Plan.

Table 1 – Project Consistency with Master Plan Report

Resolution R-4570 Juanita Beach Park Master Plan Report			Proposed Project Consistency with the Master Plan	Consistency Rating
(A) Pg	(B) Section	(C) Report Excerpt	(D) Analysis	(E) Rating
13	Program Opportunities	The wetlands are all located within a Primary Drainage Basin and therefore, buffers on the wetlands along Juanita Creek would be 100 feet wide per the KZC Chapter 90.45. As with Juanita Creek, a 10-foot building setback from the buffer is required.	Per current code, Wetland A has a moderate level of habitat function and is assigned a standard buffer width of 125 feet with a 10-ft setback.	N/A
13	Program Opportunities	Relocate buildings currently located within the 100-foot wetland buffer to outside the wetland buffer	This opportunity was achieved before Phase 1. Based on meeting notes, this comment specifically referred to a King County Parks maintenance building that was located “immediately adjacent to the left bank” of Juanita Creek.	N/A
14	Program Opportunities	Develop trails in the outer 50% of the buffer to allow some human access along the wetlands and creeks.	The proposed project will not develop any trails into the wetlands or functional areas of wetland or stream buffers; most trails were developed in Phase 1.	N/A

Table 1 (Continued)

Resolution R-4570 Juanita Beach Park Master Plan ReportB10:D15E32B10:D21			Proposed Project Consistency with the Master Plan	Consistency Rating
(A) Pg	(B) Section	(C) Report Excerpt	(D) Analysis	(E) Rating
15	Goals	Buildings should not dominate the landscape	The proposed bathhouse is located at the west side of the property near the edge of the current active use area, and is obscured from the road and upland condominiums by existing vegetation. All program elements are encompassed in one building. (Dividing the “bathhouse” into multiple structures would be in conflict with the Master Plan.)	
18	Park Program	Men’s and woman’s restrooms, changing area, life guard office and first aid, indoor or outdoor shower, storage area, link to possible concession	The proposed bathhouse consists of men's and women's restrooms (seasonal) with space/benches for changing, gender neutral restrooms (open year-around), non-motorized boating and snack concession, lifeguard station; maintenance storage, and outdoor rinse area.	
20	Master Plan Alternatives	Site Planning and Massing - Building programs clustered - Building organized around meadows or plazas - Buildings tucked into landforms or vegetation edges	Site Planning and Massing - The programming for the proposed bathhouse is clustered into one building. - The proposed bathhouse is organized around the playground and central open space/ play area. - The proposed bathhouse is tucked as closely as reasonable to vegetation at the west side of the property, considering the need to avoid functioning buffer and preserve the single large tree in the active open space area. The building is placed in the non-functioning portion of the wetland/stream buffer, to the east of an existing paved trail which pre-existed the master plan.	

Table 1 (Continued)

Resolution R-4570 Juanita Beach Park Master Plan Report			Proposed Project Consistency with the Master Plan	Consistency Rating
(A) Pg	(B) Section	(C) Report Excerpt	(D) Analysis	(E) Rating
22	Alt 1 Description	Restroom: Combine with boathouse & Bathhouse on west side of park shoreline near stream buffer	The proposed bathhouse consists of men's and women's restrooms (seasonal) with space/benches for changing, gender neutral restrooms (open year-around), non-motorized boating and snack concession, lifeguard station, maintenance storage, and outdoor rinse area. The proposed bathhouse is located on the western edge of the park, at the edge of the lawn, near the shoreline and near the functioning portion of the wetland/stream buffer. The building is placed in the non-functioning portion of the wetland buffer, to the east of an existing trail which pre-existed the master plan.	
24	Preferred Master Plan	The buildings are sited at the edges of the lawn and plaza areas to assist in defining the spaces.	The proposed bathhouse is located on the western edge of the park, at the edge of the lawn, near the shoreline and near the stream buffer. The building is placed in the non-functioning portion of the wetland buffer, to the east of an existing trail which pre-existed the master plan. The location of the proposed bathhouse defines the edge of the playground and the open lawn space, and serves to guide visitors to the nearby beach access and adjoining pedestrian promenade, paths, and pedestrian pier/breakwater.	

Table 1 (Continued)

Resolution R-4570 Juanita Beach Park Master Plan Report			Proposed Project Consistency with the Master Plan	Consistency Rating
(A) Pg	(B) Section	(C) Report Excerpt	(D) Analysis	(E) Rating
24	Preferred Master Plan	Buildings are tucked into gentle landforms or vegetation edges.	The proposed bathhouse is located on the western edge of the park, at the edge of the lawn, near the shoreline and near the functioning portion of the wetland/stream buffer. The building is placed in the non-functioning portion of the wetland buffer, to the east of an existing trail which pre-existed the master plan.	
25	Preferred Master Plan	The restroom/concession building are located adjacent to the western end of the lakefront promenade. This facility provides beach amenities as well as a food concession for the beach and lawn areas. A playground is to the east of this building.	The proposed bathhouse consists of men's and women's restrooms (seasonal) with space/benches for changing, gender neutral restrooms (open year-around), non-motorized boating and snack concession, lifeguard station, maintenance storage, and outdoor rinse area. A playground is located to the east of the proposed bathhouse.	
27	Preferred Master Plan	The southern playground space is located between the Bathhouse and the Picnic shelter to create a strong connection between the picnic shelter and the playground.	The proposed relocated playground space is between the proposed bathhouse and the proposed picnic shelter.	
29	Preferred Master Plan	Most [of the existing structures], like the bath house, restroom building and picnic shelters, were so deteriorated that it would be more cost-effective to accommodate their functions in new structures.	The proposed bathhouse consists of men's and women's restrooms (seasonal) with space/benches for changing, gender neutral restrooms (open year-around), non-motorized boating and snack concession, lifeguard station, maintenance storage, and outdoor rinse area.	

Table 1 (Continued)

Resolution R-4570 Juanita Beach Park Master Plan Report			Proposed Project Consistency with the Master Plan	Consistency Rating
(A) Pg	(B) Section	(C) Report Excerpt	(D) Analysis	(E) Rating
29	Preferred Master Plan	For this reason changing areas and lockers have been limited in the design.	Instead of 15 - 20 lockers for general public use, the proposed bathhouse will have no lockers. The master plan acknowledged that most beach-goers would be more interested in bringing their belongings down to the beach rather than using a self-lock locker. Extending this same reasoning, the proposed bathhouse eliminates all public use lockers.	
30	Preferred Master Plan	For purposes of the current Master Plan effort, we have developed a schematic design for a restroom prototype that will have four toilets and three lavatories on the women's side and three toilets, two urinals and three lavatories on the Men's side. The toilet building near the beach will have a 200 s.f. space for dressing and will also have 15-20 lockable lockers with free-standing benches on each side of the toilet room.	The proposed bathhouse consists of a women's restroom with four toilets and three lavatories and a men's restroom with two urinals, two toilets, and three lavatories. The restrooms are oversized to accommodate changing - a large two sided bench will be built-in. The proposed bathhouse also offers two gender-neutral restrooms (open year-around) with one toilet and lavatory each. No lockers are provided.	
30	Preferred Master Plan	The restroom building near the beachfront will have about 340 SF as a leasable concession area.	The proposed bathhouse has 370 SF of leasable concession space (for snacks and non-motorized boating concessions).	
30	Preferred Master Plan	A 240 S.F. lifeguard office is provided in the bathhouse building.	The proposed bathhouse consists of a 258 SF dedicated to the lifeguard office and lifeguard lockers. The scale and orientation of the windows in the lifeguard station allow for clear views of the western beach and play areas.	

Table 1 (Continued)

Resolution R-4570 Juanita Beach Park Master Plan Report			Proposed Project Consistency with the Master Plan	Consistency Rating
(A) Pg	(B) Section	(C) Report Excerpt	(D) Analysis	(E) Rating
30	Preferred Master Plan	Architecturally the boat rental building could either be part of the Bathhouse or could be a free-standing building with materials, colors and details similar to the other new buildings on the site.	The most up-to-date programming for the park includes a non-motorized boating concession (consisting of kayaks and stand-up paddle boards). This need is met within the programming for the proposed bathhouse; only one building is necessary.	
40	Regulatory Implications	Chapter 90 of the KZC details City requirements and opportunities for proposed development within these aquatic resources or their buffers. Minor improvements (likely including pedestrian trails, benches, and viewing areas) can be located within the outer 50% of the resource buffer so long as various criteria are met . . ."	The master plan is suggesting that improvements may be located in the outer portion of buffers, while it does not specifically list buildings, the provided list of improvements does not exclude buildings. Further, the Master Plan identifies Chapter 90, however, Chapter 83 regulations, which were updated following development of the master plan, apply to the project project. The Chapter 83 regulations contain criteria that must be met to allow for a shoreline variance; this proposal has demonstrated consistency with the variance criteria in other supporting documents. The consistency analysis was developed in coordination with the Washington Department of Ecology.	N/A



Juanita Beach Park Master Plan Report

May 1, 2006

Prepared for
City of Kirkland Parks and Community Services

Prepared by
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In Association with
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Douglass Consulting
TetraTech Inc.
Property Counselors
Landau Associates

Keyword searches:

"bath"

"restroom"

"building"

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This report represents a collaborative process between the citizens of Kirkland, City of Kirkland Parks and Community Services staff, and various public agencies and/or organizations. By taking the time to participate in public meetings, review documents, and share ideas, the following individuals assisted in insuring the success of this Master Plan effort.



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INTRODUCTION

Juanita Beach Park sits on the scenic shores of Lake Washington's Juanita Bay. The bisection of the park by NE Juanita Drive effectively creates two separate park sections, a northern section with active recreation features such as tennis courts and little league fields and a southern section with swimming beach, trails, and over-water pedestrian pier. Juanita Beach Park has a long history of attracting City of Kirkland residents and visitors to the park to enjoy its scenic swimming beach and other park amenities.



This report offers a master plan for revitalizing the much-loved and time-degraded park. New development in the area has resulted in an adjacent village core that will connect to the revitalized park. Park improvements will fulfill the growing community's need for appropriately programmed green and open space. The surrounding residential neighborhoods will be well served by new recreation amenities such as a skateboard park and the Community Commons area. The revitalized park will also attract visitors from throughout the region, as the park has one of best swimming and wading beaches on Lake Washington. Improvements to the shoreline and Juanita Creek will also protect and enhance the natural environment of the park.

Purpose of the Juanita Beach Park Master Plan

When the City of Kirkland received ownership of Juanita Beach Park from King County in 2002, the City began improving park maintenance standards, as well as initiating the process of planning for future upgrades to the park.

Following a consultant selection process, the City of Kirkland Parks and Community Services hired J.A. Brennan Associates to help develop a Master Plan for the park in 2004. Park staff met with members of the design team and walked the site and discussed historic site uses, opportunities, and constraints. The consultant team began by accumulating background information about the site, revising the site topographic survey, researching regulatory aspects of the project, and gathering information about related projects such as the Juanita Village development.

Park facilities considered during the master planning phase include swimming, picnicking, sports fields and supporting facilities, such as: access and parking, lighting, storm water measures, concession, and restroom facilities. Other park uses considered were passive recreation, playgrounds, picnic areas, shelters, vehicular and pedestrian access and circulation, park maintenance areas, and natural enhancement areas.

The primary objective of the Master Plan is to begin developing Juanita Beach Park into a community and regional park. Specifically, the master planning phase of the project is focused on the design of swimming beach and associated water quality improvements, Little League baseball fields, multi-use play field, related drainage, fencing, bleachers, walkways, parking, access drive, park signage, playground, picnic facilities, hand carry boat launch and rental facility, skate park, and other recreational amenities. Habitat restoration components of the project include vegetation restoration, and stream and lake buffer enhancements.



The City of Kirkland's Recreational Needs

The Juanita Beach Park project will alleviate local and regional need for active recreation play areas that include Little League baseball fields, skateboard facilities, and volleyball courts. Redevelopment of existing recreation areas will provide state-of-the-art facilities that meet user expectations for modern park facilities. Modifications to the pedestrian pier structure and Juanita Creek will improve the quality of the swimming beach, an important focus of the revitalization project.

Design Process

The planning process involved synthesizing input from stakeholders, the public, and the City. An involved public process began with the formation of a Citizen Advisory Team that guided the process along. Members of the Citizen Advisory team represented the community as well as the Park Advisory Board and local sport groups. Six Citizen Advisory Team meetings were held. Four of the Citizen Advisory Team meetings were followed by public meetings, where concerns were heard and design ideas were discussed. An agency meeting with regulators was also held to understand regulatory issues impacting park development.



The City's Parks and Community Services Department issued press releases to inform the public about the project's progress and opportunities to become involved in the public process. The City's website also offered updated information about the project on a regular basis. By listening to the community and stakeholders, the team has identified program elements that represent the community's needs and worked with the City of Kirkland to develop an appropriate preferred Master Plan for the park. See Appendix for public meeting notes.

The designers gained a thorough understanding of the site and its context in the community by reviewing extensive site data and the public's input from the first three public meetings, where community needs and desires and uses appropriate to the site were discussed. From this discussion two alternatives were developed. Input was then solicited from the City, the Park Board, and a draft master plan was developed taking elements from each of the alternatives.

Preference	Program Element	Associated Parking	Parking Area @ 400 SF/Vehicle	Comments and Recommendations
	Group Gatherings and Events			
●●●●●●●●	Entry Plaza or Promenade	Potential special events		Could also be used for farmer market or art market. Responds to urban edge of park. Obsolete promenade concept
	Likelihood Plaza with Picnicking	Shared with other use parking		
●●●●●●●●	Farmer's Market Art Market Community Gathering Plaza	Shared with other use parking		Consider impacts on adjacent areas and the need for supporting utilities. Scale of events and scheduling will define the need for parking above that already provided on site. Existing Farmers Market on Downtown Kirkland on Wednesdays May through October. Similar to Mesa Bay events. Parking needs depend on scheduling.
●●●●●●●●	Shared Venue	Special events demand		
●●●●●●●●	Bandstand, Amphitheater or Meadow with Flower Supply	Shared with other use parking 50 stalls? Special events demand		Consider impacts on adjacent areas and the need for supporting utilities. Scale of events and scheduling will define the need for parking above that already provided on site.
●●●●●●●●	Garden for Weddings and Group Events (See revenue producing element)	30-50 vehicles including 2 accessible spaces		100 to 150 capacity may be realistic given size of facility. Activity related to Community Pavilion

Public Meeting attendees were able to express opinions about various program elements during the design process.

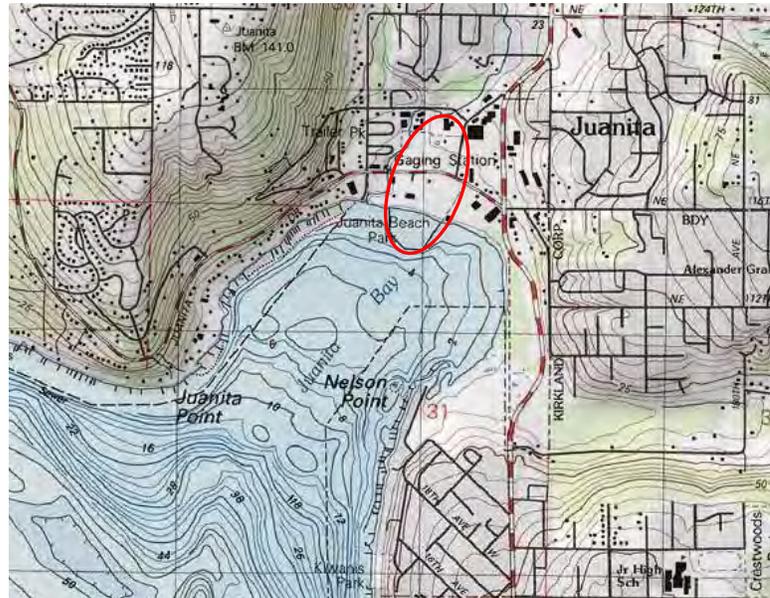


Project Location and Site Description

Juanita Beach Park is located in the Juanita neighborhood of the City of Kirkland, on Lake Washington's Juanita Bay. The park is bisected into southern and northern sections by NE Juanita Drive. The park's southern edge is bordered by 1,000 feet of Lake Washington shoreline, where a 1,350 foot long pedestrian pier extends 580 feet into Juanita Bay. The southern section of the park also includes the swimming beach, restroom, meadow areas, picnic areas, and Juanita Creek.

The northern park area includes tennis courts, ballfields, open play areas, the historic Forbes house, and Juanita Creek. King County transferred

ownership of the 29.5 acre park to the City of Kirkland in 2002. On November 5, 2002 Kirkland voters voted for slight property tax increase to pay for maintenance and improvements at the park.



Existing Conditions



EXISTING CONDITIONS / SITE DATA AND ANALYSIS

Cultural Elements

Historic or Cultural Resources

- 1876 Juanita Beach property homesteaded by Dorr and Eliza Forbes
- Urania Dock – ferry Urania and Urania Club House (Scandinavian meeting place from Finn Hill) (west of Forbes property)
- 1906 Forbes House/Juanita House: Two story wood frame house
- 1916 Construction of Lake WA Ship Canal caused Lake Washington to drop 8.8 feet, exposing vast expanse of fine white sand at Juanita. Sand shelf extended 500 ft. from shore, only 5 ft deep
- 1921 Forbes and Nelson constructed restrooms and 20x30 foot bath house and opened beach business for day use resort
- 1925 Forbes built open-air kitchen with tables, stove and hot water
- 1928 Forbes built a larger, two-story bath house with jukebox and dance floor, swimsuits for rent
- After WW II Juanita Beach lost its appeal, people went into mountains instead.
- 1957 King County bought the Shady Beach and Sandy Beach properties
- Forbes House/Juanita House: Two story wood frame house, 1906
- Community Landmark designation, City of Kirkland
- King County Parks used for interpretive program offices



Existing Structures

Structure and Location	Size	Description	Comment/Condition
Picnic Shelter #1 (SE):	24'x38'	Open, wood, post and beam, flat-roofed shelter; not ADA accessible; 3-4 picnic tables, grill box, water and electricity. Reserve for up to 150 persons. Several outdoor grills nearby.	
Picnic Shelter #2 (SW):	20'x30'	Half open, wood, post and beam, gable-roofed shelter with 6 tables, nearby fire pit, water and electricity. Reserve for up to 150 persons.	(Preferred)
Bath House:		Built in 1965, CMU building; dressing rooms, restrooms and concession stand	
Parks Maintenance Shop	4,500 SF CMU building	Lacks adjacent supporting yard area and covered vehicle parking	Condition: good. Located within Juanita Creek buffer zone.
Restroom (North of Juanita Drive):	10'x32'	Prefabricated' metal restroom building.	Condition: fair to poor.
Concession Stand and Storage shed			Condition: fair exterior condition
Pedestrian Pier/Breakwater		Built in early 1970's; horseshoe-shaped. Projects 580 feet into Juanita Bay from the shoreline. 1350 foot long pier of timber bents and pile caps	Every other plank was removed from the south sections of the pier, where



		which support a concrete deck, and a bent-to-bent wood vertical planking system on the inner and outer faces on the west and south legs of the pier.	greatest wave forces experienced. This modification reduced wave attenuation, but also silted in the diving area. Diving platform. "Juanita Beach Pier Inspection and Condition Report", April 1999, Summit Technology Consulting Engineers, Inc., P.S.
Pedestrian Bridge		Provides access to Picnic Shelter #2 and a large scenic area with views of the Creek and Bay. Timber bridge and timber railings are in good condition. (not ADA accessible, because no ADA path on west side)	

Conclusion: Except for Forbes House, the pier, and the pedestrian bridge, site structures are in poor locations, poor conditions, and/or functionally inadequate.

Existing Recreational Features:

Structure and Location	Description	Comment/Condition
Two ball fields	Poor condition with short outfields (178 LF), inadequate fencing and rough turf. Ball field #1: outfield ranges from 146 LF to 154 LF. Neither field meets Little League standards for regulation play.	Both fields present a potential safety hazard for players, spectators, and other Park users due to location and size.
Tennis Courts	Fenced and lighted; Use: formal and informal games;	Not ADA accessible (no access path); good condition, but require resurfacing; Light glare and noise may disturb neighbors (Inn on the Park); located in the Juanita Creek Buffer zone
Sand Volleyball Courts		
Horse Shoe Pits		
Play Area		new
Swimming Area	Enclosed by pier/breakwater: +/- 190 M x 180 M area	

Land Use and Zoning

The following land uses and zoning regulations impact and/or surround the immediate area of the park:

- High-density multi-family zones: contain detached, attached or stacked dwelling units
- Apartments and Condos flank the southern portion of the park and the west and north sides of the northern portion of the Park.
- Commercial and business zoning: east of the northern portion (east of 97th Ave. NE)
- Spuds Restaurant
- German Retirement Village
- Chelsea at Juanita Village and Avalon Juanita Village east of park
- Proposed: Juanita Village 5, east of park



Paths/Pedestrian Circulation

Pedestrian circulation is an important element of a park's functionality in the community. Because the park is bisected by NE Juanita Drive, safe pedestrian connections are particularly important at Juanita Beach Park. Currently path and pedestrian circulation at the site includes the following elements:

- Sidewalks along NE Juanita Beach Drive
- Safe signalized pedestrian crossing at 97th Ave. NE
- Pedestrian links to surrounding apartments and condominiums
- Secondary pedestrian crossing south of tennis courts
- King County considered construction of a pedestrian underpass or overpass across Juanita Drive, but too expensive (\$400,000 to \$500,000)
- Two paved paths: One between the Maintenance Shop and western pier entrance (also maintenance vehicle route) intersects the bridge across Juanita Creek. The other path leads from the main parking lot to the bathhouse.
- Pedestrian path along southern boundary of south parking lot (too narrow for ADA), poor condition
- Pedestrian Pier
- Park is largely inaccessible to persons with disabilities due to the lack of ADA-compliant paths connecting facilities.

Traffic, Vehicular Circulation and Parking

The park is accessed by vehicle from NE Juanita Beach Drive, a two-lane road with five foot bike lanes in each direction, planted median and sidewalks or from 97th Avenue NE, also a two-lane road. Access to/from I-405 is 1¼ miles east of the Park on NE 116th St.

Entries: Main South Entry at 97th Ave NE and NE Juanita Drive (at traffic signal)
Main North Entry off 97th Ave NE to gravel parking lot (near intersection)
Second North Entry, off 97th Ave. NE to Forbes House loop driveway

Parking: South lot: approx. 200 Parking spaces
North lot: 50 Parking spaces (gravel)

Utilities

Water Supply Systems

- Water lines area located on east side of Park with connections to existing facilities.
- A water meter is located in southern portion of Park, serving both sides of the Park. (King County requested two meters be installed one in each side of the Park as part of the Juanita Drive Improvements Project.

Sanitary Sewer Systems

- Twin sanitary sewer force mains run south across Juanita Drive from the Metro Pump Station and then east along the south side of the Juanita Drive right-of-way.
- Additional lines and manholes: see plan
- Metro Pump Station – existing at NW corner of 93rd Ave. NE



- Juanita Bay Pump Station – new
- It is assumed that existing restrooms still utilize septic tanks.

Stormwater Systems

There are storm sewer lines and catch basins located in the southern portion of the Park. None are visible on the northern portion. Upgrades to the stormwater system will be required in the master plan to improve water quality.

Electricity and Telephone

- The Juanita Drive Improvement Project placed power lines and telephone lines underground along Juanita Drive.
- Services to the Forbes House are from sources along 97th Ave. NE

Natural Systems Elements

Lake Washington

This below memorandum summarizes Tetra Tech's review of sediment, hydrology, water quality and fisheries conditions at Juanita Beach Park and includes recommendations on actions to include in the Master Plan for improving those conditions.

Sediment

A review of historic to current aerial photos (1936, 1960, 1974) of Juanita Beach Park shows that there has always been a very shallow sandy beach and shoreline at the location of the Park beach and the north and east ends of the bay. In the oldest photos, there were long linear piers that went out to deep water, presumably to allow boats to tie up in deeper water. In the early 1970's, King County built the existing pier that entirely encloses Juanita Beach and added planking on the north and west sides, presumably to reduce wave action at the beach, but perhaps also to prevent sediment from Juanita Creek from depositing at the beach. Juanita Creek delivers a significant load of sediment (approximately 20,000 tons/year) including small gravel, sands, and fine silts that are deposited in the bay. It is estimated that 10,000 tons per year to the delta, 4400 tons in the swimming area, and remaining 5200 tons is lost the deep sediments of Lake Washington.

It has to be understood that Juanita Creek has historically been a significant source of sand to the Juanita Beach area. However, it can be assumed that the total delivery of sediment to Lake Washington has increased as the result of urbanization of it watershed. In addition, the particle size distribution may be different today then prior to human development of the basin. Specifically, the sediment delivered to the lake probably is made up of a larger fraction of fines. This is based on the reduced biofiltration capacity of the watershed as land-use changed from forested/vegetated to impervious urban surfaces.

Currently, sediment has deposited to a depth of about 3 feet against the north pier and planking and the reduction in current and wave action has facilitated the deposition of silt and organic material within the pier and at Juanita Beach. There is also a large delta that has built up between Juanita Creek and the pier that was not visible in the historic photos. The prevailing current in the bay is clockwise from west to east and then south. This has likely caused the outward growth of the delta because the planking on the piers prevent the coarser sediment from moving on eastward in the bay. Though the planking reduces the ability for the nearshore current to transport the coarser sediments, the finer silts and calys are likely still transported eastward with some of the silt to be deposited in the sheltered, low energy environment of the beach area.



Options to reduce the sediment buildup are: 1) dredge the delta to a depth of 3-5 feet; 2) dredge up fine sediment at the beach; 3) implement maintenance dredging program at delta to remove sediment every few years; 4) remove the planking on the piers to allow natural sediment movement in the bay; 5) implement sediment detention and removal in the creek basin to reduce sediment load into the lake; 6) reduce sources of sediment in the basin.

Because the prevailing winds during the summer are from the north and northwest and the fetch is very small in Juanita Bay from that direction, the planking on the piers does not appear to provide any useful measure of wave reduction or increased swimmer safety when the beach will primarily be used. During the winter, the prevailing winds are from the south and southwest, with a very long fetch directly towards the beach. However, the historic aerial photos do not indicate that wave action significantly affected the shallow beach, although it may have removed fine sediments (silts and organics) that had deposited along the beach. Thus, removal of the planking on the piers appears to be an easy method to allow natural water and sediment circulation around the bay and provide winter scour to remove some of the fine sediment deposited at the beach. This would help restore the beach to its historic condition. How rapidly this would occur is difficult to estimate and initial dredging of the delta may help facilitate a quicker return to the historic condition. Removal of the planking would however, allow sediment to be deposited in the shallow area down current of the beach as in historic conditions. Thus, additional sand would likely be delivered to the docks immediately to the east of the swim beach.

It should also be noted that removal of the planking would allow eastward movement of sand currently deposited in the delta and into the swim area. This could initially create a slug of sand moving through the beach area and through areas beyond the beach. This possibility should be investigated further and if necessary, considerations of dredging the delta deposits to prevent such an occurrence should be considered.

Options to manage the sediment loading to the lake include upstream bank stabilization and stormwater runoff best management practices within the Juanita Creek drainage basin. Within the park, side channel floodplain connectivity could be provided to help trap sediments in small storm events.

Hydrology

Juanita Creek is approximately 3 miles in length, with approximately 9 miles of open stream in the basin. The watershed area is 6.6 mi². Base flows in Juanita Creek are approximately 5 cfs (with minimum discharges of 2-3 cfs). Juanita Creek flows have been modified as a result of urbanization and removal of forested cover in the basin and can be considered to be typical of urban stream in western Washington with higher peak flows and larger runoff volumes during storm events. Annual peak flows range from 90-270 cfs.

Prevailing winds and wave energy in Juanita Bay are from the southwest and south in the winter (5 mile fetch from southwest on Lake Washington; 4.3 mile fetch from the south) and from the northwest and north in the summer (beach is largely protected; only 0.1 mile fetch). The current flows clockwise around the bay from the west to east and then south.

Lake Washington elevation fluctuates by two feet and is controlled by the U.S. Army Corps of Engineers at the Hiram Chittenden Locks. The lake level is controlled to provide flood storage in the winter months and to provide sufficient water supply for navigation and fish enhancement at the Locks during the spring, summer, and fall. The lake is typically at its lowest level (Elevation 20) starting in October and continuing until February, when the Corps begins to slowly fill the lake back to its high level (Elevation



22) reached in April-May. The pre-lock level (prior to 1917) of Lake Washington was approximately 30 feet-MLLW.

1. Options to restore a portion of the natural hydrologic functions to Juanita Creek and Juanita Bay include: restore floodplain and floodplain wetlands/side channels along Juanita Creek;
2. provide upstream stormwater detention;
3. remove baffles on pier to restore natural bay circulation;
4. remove or raise a portion of the encircling pier to restore natural wave energy and bay circulation;
5. perform dredging to remove portions of the delta that have grown out into Lake Washington as a result of the blockage of sand transport by the pier baffles.

Water Quality

Juanita Creek is listed on the Washington Department of Ecology's draft 2002/2004 303(d) list for water quality impairments including dissolved oxygen, fecal coliform, temperature, mercury, pH, alpha-Endosulfan, ammonia-N, arsenic, beta-Endosulfan, cadmium, chlorpyrifos, chromium, copper, Endosulfan, hexachlorobenzene, lead, nickel, pentachlorophenol, selenium, silver, and zinc. The USGS found 17 pesticides during a storm event in 1998, which was the highest number detected in that larger King County survey (Voss and Embrey 2000 cited in Kerwin 2001). The water quality impairments in Juanita Creek adversely affect the fish and aquatic food web.

Of particular concern to Juanita Beach Park, are the high levels of fecal coliform after storms. Juanita Beach is frequently closed during the summer season due to dangerous levels of coliform bacteria in the lake water. It is likely that the high levels of bacteria in the bay are due to a combination of fecal coliform from the creek, direct runoff from the park and adjacent lawns (high amounts of geese and duck feces at the park), and potential leakage from the old sewer pipe that runs under the beach (although this was not indicated by the RNA tracking performed by King County, personal communication Jonathan Frodge, 2005). Bacteria can bind to fine sediments and organic matter, such as is present all along the beach inside the ring pier, although previous investigations at Juanita Beach have failed to demonstrate that the sediments at the beach are in fact a source of bacterial contamination (J. Frodge, personal communication 2005). The main body of water within Lake Washington has good water quality and does not reflect any of the problems documented for Juanita Creek of the swim beach. To improve the water quality at the beach for all parameters there is a need to promote more exchange of water with the open water of the lake. In previous years King County installed a pump to try to get more exchange, but it was undersized relative the volume of water that needs to move through the beach area to avoid water quality problems.

Options to improve water quality at the beach and in the creek include: 1) reduce sources of pollutants in Juanita Creek basin through stormwater BMPs; 2) restore floodplain wetlands to filter pollutants; 3) create a high flow sand filtration system to filter creek flows; 4) reduce attractiveness of park to geese and ducks by reducing area of lawn adjacent to the beach and creating a visual barrier using shrubs to reduce their direct access from the water to lawn; 5) create swales and rain garden to filter runoff from the park prior to entering the bay or creek; 6) remove planking on piers to restore natural circulation and wave action to scour fine sediments away from beach; 7) investigate the integrity status of the sewer pipe adjacent to the beach to ensure it is not leaking; 8) reduce runoff in park by repaving parking area with pervious pavement, reducing lawn area especially with inadequate drainage and attraction to waterfowl for feeding, reducing other pervious surfaces.

Reducing fine sediment deposition along the beach, increasing lake-beach circulation, and reducing direct runoff from fecal material from the park will be the most significant in reducing fecal coliform concentrations at the beach.



Fisheries and Fish Habitat

Juanita Creek and Juanita Beach both provide potential habitat for a variety of fish species. Species that are known to be present, or are likely to be present, in Juanita Creek include coho and sockeye salmon, kokanee, cutthroat and rainbow trout, longfin smelt, lamprey, three-spine stickleback, largescale sucker, dace, shiner, sculpins, and crayfish. Species that utilize the shoreline and beach area likely include chinook, coho, and sockeye salmon, steelhead, cutthroat and rainbow trout, peamouth chub, yellow perch, northern pikeminnow, largescale sucker, sunfish, bullhead, largemouth bass, smallmouth bass, carp, sculpins, and crayfish. (King County 2002; Kerwin 2001; Martz *et al* 1996)

The habitat in Juanita Creek was assessed by King County (2002) in 2000. In general, throughout the watershed, bank stability is poor in many locations, the riparian vegetation is limited in width and percent canopy, very few pieces of large woody debris (LWD) are present and they are predominantly small diameter alder, pool frequency is low, and pool quality is low. Particular problems included significant quantities of fine sediment in most reaches; the only suitable spawning gravel is in the park and in their surveyed Segment 4 (just downstream of 141st St). Pools throughout the creek, while moderately frequent, are all very shallow and do not provide sufficient depth or cover. Several potential fish passage barriers are present upstream of 141st Street.

In the lower segment of the creek, including Juanita Beach Park, the riparian zone was only 21% forested, primarily with young alders (*Alnus rubra*), with significant presence of blackberry (*Rubus armeniacus*) and reed canary grass (*Phalaris arundinaceae*) and mowed lawn in the park. Purple loosestrife (*Lythrum salicaria*) and Japanese knotweed (*Polygonum cuspidatum*) are also present. The stream banks are eroding in several locations in the park on the outside of meander bends. Many banks have been armored, including banks with low risk of erosion. While pools are riffles are present between Juanita Drive and the pedestrian bridge at the upper end of the park, the channel is incised and appears to be entirely disconnected from the floodplain. Downstream of Juanita Drive, the creek floods into the park frequently, a maintenance building is located immediately adjacent to the left bank and the channel appears to have been moved to the edge of the park to bring it as far away from the swimming beach as possible.

The Lake Washington shoreline along Juanita Beach is shallow water with sandy or silty/organic substrate and minimal vegetation. No wood or overhanging vegetation for cover is present along the shoreline at the park. To the southeast of the park are the extensive wetlands in Juanita Bay Park. This area is indicative of the historic shoreline condition in Juanita Bay.

The historic condition in the basin was coniferous forest with Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), with likely alder, willows (*Salix* sp.) and cottonwood (*Populus balsamifera*) along the creek and lakeshore. The 1936 aerial photos show much of the basin forested, even after 50 years of timber harvest and development. Current photos show much of the watershed developed to residential and commercial uses. Although Juanita Creek has generally always flowed through a narrow ravine and narrow floodplain, much of that former floodplain has now been developed. The park downstream of Juanita Drive now serves as the only floodplain available.

High quality salmonid habitat is characterized by a diversity of pools, riffles, glides, side channels, wetlands, and oxbows to provide suitable habitat during multiple life history stages such as spawning, rearing, refuge, and adult holding and migration. Large woody debris is believed to play a major role in the formation of habitats in the Pacific northwest via energy dissipation, pool formation, sediment retention, and provision of cover (Maser *et al* 1988; Bilby and Ward 1991; Harmon *et al* 1986 all cited in King County 2002). In Lake Washington, salmonids use the shoreline for short-term rearing and migration. Key features that chinook appear to utilize are shallow shorelines with sandy or small gravel substrate, overhanging vegetation, and small woody debris (Tabor *et al* 2004). Sockeye fry were also



commonly encountered at a shallow sandy beach with natural vegetation adjacent to the Cedar River mouth in 1994 and 1995 (Martz *et al* 1996).

Numerous opportunities for habitat restoration and enhancement exist along Juanita Creek and Juanita Beach including: 1) excavate floodplain side channels/wetlands along Juanita Creek downstream of pedestrian bridge, in lower park where frequently flooded, where maintenance building currently resides; 2) remove maintenance building and restore riparian and create floodplain; 3) remove armoring on banks except where absolutely necessary; 4) slope banks back and revegetation; 5) restore riparian zone; 6) place LWD in the channel; 7) restore shoreline between north pier and creek mouth to natural vegetation such as willows and cottonwoods to provide buffer and overhanging vegetation; 8) place small woody debris along shoreline in clumps, best to be associated with overhanging vegetation; 9) revegetate clumps of willows along shoreline at swimming beach or eastern edge of property, in select locations to provide overhanging vegetation.

Geotechnical and Soils

- Indianola soils – along streams and lakes, excessively drained soils
- Alluvium and glacial till: along NE Juanita Drive
- Sandy beach: sands imported over the years that overlay stream deposits of silty sands and gravels.

Juanita Creek

Juanita Creek is a perennial creek that flows from the north to the south through the park and has its mouth on Lake Washington through the beach portion of Juanita Beach Park. It is located in the Juanita Creek Drainage Basin, a Primary Drainage Basin under the City of Kirkland Code (KZC). Juanita Creek is used by resident salmonids and anadromous salmonids. In the northern portion of the park where the creek enters the park, flows are relatively shallow with areas of gravel and cobble-lined glide habitat. The creek deepens as it flows under NE Juanita Drive and turns to the west and flows to the mouth of the creek. The channel is deeper near the mouth and has a sand/mud bottom. The creek channel has been realigned in locations and is influenced by upstream sedimentation, bank incising, and areas of bank armoring.

The riparian zone along the creek is highly urbanized with areas of lawn and foot traffic up to the edge of the creek. There are also areas where shrubs and trees provide some vegetative buffer in the northern portion of the park. Himalayan blackberry (*Rubus armeniacus*) dominates the shrub layer in many locations and competes with the native vegetation. The minimal vegetative cover within the riparian zone has allowed for easy access to the channel and foot traffic has eroded the creek banks in some locations.

Juanita Creek is rated as a Type A stream by the City of Kirkland code due to the use of the creek by salmonid species. Required buffers on Type A streams within Primary Drainage Basins are a minimum of 75 feet wide per the KZC Chapter 90.90. The City requires a 10-foot building setback from the stream buffer (KZC 90.45 and 90.90).

Opportunities for enhancement of Juanita Creek as it flows through Juanita Beach Park are numerous. The recent Stream Inventory Report prepared by Parametrix (2004) identifies numerous opportunities to restore and enhance the creeks. Some key opportunities include:

- Control upstream sedimentation inputs to moderate sedimentation within the creek channel.



- Remove the failed bank armoring and replace with bio-engineered approaches to channel stabilization.
- Remove invasive species within the stream buffer.
- Establish a wider buffer for the creek by planting native species within the 75-foot buffer.
- Develop trails in the outer 50% of the buffer to allow some human access along the creek, but minimize uncontrolled access to the creek banks.
- Relocate buildings currently located within the 75-foot creek buffer to outside the creek buffer.

Wetlands

Three reviews of wetland boundaries have been performed at the Juanita Creek Park property to date:

1. Wetlands, Stream, and Wildlife Report prepared by B-Twelve Associates, Inc. August 1999 (incorporated into the Juanita Beach Park Site Inventory and Analysis Report in August 1999).
2. Wetland Delineation Report prepared for the Juanita Bay Pump Station and Forcemain Upgrade Project, prepared by HDR in July 2002; and
3. Memorandum summarizing peer review of the HDR Wetland Delineation Report prepared by Adolfson Associates, Inc. in September 2002.

Additionally, a review of wetland buffers, Shoreline Management Act regulations, and Endangered Species Act implications that relate to potential redevelopment at Juanita Beach Park was prepared by The Watershed Company in July 2001.

The 1999 wetland delineation conducted by B-Twelve identified two large wetland areas along the shoreline at Juanita Beach Park, Wetland A and Wetland B. These areas were identified based on observations of soil conditions and inference of hydrology. Because the two areas are located in mowed grass areas of the park, vegetation was not used as a decisive parameter for the wetland determination. No data sheets or hydrologic monitoring data was provided with this wetland delineation, without which specific soil conditions and hydrologic conditions observed cannot be confirmed.

The 2002 wetland delineation conducted by HDR identified two small wetland areas adjacent to Juanita Creek, but disagreed with the B-Twelve delineation regarding the two large wetland areas identified in the mowed grass area along the shoreline. HDR used hydric soil criterion developed specifically for sandy soils such as those found at Juanita Beach Park and determined that the soils in these locations did not meet the necessary criterion for sandy hydric soils. The report also refers to multiple visits to the site to observe hydrologic conditions, and based on these observations, determined that the wetland hydrology parameter was not met in the two areas determined to be wetland in the 1999 wetland determination. The 2002 HDR wetland determination report includes data sheets. However, data for hydrologic monitoring conducted during the multiple site visits was not included in the report.

The 2002 memorandum prepared by Adolfson reviewing the 2002 HDR report indicated that their biologists were in agreement with the location of the two wetlands identified adjacent to Juanita Creek, but indicated that three other wetlands were also present adjacent to the creek. The review also requested hydrologic monitoring data to document HDRs observances of hydrologic conditions in the areas previously delineated as wetland by B-Twelve in 1999.

Issues regarding wetland boundaries to be resolved include:

1. Are the two areas delineated by B-Twelve in 1999 jurisdictional wetlands or not?



Resolution of this question is important as these two wetland areas are large and have significant buffers. If present, they represent significant limitations to development in this area of the park.

Potential methods for resolving this question include:

- Contacting HDR to request any hydrologic data collected; and
- Conduct hydrologic monitoring within these areas through the first three months of the growing season in 2005 (March, April, May, and potentially June).

This data, in combination with the existing soil data, should clarify the presence or absence of wetlands in these areas. Ideally, a redelineation of these areas would be confirmed by the US Army Corps of Engineers (USACE), as the USACE has final jurisdiction over determination of wetland boundaries. However, it is difficult to obtain USACE review for a project unless there is a specific USACE permit application submitted. A Master Plan level of design does not generate a USACE permit as these are typically prepared at the time of project development.

2. Are there additional wetlands along Juanita Creek that are not shown on the 2002 HDR wetland determination, as indicated in the 2002 Adolphson review memorandum?

- Potential methods for resolving this question include:
- Contacting HDR and requesting any data collected along the Juanita Creek that was not included in the wetland determination report. The report is thorough and it is unlikely that there is additional data available.
- Conduct another wetland determination to clarify the presence or absence of wetlands along Juanita Creek.

Resolution of the wetland locations and boundaries is an important first step to identifying the permitting issues associated with various Master Plan designs and establishing predictability for the permitting process. For the purpose of designing a Master Plan for Juanita Beach Park, and based on the above information, it is recommended that the design incorporate the four wetland areas identified along Juanita Creek by HDR and Adolphson Associates, jointly. The two areas identified as wetland by B-Twelve will need further documentation to confirm their presence or absence but it is recommended that these areas not be identified as wetland for master planning purposes.

The wetlands along Juanita Creek would be classified as Type 1 wetlands because the wetland is contiguous with Lake Washington and adjacent to Juanita Creek, both water bodies that provide habitat for federally-listed fish species. The wetlands are all located within a Primary Drainage Basin and therefore, buffers on the wetlands along Juanita Creek would be 100 feet wide per the KZC Chapter 90.45. As with Juanita Creek, a 10-foot building setback from the buffer is required.

Opportunities for enhancement of the wetlands adjacent to Juanita Creek in Juanita Beach Park are numerous. Some key opportunities include:

- Restore and enhance vegetation within the wetlands by planting native wetland species.
- Diversify the vegetation structure and species by planting a mixture of trees, shrubs, and herbaceous species.
- Remove invasive species within the wetlands.
- Establish a wider buffer for the wetlands by planting native species within the 100-foot buffer.
- Relocate buildings currently located within the 100-foot wetland buffer to outside the wetland buffer.



- Develop trails in the outer 50% of the buffer to allow some human access along the wetlands and creek, but minimize uncontrolled access to the creek banks.

Vegetation

Vegetation at Juanita Beach Park is highly urbanized and consists mostly of non-native landscape species. Along Lake Washington, south of NE Juanita Drive, vegetation is characterized by lawn grass species with plantings of landscaped trees, including black cottonwood (*Populus balsamifera*), Scarlet oak, and willow. On the north side of NE Juanita Drive are more large areas of lawn grass species with landscape tree species. Many of the trees, especially the cottonwoods (150 Cottonwoods were planted by Forbes in 1925) are reaching the end of their life spans.

Opportunities for enhancement of the vegetation at Juanita Beach Park are numerous. Some key opportunities are included in the Juanita Beach Park Natural Resource Inventory and Analysis Report.

Wildlife

Although Juanita Beach Park has some function as a wildlife refuge within the larger urban environment, the habitat has been degraded through human impact and lack of vegetative diversity. Wildlife habitat in the park is degraded by expanses of non-native lawn grass species and stands of invasive plant species, including primarily Himalayan blackberry. In addition, predatory animals including bullfrogs and domestic cats are a threat to the survival of small mammals, amphibians, and birds in the park. Wildlife at Juanita Beach Park is typical of an urban waterfront park with gulls, ducks, and Canada geese dominating the avian species along the shoreline. The heavy use of the park by Canada geese especially is noted to contribute to waste and water quality issues along the shoreline.

The presence of federally-listed threatened and endangered species is identified within the park in the shoreline environments of Lake Washington and Juanita Creek. Federally-protected fish species in these water bodies include:

- Chinook salmon (*Oncorhynchus tshawytscha*)(threatened) and present in Lake Washington, with potential presence in Juanita Creek only;
- Coho salmon (*Oncorhynchus kisutch*); and
- Cutthroat trout (*Oncorhynchus clarki*)

State-listed fish species identified at Juanita Creek Park include:

- longfin smelt (*Spirinchus thaleichthys*);
- sockeye salmon (*Oncorhynchus nerka*), and
- kokanee (*Oncorhynchus nerka*).

The nearest bald eagle nest is identified by the Washington Department of Fish and Wildlife (WDFW) priority habitats and species maps as being located 1.2 miles to the west of Juanita Beach Park (WDFW pers. comm. 12/6/04). Based on studies of wildlife use at the nearby Juanita Bay Park in 1992 (Watershed Dynamics 1992), other state-listed sensitive species that have the potential to be present at Juanita Beach Park include: great blue heron (*Ardea herodias*), bufflehead (*Bucelphala albeola*), hooded merganser (*Lophodytes cucullatus*), and western pond turtle (*Clemmys marmorata*). All of these species except for western pond turtle were identified at Juanita Bay Park during the 1992 wildlife study and have the potential to be found at Juanita Beach Park also.

See the *Juanita Beach Park Natural Resource Inventory* report for additional wildlife data and enhancement opportunities.



PROGRAM OPPORTUNITIES

In order to develop park programming appropriate to the site, the design team worked with the City, the Citizens Advisory Team (CAT), and the public to create a vision for the park that was based on community input and the site's context. Goals for the park revitalization led to appropriate programming for the park.

Vision Statement

Juanita Beach Park is a family friendly, multi-generational community park that fits the scale, character, and history of the park site and the surrounding neighborhood. The park provides waterfront access and a balanced mix of active and passive recreation opportunities while protecting and enhancing the natural environment.

Goals

Park Integration Goals:

- Link park to surrounding community
- Unify north and south sides of the park
- Buffer parking lot views
- Encourage bike and pedestrian access

Recreation Goals:

- Create multi-use recreational facilities where possible
- Develop facilities that respond to the needs of the community
- Provide recreation appropriate to the site character
- Balance development with environmental issues
- Balance active and passive recreation activities

Environmental Stewardship Goals:

- Enhance Juanita Creek to create a healthy stream environment. (This could include the reach within the park and up-stream reaches)
- Create a salmon and wildlife friendly shoreline
- Enhance and restore wetlands
- Educate the visitors about habitat values

Community-Building Goals:

- Create community gathering areas
- Create sense of community ownership
- Consider adopt a park opportunities

Aesthetic Goals:

- Buildings should not dominate the landscape
- Provide aesthetically pleasing night lighting
- Create naturalistic landforms



- Improve the visual quality of the shoreline
- Maintain framed views of the lake

Historical Resources Goals:

- Maintain and restore Forbes House and associated landscape
- Provide appropriate interpretation of area history
- Protect cultural resources

Revenue Goals:

- Develop revenue opportunities that can contribute funds to operations and/or development of the Park.
- Include commercial activities that enhance the experience of park users and fit the park's character
- Attract users that can support other businesses in the surrounding commercial district

Maintenance Goals:

- Consider the cost / benefits of dredging the swimming area
- Create a park in balance with maintenance resources

Park Program

Through extensive meetings with the public, CAT, City staff, the Park Board, and City Council the designers developed the programming elements for the park. The two alternative concepts developed take these program elements to the next step, integrating ideas and concepts into the site.

Program Element	Associated Parking	Parking Area @ 400 SF/Vehicle	Comments and Recommendations
Passive Recreation			
Picnic Areas	10 spaces per shelter, or minimum group area 2 cars per picnic table	4,000 SF	Group picnic (minimum 25 people) Family & individual picnicking
Lakefront Promenade	Shared with other use parking		Walkway adjacent to the beach that leads visitors to beach access points, the water walk and other view points. Enhances goose control
Forbes House Garden	Shared with multi-use playfield parking		Entry garden used for events as well as landscape feature. Consider historical context of the garden
Interpretive Trails, Signage, Shelters, & Wayfinding	Shared with other uses		Located in selected areas to present information about the environment that is being viewed
Active Recreation			



Program Element	Associated Parking	Parking Area @ 400 SF/Vehicle	Comments and Recommendations
Multi-use Playfield	20 to 60 vehicles if used concurrently with other recreational elements Could be shared use if scheduled properly	8,000-24,000 SF	Informal play lawn for various sports and activities, such as soccer, football, Frisbee, etc. Could be more than one playfield of varying size
Little League Baseball Field	62 spaces per field including 3 accessible spaces	24,800 SF	2 fields exist – consider relocating and improving fields, could reduce to one field, or could eliminate fields and use for other activities. Consider orientation of fields and facility location 205' foul lines, 215' center field, 50' to 60' infield Little league season is from March to mid June. Opportunity to share parking with swimming which starts mid June
Skate Park	Assume 20 vehicles	4,000 SF	Minimum the size (approximately 40FTx80FT) or up to 14,000 S.F. Should be more challenging than skate park at Peter Kirk. Provide good visibility and access. Consider other teen and young adult activities in area such as rock climbing, and space nets
Basketball Multi-Use Sport Court	10 spaces per court including a accessible space	4,000 SF per court	Consider ½ court and full court basketball. Potential multi-use sport court Badminton, pickle ball, basketball
Tennis Courts	3-4 spaces per court	1600 SF per court	Relocate tennis courts, resurface existing courts, or eliminate. Existing tennis court are lighted
Participatory Fountain Spray Park	Shared with other use parking		Consider location in association with playground, beach area or beach plaza area. Could be sculptural element of more of a package play feature
Water & Beach Related Recreation			
Day Use Moorage	Shared with other use parking		Consider use of portion of water walk for short-term day moorage if water depth is adequate. Locate floating docks on outside of water walk

Program Opportunities



Program Element	Associated Parking	Parking Area @ 400 SF/Vehicle	Comments and Recommendations
Hand Carry Boat Launch. Wind surf and kite board rigging & launching	Shared with other uses Parking 6 stalls	2,400 S.F.	Requires relatively close vehicle access to unload equipment and access to open water. Grass rigging areas desirable. Consider load and un-load zone for peak use
Small Boat Rental Facility (Canoe, Kayak, Paddle Boat, Sail Boats)	Assume 30 vehicle spaces including 3 accessible space	12,000 SF	Facility would require relatively close service access and a connection to open water. Parking figure assumes 40 boats. Enatai has 80 boats, all of which might be out at once on sunny day. Boathouse is 2400 square feet. Ideal facility would include 4-foot wide floating dock with finger piers for launch and return
Swimming Beach	50 SF of beach area and water area per person. 50 – 270 vehicles 6 vehicles	135' x 600' if 200 stall 81,000 S.F. 2400 SF Lifeguard house	Consider the "carrying capacity" of the area adjacent to the beach regarding the amount of parking that is appropriate for that park area. The existing parking lot holds approximately 200 vehicles. At 3 people per vehicle that equals 600 people (requiring 30,000 SF of beach area). The existing beach area is approximately 40,000 SF. Using the 50 SF/person standard, the existing beach can accommodate 800 people requiring approximately 270 parking spaces Consider options for swimming facilities. Existing formal swimming area is enclosed by water walk and protected by breakwater. Consider modification of pier to T pier, complete or partial removal of breakwater, lifeguard facilities, water depths, and dredging options See water quality section. Lake scientists indicate that with intervention water can be safe for swimming Men's and woman's restrooms, changing area, life guard office and first aid, indoor or outdoor shower, storage area, link to possible concession Life Guard Facilities
Outdoor Classroom	Shared with other use parking		Could be associated with a shelter, small-scale plaza, amphitheater, or open lawn area. Consider solar orientation
Group Gatherings and Events			
Entry Plaza or Promenade	Potential special events		Could also be used for farmer market or art market. Responds to urban edge of park. Olmsted promenade concept
Lakefront Plaza with Picnicking	Shared with other use parking		



Program Element	Associated Parking	Parking Area @ 400 SF/Vehicle	Comments and Recommendations
Farmer's Market Art Market Community Gathering Plaza Shared Venue	Shared with other use parking Special events demand		Consider impacts on adjacent areas and the need for supporting utilities. Scale of events and scheduling will define the need for parking above that already provided on site. Existing Farmers Market in Downtown Kirkland on Wednesdays May through October. Similar to Moss Bay events. Parking needs depend on scheduling
Bandstand, Amphitheater or Meadow with Power Supply	Shared with other use parking 50 stalls? Special events demand		Consider impacts on adjacent areas and the need for supporting utilities. Scale of events and scheduling will define the need for parking above that already provided on site
Garden for Weddings and Group Rentals (See revenue producing elements)	30-50 vehicles including 3 accessible spaces		100 to 150 capacity may be realistic given size of facility. Activity related to Community Pavilion
Forbes House as support facility for outdoor rental events (e.g. restrooms, changing, and setup)			
Community Pavilion	Assume (100 to 150) guests at an event – average of 3 people per vehicle. 30 –50 vehicles		Rental Facility for community meetings and programs. Weekday uses to complement weekend rentals for weddings banquets, and receptions. Could be at Forbes house, near Forbes house or by lake
Plaza / Garden Space	Shared use		Near Forbes house and / or by events rental element. Multi purpose plaza space. Creative focal point
Revenue Producing Elements			
Event Facility Rental	See Community Pavilion		Weddings Meetings Corporate Use at Forbes House or new facility
Commercial Recreation			Appropriate use and scale Boat rental Others?
Food/ Restaurant Concession			Trailer Pad Snack Bar Small Restaurant Range of scale
Entertainment Events			



MASTER PLAN ALTERNATIVES

Park Theme and Character Alternatives

The following themes and alternative characters were discussed in public meetings and at CAT meetings to help focus on the design of park. The designers and City staff considered a range of possibilities.

Landscape Alternatives Considered

- Wild landscape character
- Naturalistic landscape character
- Formal landscape character
- Open landscape character
- Park room concept – defined spaces
- Ecological landscape / edges / patterns/ diversity / corridors / structure

Architectural Alternatives Considered

Character

- Rustic architectural character
- Craftsmen architectural character
- Modern architectural character

Site Planning and Massing

- Building programs clustered
- Building organized around meadows or plazas
- Buildings tucked into landforms or vegetation edges

Experiential Quality Discussion

The discussion about the experiential quality of the park resulted a few different design ideas:

The park could be developed to define a consistent character that is homogeneous throughout, or alternatively a series of park rooms could be developed each with a different character, however the rooms would achieve unity by repeating materials and forms to tie the park together. In no case should the park be fragmented and chaotic.

Transitions in one alternative could lead the visitor through a series of spaces ranging from formal on the urban edge to wild along the stream or within the natural shoreline buffer.

Another alternative could provide a naturalistic feel immediately from the edge of the park creating a green oasis juxtaposed with the urban setting of the project.





Alternative Description

This table is provided to highlight differences between the two alternative designs to be presented at public meeting number three. Note that various elements can be selected from either alternative or recombined to create the preferred alternative design.

There are many elements common to both alternatives such as preserving and enhancing stream and lake buffers, water quality improvement measures, loop paths for strolling and interpretation, and passive recreation amenities.

Park Element	Alternative No. 1	Alternative No. 2
N. Side Parking	Parking south and east boarders	Parking north and east boarders
S. Side Parking	Arched parking lot. This allows for the retention of some of the trees along Juanita Drive	Parking located along Juanita Drive, parallel to the roadway. Most of the trees along Juanita Drive removed. Some could be saved in parking lot islands. Fingers of green extend from Juanita drive to the lake
Community Events Plaza	Located along 97 th Ave. Promenade leading from village to Juanita Drive	Located along shoreline as part of waterfront promenade. Provide service access from parking lot
Community Commons W/ Amphitheater	Small scale amphitheater (120' x 60') centrally located along shore. Minimize or omit bandstand	Larger amphitheater 200' x 175') centrally located along shore
Multi-use Playfield	Locate north toward northern property line. Provide minimum 15' buffer	Locate south toward Juanita Drive and southern property line
Skate Park	Locate adjacent to tennis court. Note that this will be close to parking located along Juanita Drive	Locate east of multi-use playfield near entry plaza.
Restroom	Combine with boathouse & Bathhouse on west side of park shoreline near stream buffer	Central location between bathhouse and amphitheater
Boathouse	Boathouse provided, include kiosk on dock for life jacket and sales	No Boathouse provided
Waterfront Promenade	The promenade has a more sinuous or meandering form	The promenade is simpler in form allowing for integration of community gathering plaza



Public Reaction to the Master Plan Alternatives

At public meeting number three, where the alternatives were presented to the public, the general consensus was that the design for the northern park section from Option 2 was preferred and the southern park section from Option 1 was preferred. See graphics attached.

Please refer to the Appendix for more specific meeting notes from each of the public meetings.



PREFERRED MASTER PLAN

Juanita Beach Park, a Green and Blue Oasis

Working collaboratively with the City and the public, the design team developed a Master Plan that will create a healthy place for the City with both passive and active recreational elements meeting the needs of the community and regional park users. Meeting the needs of diverse users, from people to fish, the new Juanita Beach Park is about putting smiles on the faces of children and adults. Lake and beach access, beach volleyball, multi-use recreational fields, picnic facilities, boating facilities, a skate park, and community activity areas will coalesce to create a special place for Kirkland residents. Juanita Beach Park will be a place where the community can come together to recreate and enjoy healthy and life-sustaining activities. (See Appendix, Figures - and - for Master Plan graphics.)

Park Theme and Character

Juanita Beach Park character is defined by the history of lakefront recreation within the region as well as the history of recreational use on the site. The Forbes House provides an important historic treasure for the park. This park history is complemented by the natural landscape that defines the edges of Juanita Creek and the trees and lawn that define the remainder of the park. The landscape patterns and Juanita Drive divide the park into a series of use areas and outdoor rooms that define distinctive areas of the park. The north area is defined by attractive tree plantings, lawn areas, play fields and the Juanita Creek natural area to the west. The southern park area is defined by trees and lawn, a large parking area, the beach and pier. The connection of Juanita Creek to Lake Washington is an important landscape element for the park.

The park is developed to present a character that is consistent thematically throughout the park. The design is carefully integrated into the park's setting at Juanita Village to promote use and access, and compatibility with the park surroundings. Unity is achieved in design by repeating materials and forms that tie the park together. This is important to connect the park experience across Juanita Drive.

Architectural Character/ Site Planning and Massing

Buildings are developed with a craftsmen style architectural character that strongly ties to the parks natural landscape, open lawn character and the historic recreational use of the site. **The buildings are sited at the edges of the lawn and plaza areas to assist in defining the spaces.** The building scale and locations complements and reinforces the landscape character and provide focal points for park visitors. **Buildings are tucked into gentle landforms or vegetation edges.**

Plan Description

Juanita Beach Park is a unique mix of landscapes, open space and recreational opportunities within a rapidly growing area of Kirkland. The park provides open lawns for organized and informal games, natural landscapes that define the course of the Juanita Creek as it meanders through the park and access to the Lake Washington waterfront. The park has two distinct characters. It is an urban park, providing open space and amenities for the urban land uses on the west, north and east of the park. It is a natural park providing lakefront access and opportunities to experience the natural landscapes along Juanita Creek.

Juanita Drive defines two sections of the park. The north section provides the urban amenities for Juanita Village and other surrounding residential areas. Along NE 97th Ave. park visitors can stroll along a wide sidewalk or promenade defined by a double row of street trees. This urban space provides opportunities to sit, read the paper and on weekends attend a Saturday market. A paved area to the west of NE 97th



Ave. provides parking for the ball fields, tennis courts and soccer green to the west. When appropriate the market functions can expand into the parking area. A picnic shelter, play ground, restroom and skate park enrich the plaza space located between the ball fields and parking. The Forbes House provides a focal point for public and private functions. The Historic residence provides space for park offices, meetings, family reunions, and weddings. The entry garden and small orchard provide outdoor rooms for events and celebrate the historic character of the house. Overflow parking is provided at the north edge of the park. This parking area provides parking for Forbes House activities as well as additional parking for baseball and soccer games. It will be constructed with a grass pave material that will provide a green turf surface and permeable paving. This will minimize the impact to surface water resources while providing a functional and aesthetically pleasing character.

The skate park plaza provides an important focal point and park entry gateway at the northwest corner of the NE 97th Ave. and Juanita Drive intersection. The skate park plaza provides color and activity that greet park visitors as they enter the park from the corner. Consideration should be given to lighting the skate park to extend the hours of use into the evening. From this area park visitors are linked to other areas in the north section of the park. The skate park plaza also provides a strong tie to the pedestrian crosswalk and plaza on the south side of Juanita Drive.

Another pedestrian cross walk occurs in the center of the park. This crossing is marked by rows of trees that define the crossing and adjacent open spaces.

The southern section of the park is dominated by the large lawns defined by trees, beach and pier that provide park visitor with waterfront access. Pedestrian paths connection the two sections of park pass through a series of landscapes as the visitors proceed to the beach. The first is a transitional landscape on the south side of Juanita Drive. This landscape provides a buffer between the Juanita Drive and park areas to the south as well as framing views of the park and lake for travelers on Juanita Drive. The parking area is the next area encountered. Within this area the majority of parking for the beach is located. The parking area is diversified by biofiltration / raingarden areas and tree stands. Pedestrian ways through the parking area are strongly defined with paving patterns and landscape elements to announce the crossing points to drivers and pedestrians. Consideration should be given to the use of permeable pavers to minimize the impact to surface water resources and to reduce costs for stormwater treatment facilities.

The lawn landscape is the next area the visitor passes through. Three lawn areas providing a striking series of landscape experiences. A central lawn area, defined by gentle landforms and formal rows of trees, provides an amphitheater for small scale performances. Within this area families could picnic on the lawn while watching the performances with the Lake providing a beautiful backdrop to the plaza “stage” area. The lawn areas to the west and east of the central space provide picnic and informal play opportunities within the lawn and scattered shade tree setting. Picnic shelters are located within each of these lawn areas.

The beach is the next area the visitor encounters. This area is defined by the lakefront promenade on its upland edge. The expansive beach area is softened by informal stands of trees which ad salmon habitat and aesthetic value. The trees in addition defining the beach areas provide shade and informal play spaces. The lakefront promenade connects the east and west edges of the beach as well as providing access to the two entries to the pier. The restroom / concession building are located adjacent to the western end of the lakefront promenade. This facility provides beach amenities as well as a food concession for the beach and lawn areas. A playground is to the east of this building. The pier provides park visitors with opportunities to get out over the lake, to fish, to dock a boat as well as rent a canoe or kayak.



Another unique park area is the area on the west side of Juanita Creek. This area provides space for additional water quality treatment for stream flows as well as interpretive trails through this natural area.

Entry Signage and Gate

A City of Kirkland Parks entry sign and lockable entry gate will be provided at all four parking lot entries. Accent plantings are provided to highlight the park entries.

Drop Off Area / Entry Plaza

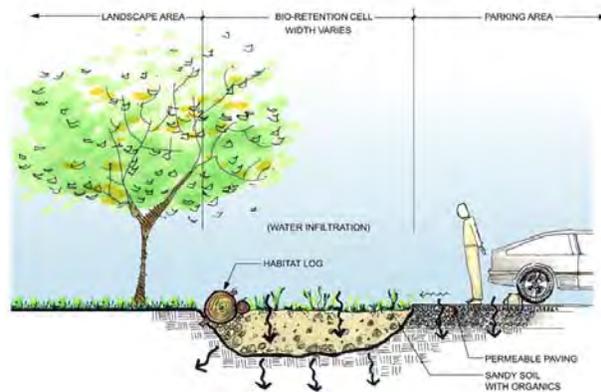
Two entry plaza/ drop-off areas are provided on the south side of the park. A drop off area is provided near the south entry of the park to allow for convenient drop off of park users and providing a minimum of traffic conflict through the use of a circular turn-around. The turn-around is 24 feet wide and is defined by an attractive landscaped island. Three short term load and unload parking spaces are provided at the east end of the parking lot, and five are located at the west end of the parking lot.

Parking Lot

The site, with its gentle slopes can easily accommodate parking facilities. Important considerations will be:

1. Minimization of impervious surfaces
2. The development of efficient site access to both the north and south portions of the site
3. Optimizing the elevation difference between the parking surfaces and the water quality facilities so that storm water management options are available.
4. Saving existing trees, particularly between the parking lot and Juanita Drive.
5. Soften parking with tree and shrub plantings.
6. Create strong pedestrian crossings through parking lots.
7. Provide efficient drop-off areas to avoid congestion.
8. Provide ADA and short term parking.

Consideration should be given to providing some or all of the parking on permeable paving. Poured in place permeable concrete paving is available from specialty contractors. The installed price of this material is three to four times more expensive than asphalt but it allows infiltration of storm water that will reduce storm water treatment and detention costs. Permeable concrete unit pavers are also available for four to five times the cost of asphalt. This material has a superior appearance and is readily available. Pervious asphalt paving could be considered for use on paths or parking lot pavement. Issues and concerns relating to pervious asphalt pavement include clogging and wear issues, in addition to an increase in cost compared to conventional asphalt paving. Further analysis of these options will be made as the design moves ahead. Pervious grass pavement is proposed for the overflow parking along the northern perimeter of the park. It would be advantageous to design the parking to allow decentralized water quality treatment facilities.



Low Impact Design: Parking lot with permeable paving and rain gardens.



Rain gardens should be considered for integration into the parking lot design. These could be located to the east of the village lot and they could be integrated into the central planting strip of the south parking lot.

Parking for a total of 350 cars is provided. 270 stalls exist now. Of the 350 proposed stalls 125 spaces are proposed for the north portion of the park and 225 spaces are proposed on the south or waterfront portion of the park. Assuming 2% of the parking spaces are ADA accessible parking a total of 7 ADA spaces are provided.

Emergency Vehicle Access

Emergency Vehicle access is provided to the parking lots and to the beach area. The service access near the bathhouse is designed with removable bollards that all access to the beach area. A hammerhead turn around constructed with grass pave or unit pavers is provided near the beach.

Park and Recreation Elements

Swimming Beach

The large sandy swimming beach that exists on the shoreline will be maintained and enhanced. The beach offers opportunities for sunning, picnicking, and sand castle building. Life guard viewing areas will also be developed on the beach and walking pier as required. Water depths within the swimming area are very shallow with summer depths ranging from 1 to 5 feet in depth. No diving will be allowed from the pier. The swimming beach has always been very shallow and is perfect for water play for younger swimmers, and stronger swimmers who don't mind the shallow water. Consideration could be given to providing a float line to delineate water play and lap swimming areas.

See the water quality section for recommendations for improving water quality.

Community Commons

The Community Commons offers a flexible lawn area that provides an informal passive recreational feature as well as a place for community oriented entertainment including moderate to small scaled music events, and movies in the park or other community events. It will also make a great place to gather on the 4th of July. A small informal stage area is provided along the Lakefront Promenade which also serves as an informal gathering and picnic area when not used for events.

Lakefront Promenade

The Lakefront Promenade makes a great place to stroll with opportunities to socialize and enjoy views toward the lake and park areas. Low concrete seating walls provide opportunities for resting, sunning, and also limit geese access to the lawn areas. Easy access from the lawn areas to the beach are provided across the promenade. Art elements could be incorporated into the seat walls or paving to explore the history of the site, water quality improvement and issues, or other interpretive topics. Integrated into the dock entry plaza on the east end of the promenade is a water channel feature that interprets the function of the rain garden and the cleaning of water flows before they enter the lake.

Children's Playgrounds

Playgrounds are provided in the north and south portions of the park. The southern playground space is located between the Bathhouse and the Picnic shelter to create a strong connection between the picnic shelter and the playground. Families will be able to use the picnic shelter while children are able to enjoy the Playground.



The northern play area is located between the picnic shelter and the restroom. Parents will be able to sit near the playground or at the picnic shelter and watch their children. This smaller play area will serve younger children in groups or families utilizing the multi-use playfield. The play areas will be ADA accessible with a ramp located off the plaza to accommodate wheel chair access. Encompassing the Playground is a walk that contains the wood chips. At either end of the play area picnic tables are located on widened portions of the walk to create a small gathering space and seating area for adults to monitor the children at play. Placement of play structures will comply with ASTM Playground Safety Guidelines. The play surface will be a wood chip material set at a depth of 12" and compacted in place to provide ADA access. Location of structures will provide for good site lines to the play area for parental monitoring of children.

Playstructure Ages 2-5

Play ground structure that will accommodate ages 2-5. The play elements will be appropriate for children of this age.

Playground Ages 5-12

Play ground structure that will accommodate ages 5-12. The play elements will be appropriate for children of this age.

Consideration could be given to a young teen climbing structure to cater to an age group that is often missed in recreation other than organized activities.

Playground Elements and Issues

- Seating for parents/guardians
- Pre-teen climbing structure
- Older children's play structure
- Tot lot
- Curb walls
- Play surface
- Provide ample room for fall zones
- Drainage
- Geo-fabric

Juanita Beach Park Path System

The park's Path system will provide recreation opportunities for strollers, and joggers. One trail will loop around the multi-use playfield. Distance markers for walking and jogging reference would be placed along the loop paths. Generally all on site trails will be handicapped accessible. Another series of loops are provided on the south side of the park that includes the water walk pier. Pedestrian entries are designed to encourage efficient and attractive access to reduce parking demands.

The IAC contributed to the federal Architectural and Transportation Barriers Compliance Board's (Access Board) report on the minimum guidelines for picnic and camping areas, beaches and trails. The new ADA Accessibility rule was due out in late 2004 and was intended to apply to federal agencies only. These guidelines are the most current available, and should be followed during the detailed design of the trails and park facilities, to assure that ADA accessibility is incorporated to the maximum extent possible. A final report is available from the Access Board's web site: <http://www.accessboard.gov/>.

Drinking fountains will be located at several key places in the park. Locations include restrooms, playgrounds, ball fields, skate park, bathhouse and picnic shelters.



Educational Opportunities

Incorporated into the Juanita Creek streamside and lakeside buffers are educational opportunities for the general community, in addition to area schools. Passive park areas such as interpretive viewpoints, an interpretive pavilion and boardwalk crossing the water quality treatment / flood zone wetland, riparian enhancement areas, stream enhancement areas, rain gardens, and a potential backyard wildlife display area, and a potential historical display at the Forbes House Garden can serve as a part of an educational resource for the community.

Potential Interpretive Themes:

Riparian and salmon habitat

- Site & community history
- Ethno-botany
- Backyard wildlife
- Salmon habitat
- Innovative use of stormwater
- Stormwater treatment/ water quality

Architectural Elements

This study team concurs with the conclusions of the 1970 Recreational Master Plan, 1987 Master Plan Report, and 1999 Site Inventory & Analysis Report. All three of these documents assessed the condition of the existing structures in the Park and recommended that, with the exception of the historically-significant Forbes House and the repairable pier, none of the existing structures were worth repairing and retaining. Most, like the bath house, restroom building and picnic shelters, were so deteriorated that it would be more cost-effective to accommodate their functions in new structures. Others, like the district maintenance building and the small out-buildings next to the Forbes house, should be removed and not replaced on this site at all.

Bathhouse

The bath house represents a building type that was appropriate in the past when it made economic sense for a Parks Department to staff locker and towel concessions for public bath houses at swimming beaches. Bath houses are seldom included now when swimming beaches are developed unless the number of users is substantially higher than is likely at Juanita Beach. Swimmers can change into swimsuits in changing areas in adjacent restrooms and are more likely for security purposes to bring clothes and valuables down to the beach rather than to leave them in self-lock lockers in a changing area. For this reason changing areas and lockers have been limited in the design.

Restrooms

New restrooms can take advantage of vandal-resistant and easy-to-maintain materials such as polycarbonate interior wall cladding, stainless steel plumbing fixtures and casework cladding and solid polyethylene toilet partitions. Full skid-resistant tile floors can provide a good-quality floor finish. Building shell materials such as concrete masonry unit walls, steel doors and steel roofs with polycarbonate-glazed skylights can provide attractive, low-maintenance toilet and changing facilities. Prior planning documents recommended building one new toilet building on each side of the park and providing room for changing in the building on the south near the beach.



For purposes of the current Master Plan effort, we have developed a schematic design for a restroom prototype that will have four toilets and three lavatories on the women's side and three toilets, two urinals and three lavatories on the Men's side. The toilet building near the beach will have a 200 s.f. space for dressing and will also have 15-20 lockable lockers with free-standing benches on each side of the toilet Room.

Food Concessions in Juanita Park

The possibility of small-scale concessions in the Park has been brought up many times in past reports and in public meetings conducted by the current design team. Several King County Parks and some North West municipal parks rent space to food concessions. These food service operations tend to be small, locally-owned takeout food businesses although King County has had excellent experience renting space to national chains selling fast but relatively-healthy food in Park's' recreational buildings. The restroom building near the beachfront will have about 340 S.F. as a leasable concession area.

Lifeguard Office

A 240 S.F. lifeguard office is provided in the bathhouse building.

Non Motorized Boat Rental Facility

The specific program and design for the small boat rental facility will need to be determined once a lessee has been identified. The schematic plan shows 432 S.F. for office and storage. The design program has mentioned storage buildings for rental kayaks or rowing shells. A small-scale boat rental business could be operated from a building of 850 S.F. This floor area would allow for a 100 S.F. rental office plus a 700 S.F. boat storage room opening to a garage door on a sidewall. An additional 50 S.F. would provide space for a small mechanical/utility room. Architecturally the boat rental building could either be part of the Bathhouse or could be a free-standing building with materials, colors and details similar to the other new buildings on the site.

A kiosk is also proposed on the pier for staffing on the dock. The kiosk would provide storage or life jackets and paddles as well as a cashier function. A 120' x 24' float and two finger floats are provided off of the water walk. A gangway will provide access to the float. Grated decking should be used for improved light penetration to minimize impacts to salmonids. Consideration should be given to installing a mooring anchor and float within the DNR lease area for winter moorage of the float. This would reduce maintenance costs due to damage from winter storms.

Hand Carry Boat Launch

A hand carry boat launch is provided west of the water walk near the stream delta. This will allow easy water access for small boats in an area of the beach outside of the enclosed swimming area. Access is provided from the west end of the parking lot. Boats, windsurfers, and kite boards will need to be carried approximately 400 feet from the end of the parking lot. 5 load and unload short term parking spaces are provided in this area. Boating in Juanita Bay is anticipated to be attractive to many users and some visitors may paddle toward Juanita Bay Park. Educational signage should be provided to minimize the impact of boaters on wildlife habitat. Buoys or logs with signage could be used to identify sensitive areas that are off limit to boaters.



Day Use Motorized Boat Moorage

Short stay day use moorage is provided outside of the water walk to allow boat access to the park. A gangway and concrete floats are provided for boat slips. Water in this area is approximately 5 feet deep in the summer. Grated decking should be used for improved light penetration to minimize impacts to salmonids. Consideration should be given to installing a mooring anchor and float within the DNR lease area for winter moorage of the float. This would reduce maintenance costs due to damage from winter storms.

Boating Mitigation Plan Required

The Juanita Beach Park Master Plan includes several new opportunities for boating on Lake Washington, as described above. However, these boating opportunities can only occur if wildlife habitat areas in and around nearby Juanita Bay Park are protected. Establishment of the non-motorized boat rental facility, hand carry boat launch, or day-use motorized boat moorage is contingent upon the implementation of a City Council-approved boating mitigation plan which describes in detail how wildlife habitat areas will be protected from intrusion by both motorized and non-motorized watercraft. The mitigation plan should detail the effective strategies to be implemented, which may include use of appropriate physical barriers and signage, establishment of rules and enforcement, seasonal restrictions, and boater education (especially to non-motorized boat renters). The mitigation plan will be developed in consultation with groups and agencies such as the State Department of Fish and Wildlife, King County Marine Patrol, East Lake Washington Audubon Society, Juanita Bay Park volunteer park rangers, and others as necessary.

Picnic Shelters

New picnic shelters should to accommodate groups of varying sizes. Prior master plans recommended building two small and one large shelter south of Juanita Drive and two small shelters north of the Drive. This recommendation seems to reflect current trends in park use, with most picnic groups being 4-8 and a few being 16 or more. Each shelter will be able to accommodate 20-40 people.

The Forbes House

This house and its site have been nominated as a historic property by the City. Its significance as a pioneer farmhouse and the prominence of the Forbes family in the development of early Kirkland has earned the house a permanent position in the Park. During the planning process, the issue as to whether the House could be moved slightly to a better location for planning and site-use purposes came up. The national standard for historic property preservation dictates that the only justification for moving a historic structure is if the building's existence is threatened and moving it is the only way to save it. This is not the case with the Forbes House, so the Master Plan team is recommending that the House stays where it is. The historic designation report by Mimi Sheridan recommends that work be done to the interior and exterior of the house, as well as site improvements. The historic designation report by Mimi Sheridan recommends that the following work be done to the House's exterior:

- Remove the west carport roof and ramp and patch wall at carport attachment.
- Restore deteriorated porch, stairs, trim, siding, windows and doors.
- Replace roof with historically-accurate wood shingles treated for fire resistance
- Repair chimney and foundation to original design.

In addition to the above historic restoration effort, this Master Plan team has recommended restoring the Forbes House's surrounding site to enhance its attractiveness as a rental facility for special events. The Historic residence provides space for park offices, meetings, family reunions, and weddings. Historic photos of the site show a substantial fruit tree orchard north and west of the house and gardens to the north and east of the House. The recommended site improvements for the Forbes House are:



- Replant a portion of the orchard and restore flower and food gardens to the north and east to enhance the historic setting for the House.
- Develop parking lots or landscaped aprons to the east to accommodate rental uses. If the house can accommodate up to 99 people, parking should be provided for 30-40 cars.
- Given the relatively hard, urban edge on the east edge of the site on 97th Avenue, the east edge of the Forbes House site on 97th might be enhanced with heavier, vertical plantings or arbors to reinforce this edge and to define a break between the street scale and this historic farm house property.

Proposed interior work:

- Remove interior walls as needed to provide meeting space for up to 99 people.
- Refit kitchen as a catering-style kitchen with room for warming and cooling modules. Replace sink and cabinets as needed.
- Refit bathroom to ADA standards with attention to historic appropriateness.
- Refit bedrooms and basement spaces as appropriate for rental functions.
- Refit/replace building structural, mechanical, electrical and plumbing systems as needed.
- Paint and patch all interior surfaces per needs of rental function.

If the House's exterior shell were restored and its interior were reconfigured to accommodate a larger variety of rental uses, the House could become a revenue-producer for the Parks Department. Another opportunity to tell the Forbes House story could be satisfied by the installation of interpretive panels detailing the house's history and the significance of the Forbes family in the development of Juanita Beach. These panels could be displayed near approaches to the house on posts and could also be mounted in old-style frames on the interior as pictures would have been hung.

Active Recreation Components

1. Providing soccer and little league is a component of the project.
2. All fields should serve the same level of competition.
3. Park to include two Little League baseball fields
4. Construction of one multi-use playfield that can be used for multiple sports activities.
5. The fields are to be natural turf; synthetic turf options were not considered.
6. It is assumed that no lighting will be provided for the fields.

The Master Plan shows a multi-use field that could be marked as required to accommodate a 250' x 150' soccer field and two little league fields with 200' foul lines.



Fencing

Fencing is recommended for each of the little league fields. Backstop fencing will be included and this fence will extend down each foul line past 1st and 3rd bases to the end of the dugout or to the edge of the outfield. The recommended height of this fence at the backstop is 30 ft and can be a combination of chain link fence and nylon netting. Outfield fences are optional and if provided would need to be portable so that fencing could be removed and stored during soccer season since the fields overlap.

Lighting

Lighting is proposed for Tennis Courts, Skate Park, Bathhouse, Parking Lots, and on the dock. Lighting should be low level, with attractive fixtures that fit the character of the park and Juanita Village.

Basketball Court

A basketball court is provided for use by children and adults in the community, and is proposed for location at the west end of the south parking lot. Basketball backstops are provided within the parking lot to reduce the amount of impervious paving and can be used during the fall, winter and spring when swimming is closed. This location will allow use during non-peak park use periods, when the parking lot is not fully occupied.

Skate Park

The skate park is 10,000 S.F. in area and includes street skating and bowl skating opportunities. The details of the design should be developed with a specialist in skate park design and with input from user groups. Consideration should be given to lighting the park to extend the hours of use. Seating walls and bollards are used to control access to the skate park and to create a safe park environment.

Beach Volleyball

Two sand volleyball courts are provided with nets and boundary lines. Safe clear areas are also provided.

Tennis Courts

The two existing tennis courts are maintained in their current location. It is anticipated that the courts will need re-surfacing in the future. Consideration should be given to upgrading the lighting in future phases.

Public Art

Public art will be incorporated into the Park design. A collaborative effort between the Cultural Council, artist, the design team, and the community will help to create lasting art focal points to explore history and culture and provide a sense of ownership to the neighborhood.



Natural Systems Enhancement Opportunities

The greatest opportunities for natural systems enhancement include:

Juanita Creek Flood Zone Water Quality Enhancement

Recommendations

1. Restoration of natural bay circulation and wave energy to the swimming beach will improve water quality, sediment quality, and reduce deposition of sediment along the park shoreline. It will also allow fish passage along the shoreline. This can most easily be accomplished by removal of all of the planking and baffles on the existing circular pier structure. Beyond removal of planking/baffles, raising a portion of the pier up in an arch to allow more wave energy into the swimming area (and potentially small boats) would further increase circulation. Dredging may be necessary to prevent a slug of sediment being transported from the delta to the swim beach and further eastward. It may also be expeditious to dredge material from the swim beach area to reduce the time for recovery of the beach to a more natural condition. . Though the sediments from the delta and swim beach will naturally erode and move along the shoreline once circulation and wave energy are restored, the period for recovery could be lengthy.
2. Restoration of the creek riparian zone and creation of floodplain habitats will improve water quality, sediment quality and sediment loading to the lake, and significantly improve fish and wildlife habitats. (A) Recommend an average 75 foot wide buffer on both banks to meet City of Kirkland requirements and provide significant habitat benefits. (B) Excavate an overflow channel and floodplain in upper area of park (downstream of pedestrian bridge on right bank) through blackberry dominated site and revegetate with native trees and shrubs (cedar, hemlock, big leaf maple, crabapple, willow, salmonberry, twinberry, spirea, etc.). (C) Excavate floodplain in lower area of park (right bank across from existing maintenance building) and revegetate entire area with native trees, shrubs, and emergent vegetation (cedar, cottonwood, alder, crabapple, serviceberry, mock orange, willow, twinberry, red elderberry, sedges, etc.). (D) Remove maintenance building and revegetate as riparian/floodplain area. (E) Restore the shoreline between north pier and creek mouth to natural wetland and riparian area (willows, cattails, sedges, cottonwood, cedar).
3. Sediment and bacteria control can be further enhanced by installation of a sand filtration system under the parking area to collect high flows. After filtration, the water can be returned to Juanita Creek.
4. Reduce runoff of fecal material from the park by creating a grassy swale to intercept overland flows and filter flow to discharge at east end of property, create a visual barrier between the water and the lawns by a raised walkway with shrub plantings to reduce geese and waterfowl numbers.

Riparian Buffer Enhancement

Existing scientific studies show 25- to 300-foot minimum buffer widths are necessary to provide bank stabilization, sediment, nutrient and pollutant removal, and habitat functions.^{1,2,3}

Based on site visits, areas with the greatest opportunities for stream or riparian buffer enhancement include:

- Riparian vegetation enhancement at the northwest end of the park, including removal of Himalayan blackberry and English ivy (*Hedera helix*).



Dense riparian plantings will be provided along the creek for shade, to provide cover and food, and limit access by dogs and humans. Pine rail fences could be provided at the edge of the riparian buffer in high use areas to control access. Viewpoints are provided at strategic locations to allow viewing of the stream and ponds. Railings or pine rail fencing will be provided at viewpoints to limit access. Interpretive signage is included a key view point for public education and enjoyment.

Opportunities for enhancement of Juanita Creek as it flows through Juanita Beach Park are numerous. The recent Stream Inventory Report prepared by Parametrix (2004) identifies numerous opportunities to restore and enhance the creeks. Some key opportunities include:

- Control upstream sedimentation inputs to moderate sedimentation within the creek channel.
- Remove the failed bank armoring and replace with bio-engineered approaches to channel stabilization.
- Remove invasive species within the stream buffer.
- Establish a wider buffer for the creek by planting native species within the 75-foot buffer.
- Develop trails in the outer 50% of the buffer to allow some human access along the creek, but minimize uncontrolled access to the creek banks.
- Relocate buildings currently located within the 75-foot creek buffer to outside the creek buffer.

Wetlands

Opportunities for enhancement of the wetlands adjacent to Juanita Creek in Juanita Beach Park include:

- Restore and enhance vegetation within the wetlands by planting native wetland species.
- Diversify the vegetation structure and species by planting a mixture of trees, shrubs, and herbaceous species.
- Remove invasive species within the wetlands.
- Establish a wider buffer for the wetlands by planting native species within the 100-foot buffer.
- Relocate buildings currently located within the 100-foot wetland buffer to outside the wetland buffer.
- Develop trails in the outer 50% of the buffer to allow some human access along the wetlands and creek, but minimize uncontrolled access to the creek banks.

Park Planting

Existing vegetation along the stream and throughout the park will be maintained and enhanced to provide a natural character of the park. Some of the existing trees will need to be removed however, many of these trees are old and in declining health. New Plantings will be utilized to highlight entry areas, define different rooms, offer shade, increase opportunities for habitat enhancement, and provide an enhanced park experience. Trees will be selected that are rich in texture and provide vibrant fall color. Concerns of safety and ensuring views into the Park will limit shrub plantings. Strategically locating and appropriate selection of shrubs will provide for safe site lines into the Park and buffer perimeters and parking lots. All newly created planting areas will be mulched. Trees should be selected to minimize the impact to view especially from the condominiums to the east of the park near the lake.

Awareness to maintenance requirements for the Park should assist with decisions being made about the selection of tree species. Input from Maintenance crews should be taken into consideration when defining tree types to be used on site.



Playfield lawn areas will be prepped for appropriate play surface; seed mix for the playfield area should be a suitable seed mix for the anticipated type of activity that will be taking place on the playfield areas, i.e. soccer, football, baseball such as a Perennial Rye Grass mix.

Some meadow areas could be planted with a seed mix that is more drought tolerant and would require less water application. Eco-turf could be used as a drought tolerant seed mix. Potential to seed less actively used areas with wildflower seed mix could add interest and beauty as well offer a playful meadow landscape for children.

Landform Development and Soil Preparation

Landform development is proposed for drainage improvement of very level grass areas, definition of outdoor spaces, and improvement of soils to support a healthy plant community.

Proposed Soil Improvements

A minimum soil replacement depth of four inches of topsoil is recommended.

Mulch

Chip on site material for stream, forest and buffer planting area mulching as available. Utilize bark mulch for the remainder of planting areas, spreading bark throughout the entire planting bed. In areas where trees are planted within meadow or grass areas, place a three-foot circle of mulch around each individual tree. Mulch is important for its moisture-holding capacity, which is a critical element for plant survival through the dry summer months. Mulch also reduces maintenance requirements and keeps grass from competing with plants for water and soil nutrients.

Stormwater Management and Drainage

Water Quantity

It is assumed that stormwater detention will not be required for the parking area(s) south of Juanita Drive since discharge will be directly to Lake Washington. Use of low impact design methods will be maximized in the design of these parking facilities for management of peak flows. The underlying soils south of Juanita Drive may not have the capacity to infiltrate during more extreme events, and if this is the case, excess flows from the parking areas will be directed into the swale running adjacent to the parking areas. The swale will convey excess flows to the lake.

North of Juanita Drive detention may be required for the proposed parking areas due the fact that any proposed outfall would be outlet directly to Juanita Creek. If runoff from new parking areas is conveyed directly to Juanita Creek, detention will likely be required. Similar to the case for the parking areas south of Juanita Drive, the use of low impact design methods will be maximized in the design of these parking facilities for management of peak flows. It is expected that the soil texture north of Juanita Drive is more conducive to infiltration and it may be possible to manage runoff from the parking areas without requiring detention. However, in the event that detention is required it is assumed that it will be provided in underground detention vaults and that Level 2 flow control will be required as per King County Surface Water Design Manual (King County 1998), the design manual currently used by the City.



Water Quality

Water quality facilities for parking areas will need to treat sediment, hydrocarbons, and heavy metals. Water quality facilities may not be required for playfields if runoff is infiltrated and there is no surface discharge. If infiltration is not possible water quality requirements will apply. Treatment would need to respond to nutrient loading and organic chemical components of other materials used in playfield maintenance.

Low Impact Design (LID) methods could be used to infiltrate runoff in rain gardens in each of the parking lots. Infiltration is considered to be the most naturalistic and most effective mechanism for management of peak flows. Infiltration can also provide significant water quality benefits and can greatly reduce construction costs by eliminating or minimizing pipe networks.

Water quality requirements for the fertilizers used on the playfields could likely be met if a minimum 18-inch sand layer is used for the subgrade?

Utilities

Irrigation

Irrigation of the park is proposed through the Park.

- Irrigated turf for play areas: full head to head automatic irrigation
- Irrigation Equipment:
- Rainbird /Hunter / Toro
- Provide CCU computer link
- Rain sensor
- Per United Pipe

Sanitary Sewer Systems

Provide sewer connection for the bathhouse and the restroom north of Juanita Drive.

Power Supply

Provide upgraded power supply to all park buildings and for site lighting. Power will also be provided for the stage area at the Community Commons.



PHASING PLAN AND COST ESTIMATE

The total anticipated cost for the development of Juanita Beach Park is \$15 million dollars (2005).

A general phasing strategy will be developed before the end of 2005. As funding becomes available the subsequent phases will be further defined to fit the available budgets and community priorities.

See Appendix for the Master Plan Cost Estimate



REGULATORY IMPLICATIONS

Wetland, lake, stream and upland habitats are regulated by state, federal, and local agencies. Some of the key agencies that will have review and approval of proposed master plan activities at Juanita Beach Park are summarized below.

US Army Corps of Engineers

The US Army Corps of Engineers (USACE) regulates fill or discharge into the waters of the United States through the Clean Water Act (CWA) Section 404 regulatory program and Section 10 of the Rivers and Harbors Act. Activities involving up to 0.5-acre of aquatic impact would likely require a Section 404 Nationwide Permit (NWP) and impacts over 0.5-acres would likely require an Individual Permit (IP) from the Corps. The NWP program allows for activities in wetlands under a program of various permits tailored to specific types of projects. NWPs each have unique criteria for their use and specific requirements. NWPs are applied for through the submittal of a Joint Aquatic Resource Permit Application (JARPA). IPs are discretionary permits that involve an alternatives analysis and public review and comment.

For projects where there is a CWA permit from the USACE, the USACE is typically the lead agency for coordinating consultation to determine a project's compliance with the Endangered Species Act (ESA) Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This consultation is conducted with NOAA Fisheries and/or the US Fish and Wildlife Service (USFWS) through review of a Biological Assessment/Biological Evaluation.

NOAA Fisheries

NOAA Fisheries is the federal agency that provides consultation for projects affecting federally-listed marine and anadromous species. They will review the project and the BA or BE and consult with the other federal agencies on the potential effects of the project on federally-listed marine and/or anadromous species. Per preliminary discussions with NOAA Fisheries regarding the Juanita Beach Park Master Plan, NOAA Fisheries indicated that there are restoration and enhancement activities that they strongly encourage to be implemented for projects along the shoreline of Lake Washington. These measures are aimed at improving the fish habitat along the shoreline, while accommodating human uses:

- Removing and/or minimizing bulkheads and breakwaters to the maximum extent feasible;
- Redesign bulkheads and breakwaters to include bioengineering techniques.
- Provide a shallow grade along the beach to dissipate wave energy at the shore.
- Provide overhanging vegetation along a minimum of 50% of the shoreline. Overhanging vegetation should include a mixture of conifers, deciduous, and typically willow species.
- Plant emergent vegetation along the shoreline.

USFWS

While NOAA Fisheries is the federal agency that provides consultation for projects affecting federally-listed marine and anadromous species, the USFWS provides consultation for projects affecting all other federally-listed species. They will review the project and the BA or BE and consult with the other federal agencies on the potential effects of the project on all non-marine and/or federally-listed species. USFWS will provide comment on habitat restoration and enhancements that are proposed in the project.

Department of Natural Resources and Environmental Protection Agency

The Department of Natural Resources (DNR) may have review, comment, and approval of activities entailing removal or disturbance of the substrate in the shoreline of Lake Washington at Juanita Beach Park. The extent of DNRs involvement in potential projects entailed in the Master Plan is still being



explored. The Environmental Protection Agency (EPA) will have review, comment, and approval of the project activities in Lake Washington under Section 303 of the Clean Water Act, specifically addressing water quality issues.

WDOE

The WDOE has review and approval authority for several federal, state, and local permits including Clean Water Act (CWA) Section 401 Water Quality Certification; CWA Section 402 National Pollutant Discharge Elimination System (NPDES) permits; Section 303 of the CWA; and Shoreline Development Permits under the Shoreline Management Act (SMA). WDOE may review the JARPA for the USACE permit submittal, although typically WDOE does not review or issue Section 401 Water Quality Certifications for projects with under 0.5 acres of impact to wetlands. WDOE administers the SMA and reviews permits issued under the each jurisdiction's Shoreline Management Program (SMP). The City of Kirkland has a SMP and will serve as the lead jurisdiction for issuance of any shoreline permits, while the WDOE will review any proposed permits. WDOE will also have administrative review of any State Environmental Policy Act (SEPA) permits that are issued by the City of Kirkland. Any projects with a ground disturbance of over 5 acres will require an NPDES permit from WDOE.

WDFW

The WDFW administers the State Hydraulic Code (75.20 RCW), which is intended to protect fish life and its supporting habitat. The WDFW issues Hydraulic Project Approvals (HPAs) for work within the ordinary high water mark (OHWM) or work landward of the OHWM that has direct impacts on fish or fish habitat. An HPA would be required for any proposed work within Juanita Creek and/or Lake Washington.

City of Kirkland

The City of Kirkland administers several codes and programs that would apply to activities affecting natural resources at Juanita Beach Park including the Kirkland Zoning Code (KZC), especially Chapter 90. Drainage Basins that addresses wetlands, streams, lakes and other water resources within the City; the Kirkland Municipal Code (KMC), especially Chapter 24.02 SEPA Procedures; and Chapter 24.04 Shoreline Master Program.

Juanita Creek is rated as a Type A stream by the KZC Chapter 90 due to the use of the creek by salmonid species. Required buffers on Type A streams within Primary Drainage Basins are a minimum of 75 feet wide per the KZC Chapter 90.90. The City requires a 10-foot building setback from the stream buffer (KZC 90.45 and 90.90). Under Chapter 90, the wetlands along Juanita Creek would be classified as Type 1 wetlands because the wetland is contiguous with Lake Washington and adjacent to Juanita Creek, both water bodies that provide habitat for federally-listed fish species. The wetlands are all located within a Primary Drainage Basin and therefore, buffers on the wetlands along Juanita Creek would be 100 feet wide per the KZC Chapter 90.45. As with Juanita Creek, a 10-foot building setback from the buffer is required.

Chapter 90 of the KZC details City requirements and opportunities for proposed development within these aquatic resources or their buffers. Minor improvements (likely including pedestrian trails, benches, and viewing areas) can be located within the outer 50% of the resource buffer so long as various criteria are met, including:

- a. It will not adversely affect water quality;
- b. It will not adversely affect fish, wildlife, or their habitat;
- c. It will not adversely affect drainage or storm water detention capabilities;
- d. It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and



- e. It will not be materially detrimental to any other property in the areas of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas.

Buffer reductions or averaging can also be requested and for Type 1 wetlands will be reviewed by the Hearing Examiner pursuant to Process IIA as required in KZC Chapter 150. Any proposed activities in the Type 1 wetlands would have additional requirements such as demonstrating that there is no feasible alternative to the proposed fill, limiting fill to less than five percent of the wetland area, and providing compensatory mitigation per Chapter 90.55.

The City of Kirkland's Shoreline Management Program (SMP) requirements will apply to the shoreline designated along Lake Washington. Currently, the shorelines within Juanita Beach Park are designated as "Urban Residential 1". However, under the state requirements for updating SMPs, the City of Kirkland is expected to begin updating its SMP in 2005 or 2006, including the classification of shoreline environment designations. This will provide the City with the opportunity to apply a new environmental designation to the shoreline of Lake Washington within Juanita Beach Park, and may thus affect management policies and regulations within the park. The most likely environmental designation for Juanita Beach Park under the new guidelines would be "Urban Conservancy."

Within environments designated as Urban Conservancy, development should have an overall goal of improving ecological functions while providing public recreational opportunities and access. Predicting specific zoning requirements under the Urban Conservancy or any other environmental designation is inherently speculative. However, development within the shoreline area would have some limitations under most foreseeable scenarios. Typically, existing buildings are allowed to remain with limitations on new development. The opportunities for habitat enhancement along Lake Washington and Juanita Creek are numerous and the project could propose reconstruction of existing buildings, some relocation of existing buildings, along with shoreline habitat enhancement as a way of addressing the public needs and the goals and requirements of the SMA and SMP.

The Master Plan has been developed consistent with the City of Kirkland's zoning and development regulations. The City will evaluate the implementation of this Master Plan for Critical Areas permits, as applicable. A master use permit may be necessary. Further review will be necessary as part of the permit process. (See Existing Conditions above for further discussion Fish and Wildlife permitting implications.)

National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) compliance will be completed in the next phase. Permit requirements for implementing the Juanita Beach Park Master Plan include the following:

The Joint Aquatic Resources Permits Application (JARPA) is used by US Army Corps of Engineers (ACOE) to coordinate the various federal, state and local jurisdiction permits that are required for work within aquatic areas and includes the below permit applications:

- ACOE Nation Wide Permit (NWP) or Individual Section 404 Permit
- Hydraulic Project Approval, issued by the Washington Department of Fish and Wildlife
- Section 401 Water Quality Certification. The Washington State Department of Ecology must determine whether a project complies with state water quality standards before the ACOE will issue a Section 401 certification
- Services Review under ESA. The information required for an ESA evaluation must be prepared in the form of a Biological Evaluation (BA)
- City Critical Area permit, if applicable.



Washington State Department of Natural Resources

The lease for aquatic land with the DNR will expire and will need to be re-negotiated. Consideration should be given to expanding the lease area to include winter moorage for floats. The DNR has indicated that the cost of the lease will be affected by the amount of fee collected by revenue producing elements.

Community Opportunities for Public Involvement in the Implementation of Restoration Projects

Collaboration with the following agencies or public groups is possible.

- WRIA 8 project coordination
- East Lake Audubon Society
- Salmon Watch stewards
- Neighborhood environmental stewardship groups

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MEMORANDUM

TO: Anneke Davis, City of Kirkland Public Works Department

FROM: Amy Summe

DATE: June 13, 2018

RE: **RESPONSE TO HEARING EXAMINER REQUEST REGARDING
JUANITA BEACH PARK HISTORY IN CONTEXT OF THE
JUANITA BEACH PARK MASTER PLAN**

During the May 30, 2018, public hearing, the Hearing Examiner was interesting in understanding the development of the site over time with respect to the Juanita Beach Park Master Plan. In partial response to that question, I have assembled the enclosed series of annotated aerial photographs provided by either the City of Kirkland or downloaded from Google Earth. The series of seven photographs starts in 2002, prior to development of the Juanita Beach Park Master Plan, and ends in 2017. Points of interest are noted on each of the photographs, and outlined below.

2002 Photo: In 2002, the City acquired Juanita Beach Park from King County and approved an ordinance that allowed for development, review, and approval of park master plans. The photo shows the park at the time of acquisition. The County's parks maintenance shop is visible at the north end of the park, just east of Juanita Creek. A picnic shelter is also present on the west side of Juanita Creek near the pedestrian stream crossing.

2004: Juanita Beach Park Master Plan development is initiated.

2005 Photo: The existing playground was expanded towards Juanita Creek.

2006: Juanita Beach Park Master Plan adopted.

Memorandum to: Anneke Davis
City of Kirkland Public Works Department
June 13, 2018
Page 2 of 2

SHANNON & WILSON, INC.

2007 Photo: King County's maintenance shop has been removed from the site.

2009: City approves implementation of Phase I of the Juanita Beach Park Master Plan.

2012 Photo: Implementation of Phase I of the Juanita Beach Park Master Plan is nearly complete in this photo, with all elements of the site improvement clearly visible: construction of oxbow marsh restoration complex, the concrete promenade, amphitheater, and green stormwater facilities, as well as enhancement of Wetland E and the shoreline.

2014 and 2015 Photos: These photos show the development over time of lawn area upland of the concrete promenade at the west end of the site. New picnic benches are also added.

2017 Photo: This recent photo shows the maturation of the Phase I restoration and enhancements.

AJS/ajs

Enc: Aerial Photograph Series



2002



Legend

- Address
 - Other Address
 - Current Address
 - Current ADU
 - Pending Address
- City Limits
- Grid
- QQ Grid
- Cross Kirkland Corridor
- Regional Rail Corridor
- Streets
- Parcels
- Place Names
- Buildings
- Schools
- Olympic Pipeline Corridor

1: 1,115

Nctes



NAD_1983_StatePlane_Washington_North_FIPS_4601_Feet

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2005 (prior to Juanita Beach Park Master Plan Development)



- Legend**
- Address
 - Other Address
 - Current Address
 - Current ADU
 - Pending Address
 - City Limits
 - Grid
 - QQ Grid
 - Cross Kirkland Corridor
 - Regional Rail Corridor
 - Streets
 - ▭ Parcels
 - Place Names
 - ▭ Buildings
 - ▭ Schools
 - Olympic Pipeline Corridor

1: 1,115

0.0 0 0.02 0.0 Miles

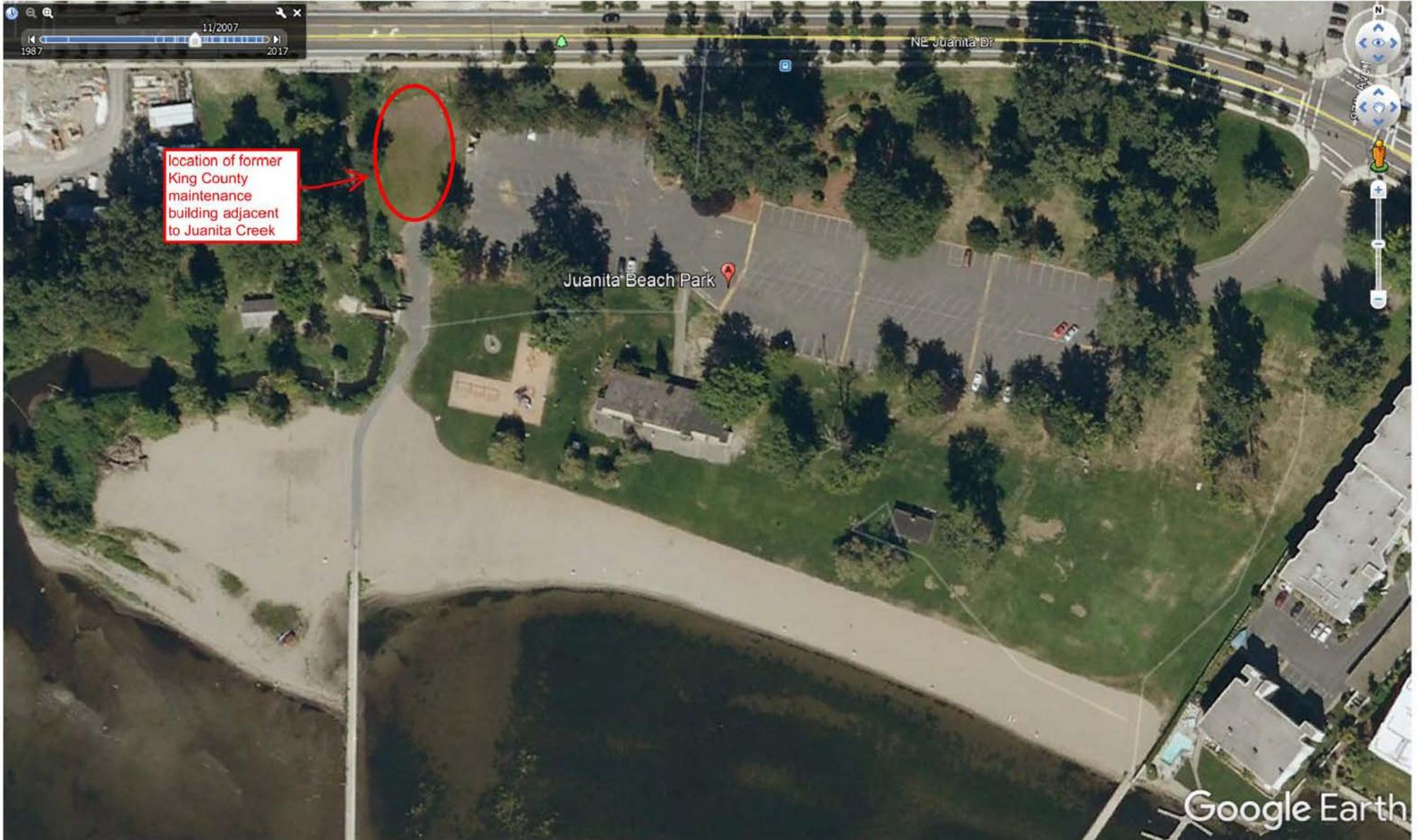
NAD_1983_StatePlane_Washington_North_FIPS_4601_Feet

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Nctes

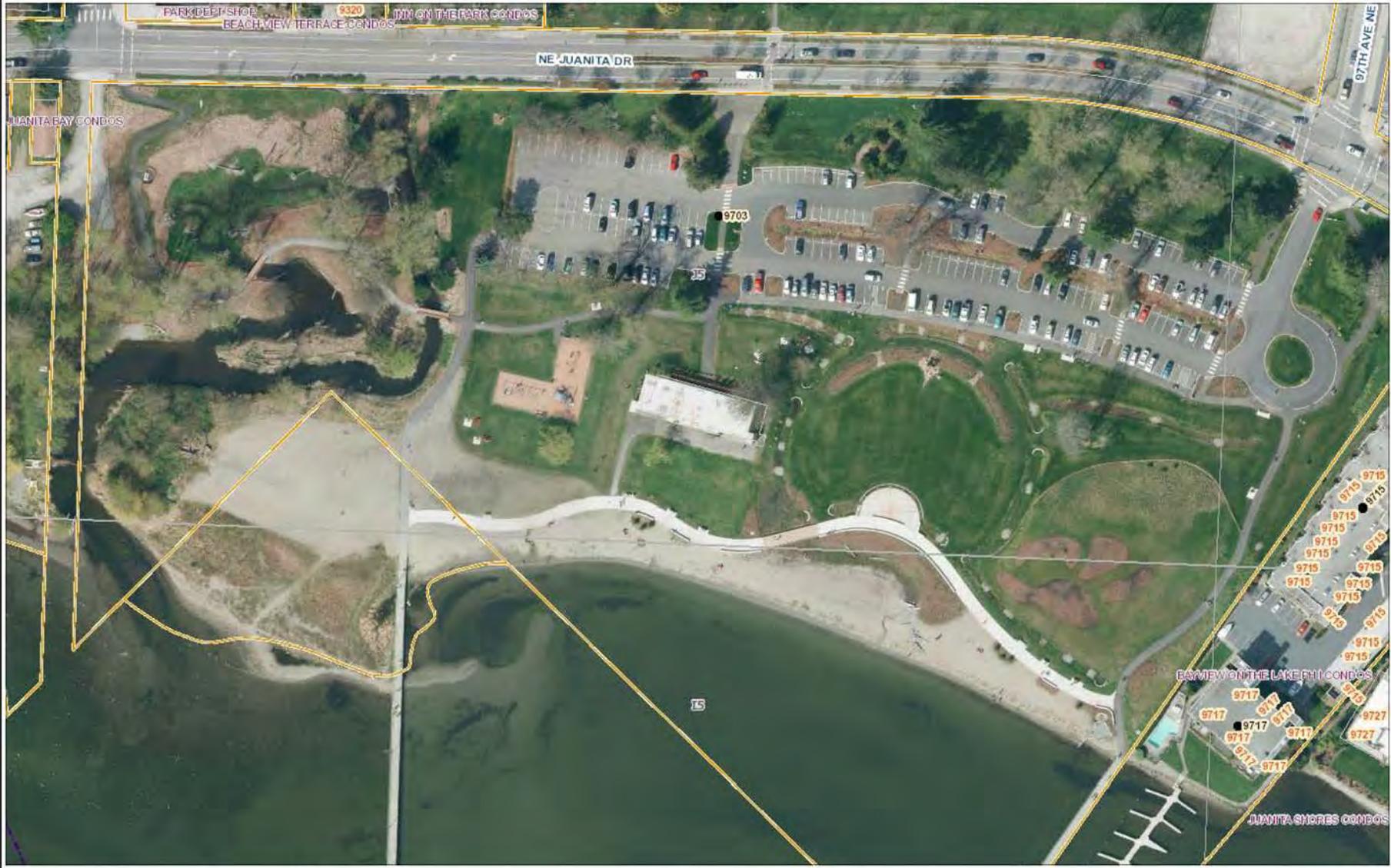
November 2007 (Phase 0 of Master Plan, removal of King County maintenance building)

ENCLOSURE 7
SHR17-00775





2012 (Implementation of Phase I nearly complete)



- Legend**
- Address
 - Other Address
 - Current Address
 - Current ADU
 - Pending Address
 - City Limits
 - Grid
 - QQ Grid
 - Cross Kirkland Corridor
 - Regional Rail Corridor
 - Streets
 - ▭ Parcels
 - ▭ Place Names
 - ▭ Buildings
 - ▭ Schools
 - Olympic Pipeline Corridor



NAD_1983_StatePlane_Washington_North_FIPS_4601_Feet

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1: 1,115

Nctes

2014



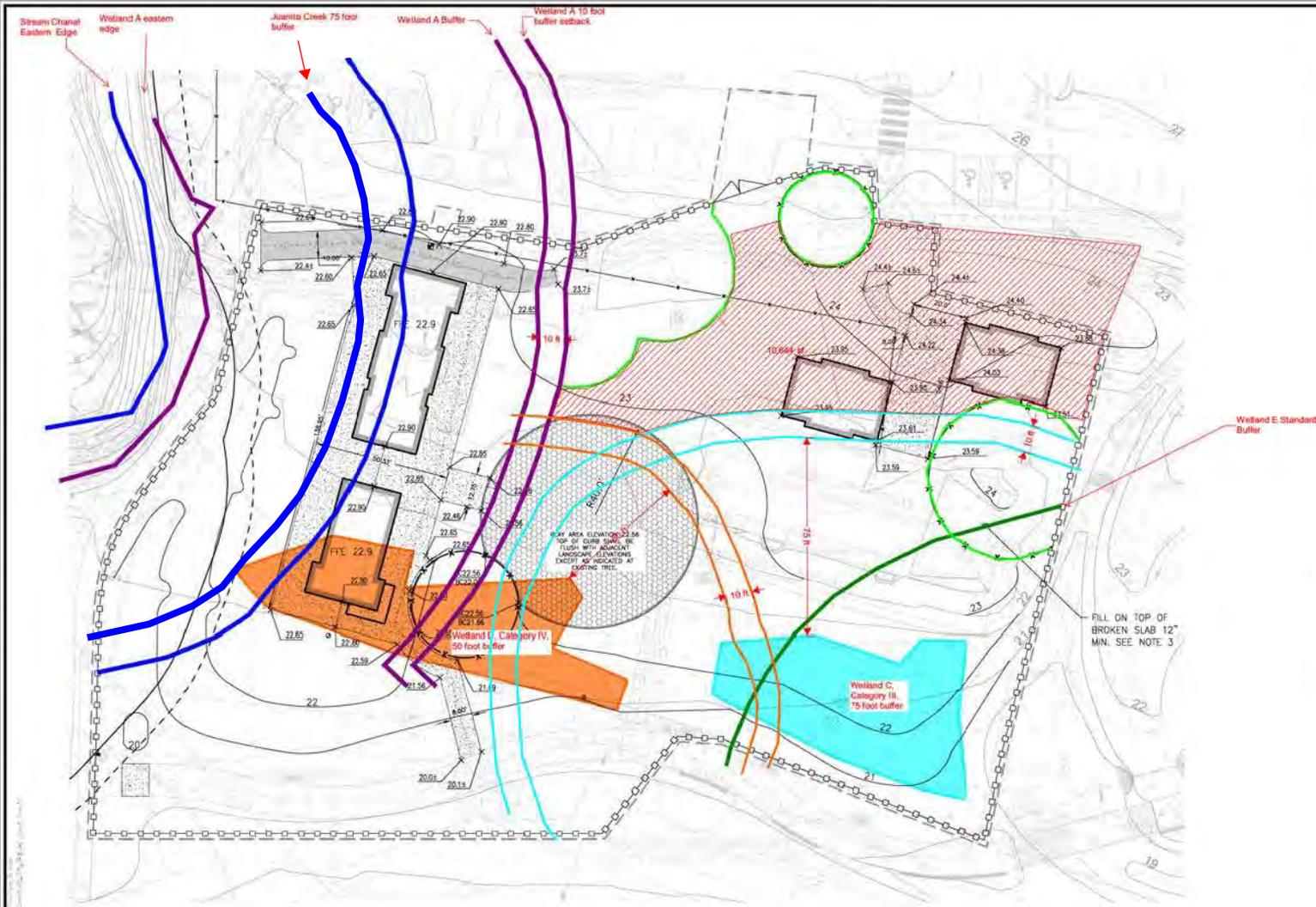
2015

ENCLOSURE 7
SHR17-00775



2017 (Phase I complete and matured)





LEGEND

- APPROX LIMITS OF WORK
- ▭ PROPOSED BUILDING
- ADA ROUTE OF TRAVEL
- TREE PROTECTION
- ROOF OVERHANG
- ▨ ASPHALT SECTION FOR MULTI PURPOSE AND PAVED PATHS
- ▨ ENGINEERED WOOD FIBER SAFETY SURFACING
- ▨ SIDEWALK (SEE NOTE 1)
- ▨ SMALL LANDSCAPE WALL
- ▨ FLUSH CONCRETE CURB
- ▨ PLAY AREA ADA RAMP W/ CONCRETE SURFACING
- ⊕ SIGNAGE
- ⊕ SPOT ELEVATION
- CONTOUR
- TC TOP OF CURB
- BC BOTTOM OF CURB
- TW TOP OF WALL
- BW BOTTOM OF WALL
- ⊕ STORM/ SANITARY DRAIN CLEANOUT

LEGEND

1. COK SIDEWALK DETAIL DOES NOT REQUIRE CURB AND GUTTER. USE FOR PAVEMENT SECTION, SCORING EXPANSION JOINTS AND FINISH.
2. ELEVATIONS WITH ± INDICATE LOCATIONS WHERE PROPOSED SURFACE ELEVATIONS ARE DESIGNED TO MATCH EXISTING.
3. FEATHER 12" OF TOPSOIL TO A DISTANCE OF 12" FROM TREE TRUNK.



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QA/QC REVIEWER

FILE	ENGR.	REVIEW	SCALE	DATE
JBB_C30_PAVE	LK	MRS	AS SHOWN	04/24/2018
NO.	REVISION	BY	REVIEW	DATE



CITY OF KIRKLAND
PUBLIC WORKS DEPARTMENT
123 FIFTH AVENUE - KIRKLAND, WA 98033-6189 - (206)828-1243
CPK 0119 100
**JUANITA BEACH PARK
BATHHOUSE REPLACEMENT
PAVING AND GRADING PLAN**

SHEET

C3.0



CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587.3225
www.ci.kirkland.wa.us

MEMORANDUM

Date: September 9, 2009

To: File No. MIS09-00002, Sensitive Area Decision No. 1

From: Janice Soloff, AICP, Senior Planner *JS*

Subject: CITY OF KIRKLAND PARKS AND COMMUNITY SERVICES
JUANITA BEACH PARK PHASE I IMPROVEMENTS -SENSITIVE
AREA DECISION LOCATED SOUTH OF JUANITA DRIVE AT 97th
AVENUE, PARCEL NO. 179150-0425

I. INTRODUCTION

A. APPLICATION

1. Applicant: City of Kirkland Parks and Community Services.
2. Site Location: Phase I implementation of the Juanita Beach Park Master Plan will be located on the south side of Juanita Drive at 97nd Avenue (here after referred to as the subject property) (see Attachment 1, Project Plans).
3. Sensitive Area Request: As part of the Phase I development proposal the applicant requests approval of a sensitive area decision to:
 - modify three Type 3 wetlands (Wetland B, D and E) pursuant to KZC 90.55,
 - reduce Wetland E buffer from 50' to 34' ft pursuant to KZC 90.60,
 - rehabilitate Juanita Creek (Class A stream) to create a new side channel and new wetland system to be known as an Oxbow Marsh as mitigation for the above impacts and to improve fish and wildlife habitat, water quality functions, sedimentation and flooding issues pursuant to KZC 90.120.

Phase I improvements or activities involving impacts to sensitive areas include construction of:

- A shoreline promenade with seat wall along the beach, traversing through Wetland E and its buffer which is considered wetland and buffer modification (includes wetland disturbance, cut and fill).

- A new circular community commons with a stage (amphitheatre), pedestrian paths, boardwalk, requesting a reduced Wetland E buffer from a 50' to 34' in width.
- Rehabilitation of Juanita Creek involving excavation in the stream's ordinary high water mark to create a hydraulic connection between the Oxbow Marsh and stream, removing bank riprap armoring, new bank stabilization, and restoration improvements to improve fish and wildlife habitat.
- The new Oxbow Marsh wetland resulting in impacts to Wetlands B, C, D and Juanita Creek buffer. When completed the Oxbow Marsh will function as a Type I wetland system and require a 100' wide buffer.
- A new pedestrian only bridge over Juanita Creek that currently provides access from the park to the west side of the stream.
- Pedestrian pathways and boardwalks through the Oxbow Marsh, Juanita Creek buffer and Wetland E. A revised proposal indicates that the western most extension of the pedestrian path will be deleted and restored to stream buffer (see Attachment 11).

Proposed compensatory mitigation for wetland and stream impacts include: creation of the Oxbow Marsh Type I wetland, rehabilitation of Juanita Creek by removing invasive species, removal of bank armoring, addition of restorative native plants, reduction of impervious surfaces, relocation of existing buildings out of sensitive area buffers, and in Wetland E, enhancing the wetland and buffer by adding native plant species and increasing hydrology (see Attachment 2, Wetland and Mitigation Plan).

Section II.C.1 provides more detail on the existing sensitive areas on site and an evaluation of how the proposal request meets Zoning Code Chapter 90 requirements. Enclosed attachments describe the proposed wetland and stream mitigation plan and applicant's response to decisional criteria.

4. Review Process: Planning Official makes the final decision pursuant to criteria in KZC Chapter 90.
5. Request for extended lapse of approval date: The Juanita Beach Park Master Plan is intended to be completed in several phases and therefore the applicant has requested an extension to the normal six year lapse of approval deadline established in KZC 145.115 from six to ten years. See Section IV below. It is reasonable to approve an extension of the lapse of approval to ten years from the date of approval.

B. DECISION

Based on Statements of Fact and Conclusions (Section II), and Attachments in this report, I approve this application subject to the following conditions:

1. This application is subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, and Building and Fire Code. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances.
2. An extension to the lapse of approval date is approved to be 10 years from the final approval date of the City (see Section IV).
3. Prior to issuance of any permits for development activity on the property, the applicant shall submit:
 - a. A revised site plan, wetland and buffer mitigation plan (including plant quantities by species), monitoring and maintenance plans consistent with the plans in Attachment 2 and incorporating recommendations of The Watershed Co. review letter dated January 16, 2009 and July 24, 2009 (Attachment 3) and revised plans in response to the Muckleshoot Indian Tribe comments (see Attachments 10 and 11) (see Conclusion II.B.2, II.C, 2 and II.C4).
 - b. Revise erosion control plans to clarify the limit of grading lines and depict the location of a six foot high construction phase fence along the upland boundary of the entire wetland and stream buffers with silt screen fabric installed per City standard. The fence shall remain upright in the approved location for the duration of development activities.
 - c. Revise plans to indicate the existing trees to be retained removed and transformed into habitat trees. Preserve trees located within wetlands and stream buffers and incorporate the City's Urban Forester recommendations for additional tree retention and protection where feasible. Revise plans to show tree protective fencing consistent with the Urban Forester recommendations and Chapter 95 requirements (see Conclusion II.A.1.b.).
4. Prior to final inspection of any permits the applicant shall:
 - a. Complete installation of the wetland and stream and related buffer enhancement plans subject to review and inspection by the City's wetland consultant at the applicant's expense.
 - b. Provide proof of a written contract with a qualified professional who will perform the monitoring and maintenance program including fish monitoring outlined in the wetland buffer enhancement plans and Juanita Creek rehabilitation together with a completed contract and fees to fund review of the monitoring and maintenance activities, (i.e. inspection of plant materials, annual monitoring reports or replanting activities) by the City's wetland consultant. Alternatively, the applicant can provide a completed contract and fees to fund completion of the monitoring program by the City's wetland consultant (see Conclusion II.C.5).

- c. Install a permanent 3-4 foot tall split rail fence between the upland boundary of the wetland and stream buffers and the developed portion of the site in the location shown on the plans and install signage indicating that wetlands or stream exists and to direct people to stay on paths (see Conclusion II.C.6).
- d. Submit a survey of the wetland and stream locations and associated buffers. All surveys shall be located on KCAS or plat bearing system and tied to known monuments (see KZC 90.150).

II. FINDINGS OF FACT AND CONCLUSIONS

A. SITE DESCRIPTION

1. SITE DEVELOPMENT AND ZONING:

a. Facts:

- (1) Size: The southern portion of Juanita Beach Park for the Phase I improvements contains 14 acres (see Attachment 1).
- (2) Land Use: In 2006 City Council approved the Juanita Beach Master Plan with the adoption of Resolution R-4570 setting forth the future redevelopment plans for the Park. Phase I of the Master Plan is scheduled for construction in spring or summer 2010 (see Attachment 1).

The southern portion of the Park currently contains the following structures and improvements relative to sensitive areas (see Attachment 1):

- A parking lot containing 66 stalls. Under Phase I the parking lot will be reconfigured and enlarged closer to Juanita Drive to add 160 new stalls for a total of 226 stalls.
- The bathhouse, play area and lawn are currently located within Wetland E's 50' wide buffer. Future phases include demolition and relocation of the bathhouse outside the buffer and buffer setback. Existing lawn area in front of the bathhouse will remain within wetland E and its buffer and is considered wetland impact under this proposal (see Attachment 1, Figure 14).
- A portion of the parking lot and picnic shelter is currently located within the Juanita Creek, Class A, 75' wide buffer. One picnic shelter is located in the Wetland E Type 3, 50' wide buffer. Both shelters will be demolished and two new picnic shelters constructed outside Wetland E's buffer and 10' buffer setback.
- 1,000 linear feet of swimming beach will be graded to construct the promenade.

- A 1,350 foot long pedestrian pier/breakwater extends 580 feet into Juanita Bay. Under Phase I the existing baffles will be removed from the pier to improve water quality for the swimming area.
 - A pedestrian bridge providing access from the park over Juanita Creek will be rebuilt.
 - Two sand volleyball courts are located within the Wetland F Type I 100' and will remain. No disturbance will occur in Wetland F.
 - A sanitary sewer and waterline traverse the park through portions of Juanita Creek and wetland buffers. In Phase I the waterline will be abandoned or removed.
- (3) Zoning: The subject property is zoned P for Park land. Development standards for park development are established through the Master Plan process which was approved by O-4670 in 2006 (File MIS06-00018).
- (4) Existing Sensitive Areas:

KZC 90.40 and 90.85 establish the methodology for wetland and stream determinations. KZC 90.45 and 90.90 establish the required sensitive area buffer widths and 10' buffer setbacks related to each wetland and stream classification.

Wetland and stream determinations were conducted on the subject property and contained in the July 2009 Addendum to the original Wetland Impact and Mitigation Plan dated December 2008, by Douglass) (see Attachment 2). Included are two charts that itemize the proposed impacts and compensatory mitigation for each wetland and Juanita Creek.

The City's wetland and stream consultant, The Watershed Company reviewed the applicants' wetland and stream determinations and made a final determination in the January 2009 letter. The Watershed Co reviewed the most recent redevelopment plans and wetland and stream mitigation report and recommended the plans be revised per their recommendations (see both January 16, 2009 and July 24 2009 letters in Attachment 3).

The subject property contains six wetlands of which Wetlands A, B, C, D and E are classified by the City of Kirkland as Type 3 wetlands requiring a 50' wide sensitive area buffer and Wetland F is a Type 1 wetland requiring a 100' wide buffer.

Wetlands A (132 sq. ft.), B (2,553 sq. ft.), C (329 sq. ft.) and D (1,137 sq. ft.) are riparian wetlands located adjacent to Juanita Creek and classified by the City of Kirkland as Type 3 wetlands requiring a 50' wide buffer and 10' buffer setback (see Attachments 1 and 2).

Pursuant to KZC 90.90.20, Wetland A (132 sq. ft.) and C (329 sq. ft.) are non-regulated because of their small size. Type 3 wetlands less than 1,000 sq. ft. in size in a primary basin are not regulated by Chapter 90 however; they are subject to environmental review.

Wetlands E and F run parallel to Lake Washington however only Wetland F is hydrologically connected to the Lake (located within the ordinary high water mark and dominated by hydrophytic vegetation). Wetland F (9,196 sq. ft.) is a newly formed wetland between 2006 and 2008 due to the deposition of sediment from Juanita Creek. The City of Kirkland classifies Wetland F as a Type 1 wetland requiring a 100' wide buffer plus a 10' buffer setback.

Wetland E (35,033 sq. ft.) is a Type 3 wetland requiring a 50' wide buffer plus 10' buffer setback. Surrounding Wetland E is a mowed lawn area which is planned to remain.

Juanita Creek

Juanita Creek enters Lake Washington at the Juanita Beach Park. Juanita Creek is a fish bearing stream and classified by the City of Kirkland as a Class A stream requiring a 75' wide stream buffer and 10' buffer setback. Juanita Creek experiences frequent winter flooding with sedimentation build-up. On the north side of the Juanita Creek buffer adjacent to Juanita Drive is an area used as construction staging for the last several years which should be restored (see Attachment 1).

(5) Terrain and Vegetation:

Under Phase I many trees will need to be removed or are recommended to be altered for habitat trees to accommodate the site grading, reconfiguration of the parking lot, and creation of the oxbow marsh. Attachment 1, Sheets D-1 and D-2 contain the proposed tree retention plan.

KZC Chapter 95 requires a Type II tree retention plan be submitted for the park project. In critical areas or buffers KZC 95.35 establishes that a Type IV tree plan is required in critical areas to evaluate and preserve existing trees, or create habitat trees. KZC 95.50 establishes that in critical areas and their buffers, native vegetation is not to be removed without City approval pursuant to KZC 95.35.(4)(e).

An arborist report prepared by Gilles Consulting December 2008, evaluated 171 trees on site, concluding 36 were rated in poor condition, 34 nonviable trees and the remaining 137 as fair, good or viable (see Attachment 8). The Gilles report evaluated the condition of the trees but included little discussion related to the development proposal as it relates to the tree retention plan. The applicant's consultant J.A. Brennan Associates responded to the Urban Forester comments in a two memos dated July 3, 2009 (see Attachment 7).

The City's Urban Forester reviewed the Gilles report and tree retention plan and provided comments dated July 28, 2009 (see Attachment 6).

- b. Conclusions: The size, land use, zoning, vegetation are not constraining factors in the consideration of this application. The subject property contains six wetlands. Implementation of Phase I will impact Juanita Creek and three wetlands and associated buffers. As part of the land surface modification or any permit application, the applicant should revise the tree retention plan shown on Attachment 1, figure sheet D-1 and D-2, to incorporate both the J.A. Brennan and Urban Forester review comments such as which trees will be retained, removed, or altered to become habitat trees, and clarify plans for overall compliance with KZC Chapter 95 tree retention and protection requirements. Prior to permit issuance the applicant shall revise plans for the location of protective fencing to protect sensitive areas and buffers consistent with the proposed wetland mitigation plan and recommendations from the City's wetland consultant.

2. NEIGHBORING DEVELOPMENT AND ZONING:

- a. Facts: Juanita Beach Park and Juanita Creek continues on the north side of Juanita Drive. To the east is a condominium project zoned JBD 5. A portion of Wetland E's 50' wetland buffer extends onto that property.

Along the west property line, a portion of Juanita Creek and buffer extends onto the adjacent property and a 30' wide public right of way. Also along the west property line is a 50' wide Holmes Point Utility Easement. An existing gravel driveway extends onto the Park property providing vehicular access to the adjacent property to the west zoned RM 1.8. Under Phase I, the gravel driveway will remain and be located within the new Oxbow Marsh Type I, 100' wide wetland buffer (see Attachment 1).

- b. Conclusions: The surrounding zoning and development are not constraining factors in this application. As a result of compensatory wetland or stream mitigation, no new wetland or stream buffers will encroach onto adjacent properties.

B. STATE ENVIRONMENTAL POLICY ACT (SEPA) AND CONCURRENCY REVIEW

1. Facts: A Determination of Non-significance (DNS) and road concurrency for the development proposal was issued on August

10, 2009. A concurrency test was passed on April 9, 2009. The Environmental Determination and supporting environmental documents is included in Attachment 5. As part of the environmental review a biological assessment dated April 2009 evaluated the development proposal's impact on fish and wildlife habitat. The Muckleshoot Indian Tribe Fisheries Division submitted a comment letter dated August 24, 2009 making recommendations for changes to the proposal in the interest of protecting and/or restoring fish resources in Juanita Creek and Lake Washington (see Attachment 10). The applicant responded to the comments by revising the proposal in a memo from Michael Cogle dated September 2, 2009 and attached plans (see Attachment 11).

2. Conclusion: The applicant has fulfilled the requirements of the State Environmental Policies Act. With future applications for a building permit or land surface modification the applicant should show the revisions to the plans contained in Attachment 11.

C. COMPLIANCE WITH KZC CHAPTER 90 DRAINAGE BASIN REQUIREMENTS

1. PROPOSED WETLAND AND WETLAND BUFFER MODIFICATIONS

a. Facts:

Wetland Modifications

- (1) KZC 90.55 establishes limitations for modifying a wetland and KZC 90.60 limits wetland buffer impact. In primary basins, no more than 50% of a Type 3 wetland may be modified (e.g. impacted, filled). Compensatory mitigation must be provided through wetland creation or restoration in a ratio of 1.5:1 ratio. In a primary basin no more than one-third of the mitigation may consist of enhancement.
- (2) Attachment 1 contains the most recent plans dated April 2009, stamped received July 21, 2009, showing wetland locations, areas of wetland disturbance, compensatory mitigation and planting plan. Attachment 11 describes further revisions to the proposal in response to Muckleshoot Indian Tribe comments.
- (3) Attachment 2 contains the proposed wetland impact and mitigation plan prepared by Douglass Consulting (July 2009 Addendum) along with charts summarizing in detail the amount of impact, cut and fill and compensatory mitigation proposed for each wetland and stream area. Attachment 9 describes the applicant's justification for how the development proposal meets Zoning Code compliance and decisional criteria for each sensitive area request.
- (4) Several memos from J.A. Brennan Associates and Douglass Consulting respond to questions and recommended changes to the plan from The Watershed Co. and Public Works Department Storm

Water Division (see Attachment 4). The Watershed Co. reviewed the revised plans dated April 2009 (received July 21, 2009) and made additional recommendations related to the design of the wetland/stream mitigation plan in their July 24, 2009 letter (see Attachment 3).

- (5) The applicant proposes to modify Type 3 Wetlands B, C, E and associated buffers. No new wetland impacts will occur to Wetlands A, D, and F.
- (6) Excavation of Wetlands B and C will be needed to create the Oxbow Marsh side channel to Juanita Creek. Wetland B impact includes 1,333 sf of area with 90 cu yds of cut. Wetland C impacts total 240 SF of area with 25 cu yds of cut. Impacts to Wetlands B and C will be mitigated for at the Oxbow Marsh with planting native species vegetation.
- (7) Wetland E is 35,033 SF in size (0.80 acres). The development proposal includes 11,632 SF of actual fill or impact and 5,895 SF of "paper fill" for total of 17,527 (0.40 acre) of wetland impact in Wetland E. The amount of wetland impact or modification to Wetland E meets the 50% limitation in KZC 90.55 and impacts are summarized below (see Attachment 2). Modification to a Type 3 wetland requires compensatory mitigation at 1.5:1 ratio described KZC 90.55. The applicant meets the compensatory requirements (see Section II.C.3 below).
- (8) Wetland and buffer impacts to Wetland E are needed to construct a portion of the shoreline promenade, portion of the community commons path, stage, boardwalk, and play area.

The existing lawn in front of the bathhouse will remain as lawn area in Wetland E and its 50' wide buffer. The applicant has labeled this area as paper fill with no wetland buffer to be provided. In this paper fill area, no grading, no fill, no paving or construction activity will occur.
- (9) Pursuant to KZC Chapter 90, areas to remain as lawn area without a buffer and protective fencing or vegetation are treated as wetland modification or impact and counted in the 50% limitation for wetland modification.

Zoning Code Interpretation No. 08-4 explains under what circumstances a nonconformance to a sensitive area regulation in Chapter 90 must be brought into conformance with current regulations.

Zoning Code definition 5.570 establishes that a nonconforming use only applies to non-city owned property and therefore, does not apply to city owned

park property. As a result retaining the existing lawn area within the wetland and buffer may remain but is considered impact that must be compensated for with mitigation.

- (10) KZC 90.70 establishes that the City may develop access through a wetland and buffer in conjunction with a public park.

Project plans show a 14' wide concrete promenade, boardwalks, and pedestrian pathways traversing Wetland E, the Oxbow Marsh and Juanita Creek and associated buffers. A future interpretive kiosk is shown to be located within the Oxbow Marsh.

- (11) Surface water and biofiltration swales may be discharged into buffers provided they meet criteria in 90.45.3 and 4.

Project plans show vegetated biofiltration swales will gather drainage from parking lot rain gardens and disperse through Wetland E, the beach area and into Lake Washington.

Wetland E Buffer Modification

- (12) KZC 90.45, Wetland Buffers and Buffer Setbacks section establishes that no land surface modification shall occur and no improvement shall be located in a wetland buffer. Structures and improvements shall be set back an additional 10 ft feet from the designated or modified wetland buffer.

Plans indicate that in future phases existing picnic shelters and the bathhouse will be demolished and relocated outside the wetland buffers and 10' buffer setback.

- (13) KZC 90.60, Wetland Buffer Modification section establishes limitations on modifying a buffer by either buffer averaging or buffer reduction with enhancement.

At Wetland E the applicant proposes to reduce the wetland buffer on the north side from the required 50' width to the minimum 34' to make way for a stage, community commons amphitheatre, and pedestrian promenade (see Attachment 1 Figures 14-17). Existing lawn will remain in the buffer. Total buffer impacts would be 7,415 SF and 268 cubic yards of fill in this area.

2. COMPENSATORY MITIGATION FOR WETLAND AND WETLAND BUFFER IMPACTS

a. Facts:

- (1) Section 8 of the applicant's compensatory mitigation plan and two charts (Attachment 2) itemize the applicant's proposed compensatory mitigation plan for impacts to wetlands, buffers and Juanita Creek.

- (2) Creation of the Oxbow Marsh will provide a new Type I wetland system, improve riparian and fish habitat, and water quality.

For the total 0.43 acres of combined impacts to Wetlands B and E, the Oxbow Marsh will provide 18,992 SF (0.44 ac) of wetland creation, 19,843 SF (0.45 ac) of Oxbow Marsh buffer enhancement and 458 SF (0.11 ac) of enhancement of Wetland B.

- (3) At Wetland E, as compensation for the reduced buffer, buffer impacts, and existing lawn area to remain within the buffer on the east side of Wetland E (paper fill/fill area). Mitigation in Wetland E will include enhancement of 8,712 SF (0.20 ac) and 3,995 (0.09 ac) of voluntary enhancement on the southside of the promenade to create a wet meadow with the addition of bioswale dispersal and native plantings. Total mitigation for Wetland E buffer impacts will be provided by enhancing 9,802 sq. ft. (0.20 ac) of Wetland E buffer.

In addition, use of rain gardens and bio filtration swales will treat surface water prior to release into the wetlands, streams or Lake Washington.

- (4) In total 0.65 acres of compensatory wetland mitigation will be provided for 0.43 acres of impact. This represents a mitigation ratio of 1.5:1 with 1:1 ratio for wetland creation and 0.5:1 ratio for rehabilitation/enhancement (see Attachment 9).

- (5) KZC 90.55 establishes that upon project completion a permanent 3-4 foot tall split rail fence or permanent planting of equal barrier value be installed between the upland boundary of all wetland buffers and the developed portion of the site.

- (6) The applicant proposes to continue allowing portions of Wetland E to remain as lawn. Barrier fences are not shown along all buffers, only along the northeast side of Wetland E buffer and along Juanita Drive to direct people to the pedestrian pathways (see Attachment 1, Figures 4a and 14).

- b. Conclusions: The amount and type of compensatory mitigation for wetland and stream impacts meets the intent of KZC Chapter 90 requirements. Portions of existing lawn in wetland E and buffers may remain with other portions enhanced with native plants and improve their wetland functions. As part of the land surface modification permit application the applicant should revise the plans to incorporate the recommendations of The Watershed Co. (see Attachment 3) and revisions proposed by the applicant in response to the Muckleshoot Indian Tribe comments (see Attachments 10 and 11).

The proposal does not entirely meet the requirement for permanent protective fencing surrounding all wetlands, streams and buffers. Compared to existing conditions, the proposed location for sections of fence along Juanita Drive, near the west side of the parking lot, and the northeast corner of Wetland E will help keep people out of the sensitive areas by directing them to new pathways. Revised plans should show a detail for the design of the split rail fence. The applicant should also include signage indicating wetland and stream areas and to stay on path.

3. WETLAND AND BUFFER MODIFICATION APPROVAL CRITERIA

a. Facts:

- (1) For modification of a Type 3 wetland or its buffer, the applicant must meet the same criteria for modifying a Type I wetland in KZC 90.55 including justifying there is no practical or feasible alternative development proposal that will result in less impact to the Type 3 wetland and its buffer.

Attachments 2 and 9 describe the applicant's response to code compliance for proposed wetland and buffer impacts and compensatory mitigation.

- (2) KZC 90.55.3 and 90.60 establish that a wetland modification or buffer averaging or reduction may be granted when the proposed development is consistent with all of the following:
- a) It is consistent with Kirkland's Streams, Wetlands, and Wildlife Study (The Watershed Company, 1990) and the Kirkland Sensitive Areas Regulatory Recommendations Report (Adolfson Associates, Inc., 1998);
 - b) It will not adversely affect water quality;
 - c) It will not have an adverse effect fish, wildlife, or their habitat;
 - d) It will not have an adverse effect on drainage and/or storm water detention capabilities;
 - e) It will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
 - f) It will not be materially detrimental to any other property or the City as a whole;
 - g) Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
 - h) All exposed areas are stabilized with vegetation normally associated with native stream buffers, as appropriate; and

- i) There is no practicable or feasible alternative development proposal that results in less impact to the buffer.
- b. Conclusions: The sensitive area request proposal meets the above criteria for modification of Type 3 wetlands and buffers provided the recommendations from The Watershed Co are included. The amount of wetland disturbance and/or fill and proposed compensatory mitigation meets code limitations. The proposal is consistent with the recommendations of the Kirkland's Streams, Wetlands, and Wildlife Study (The Watershed Company, 1990) and the Kirkland Sensitive Areas Regulatory Recommendations Report (Adolfson Associates, Inc., 1998). As designed the sensitive area proposal will improve wetland functions from what exists today in the areas of water quality, fish and wildlife habitat, and storm water and flooding issues.

4. PROPOSED IMPACTS AND MITIGATION TO JUANITA CREEK

a. Facts:

- (1) KZC 90.90 establishes that no land surface modification may occur and no improvements may be located in a stream or its buffer except if modifying a stream through 90.105, or buffer reductions through KZC 90.100 using similar decisional criteria for wetland modifications.
- (2) KZC 90.120. states that rehabilitation to restore a stream through the addition of native plants and other habitat features may be permitted. Existing trees in critical areas and buffers must be retained, non native vegetation removed and native species plants installed per the standards in 95.35. (4)(d) and 95.45(12) Mitigation and monitoring requirements of KZC 90.55. (4) also apply with stream rehabilitation projects.
- (3) Phase I improvements include excavation in Juanita Creek ordinary high water mark (OHWM) to create a hydraulic connection between the new Oxbow Marsh and Creek totaling 3,500 SF and 24 cu. yds. of cut. Encroachments in Juanita Creek buffers for pathways, boardwalk and new bridge will total 3,327 SF of area and 26 cu yds of fill.

Similar to other public enhancement projects to Juanita Creek upstream from the park, rehabilitation of the stream will include softening the bend in the creek banks by removing invasive plants and planting of native riparian vegetation. The picnic shelter and concrete pad in the Juanita Creek buffer will be removed. The total area of mitigation for direct impacts to Juanita Creek and its buffer will be 39,961 SF (0.92 ac). The proposed mitigation for impacts to the creek will be at a 1.8:1 ratio (see Attachment 9).

- b. Conclusions: The sensitive area proposal described in the plans and mitigation plan for rehabilitation of Juanita Creek meets the intent of the above requirements. As part of the land surface modification permit the plans should be revised to incorporate the recommendations from The Watershed Co. regarding the plant quantities, type and amount of soil to be used and clarification of performance standards for the mitigation pan in Attachment 3 and Muckleshoot Tribe comments.

5. MONITORING AND MAINTENANCE OF MITIGATION PLAN

a. Facts:

- (1) Zoning Code Section 90.55.4 establishes that to ensure the success of a mitigation plan to modify a wetland or its buffer the applicant shall submit mitigation and monitoring plan for maintenance of the wetland/stream for a 5 year period. The applicant shall bear the cost of review and inspection of the mitigation work and monitoring by the City's wetland consultant.
- (2) The mitigation plan in Attachments 1 and 2 describes the monitoring and maintenance will occur for 10 years.

- b. Conclusions: In order to ensure that the wetland enhancement work is completed in compliance with the approved plans, prior to issuance of a land surface modification permit, the applicant shall clarify who will be monitoring and maintaining the wetland and stream mitigation plan and fish monitoring. The applicant shall submit a cost estimate from a qualified professional to ensure the 5 year monitoring will be conducted and include the costs for the city's wetland/stream consultant to review the monitoring reports.

6. WETLAND AND STREAM BUFFER FENCE OR BARRIER

a. Facts:

- (1) Zoning Code sections 90.50 and 90.95 requires that prior to the start of development activities, the applicant shall install a six foot high construction-phase chain link fence or equivalent fence, as approved by the Planning Official, along the upland boundary of the entire wetland and its buffer with silt screen fabric installed per City standard.
- (2) In addition both sections above require the applicant to install either 1) a permanent three to four foot tall split rail fence; or 2) a permanent planting of equal barrier value; or 3) an equivalent barrier, as approved by the Planning Official between the upland boundary of all wetland buffers and the developed portion of the site.

- (3) Attachment 1 Figures 4a and 14 show a split rail fence to be installed in three places: 1) in the Oxbow Marsh buffer along a section adjacent to Juanita Drive, 2) a section near the parking lot to direct people out of the Oxbow Marsh and Juanita Creek, and 3) a portion of the wetland E buffer to direct people to the pathways.

b. Conclusions:

- (1) Prior to development, the applicant should install a six foot high construction phase fence along the upland boundary for the entire wetland buffer with silt screen fabric installed per City standard. The fence shall remain upright in the approve location for the duration of development activities.
- (2) Upon project completion, the applicant should install a permanent three to four foot tall split rail fence along the agreed upon locations shown on the plans. Signs should also be installed indicating presence of wetland and stream areas and for pedestrians to stay on paths.

III. APPEALS

Section 90.160 states that decisions made pursuant to Chapter 0 KZC may be appealed using the applicable appeal provisions of Chapter 145 KZC.

IV. LAPSE OF APPROVAL

The applicant must begin construction or submit to the City a complete building permit application or begin the development activity or begin use of land, approved under Chapter 145, within four (4) years after the final approval on the matter, or the decision becomes void. Provided, however, that in the event judicial review is initiated per Section 145.110, the running of the four years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the required development activity, use of land, or other actions approved under this chapter and complete the applicable conditions listed on the notice of decision within **ten years** after the final approval on the matter or the decision becomes void. For development activity, use of land, or other actions with phased construction, lapse of approval may be extended when approved under this chapter and made a condition of the notice of decision. The applicant requested an extension to the lapse of approval date to ten years because the Juanita Beach Park Master Plan is intended to be completed over several phases.

V. APPENDICES

Attachments 1 through 11 are attached:

1. Project plans dated April 2009 received by PCD July 21, 2009
2. Wetland and stream determination and mitigation plans (Addendum July 2009 to original December 2008 version)
3. Watershed Co review letters dated July 2009 and Watershed Co letter from January 2009
4. Technical memos from J.A. Brennan and Douglass Consulting responding to The Watershed Co. and Public Works Department Storm Water Division comments
5. SEPA Determination

6. Urban Forester review comments
7. J.A.Brennan response to Urban Forester comments
8. Arborist report by Brian Gilles dated December 19, 2008
9. Applicant's response to project code compliance and approval criteria
10. Muckleshoot Indian Tribe comment letter dated August 24, 2009
11. Memo from Michael Cogle dated September 2, 2009 responding to Muckleshoot Tribe comments and revised proposal.

VI. PARTIES OF RECORD

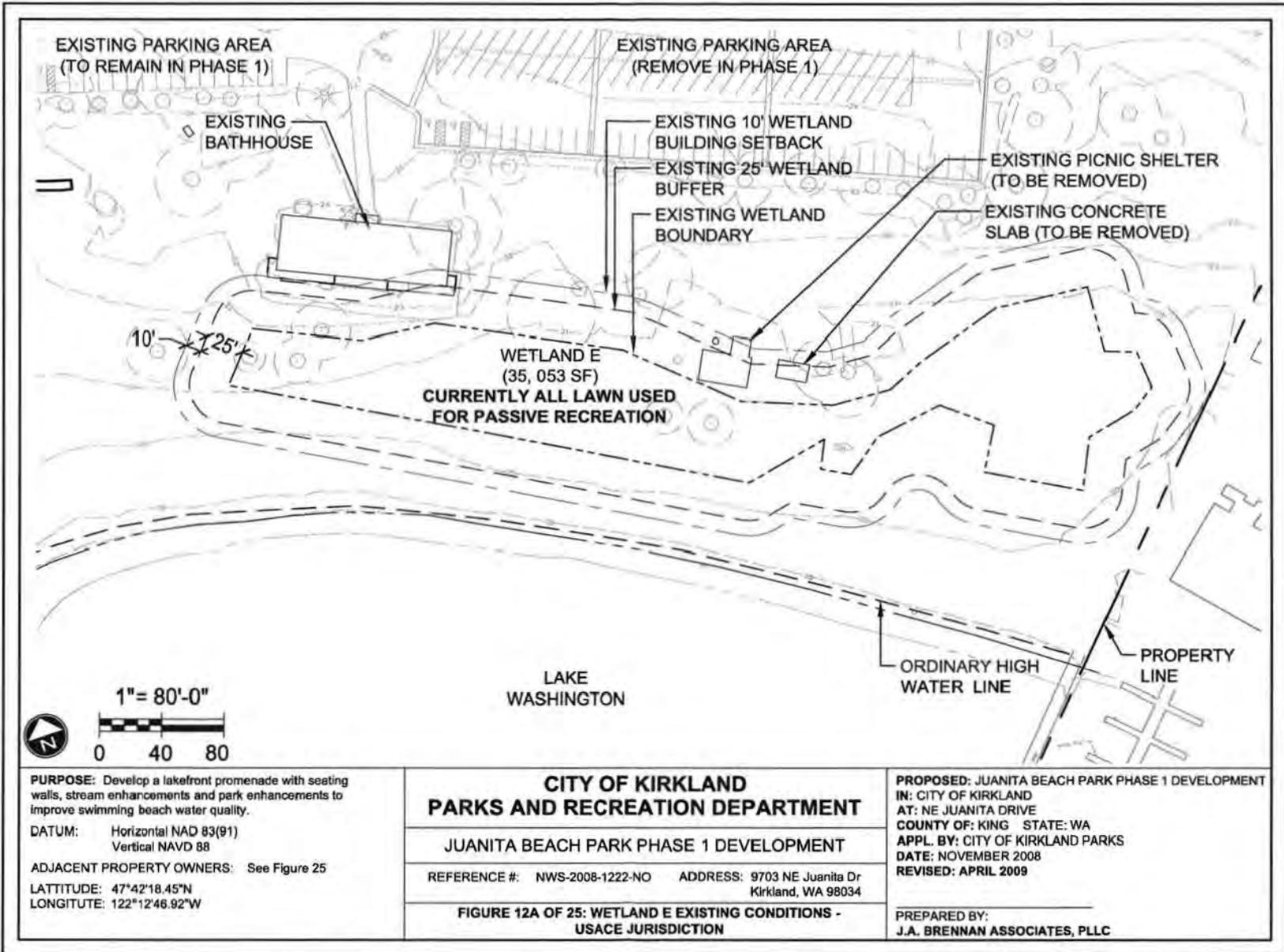
Applicant: Michael Cogle, Parks and Community Services

Applicant's consultants:

Desiree Douglass, Douglass Consulting 3518 Fremont Avenue North #536,
Seattle, WA 98103

Drew Coombs, J.A. Brennan Associates PLLC, 100 S. King Street, Suite 200,
Seattle, WA 98104

Cc: File MIS09-00002, #1



PURPOSE: Develop a lakefront promenade with seating walls, stream enhancements and park enhancements to improve swimming beach water quality.

DATUM: Horizontal NAD 83(91)
Vertical NAVD 88

ADJACENT PROPERTY OWNERS: See Figure 25

LATTITUDE: 47°42'18.45"N
LONGITUDE: 122°12'46.92"W

**CITY OF KIRKLAND
PARKS AND RECREATION DEPARTMENT**

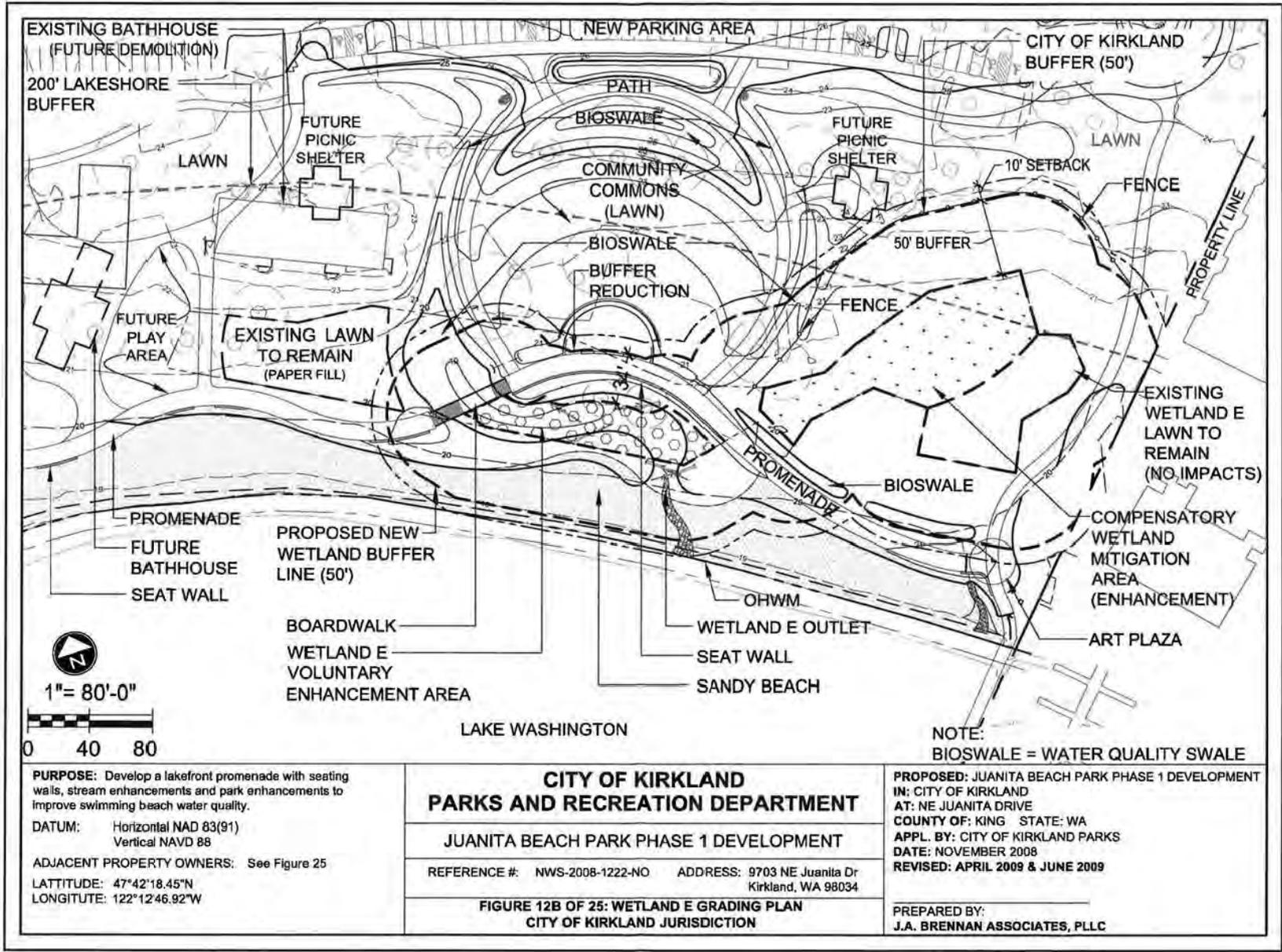
JUANITA BEACH PARK PHASE 1 DEVELOPMENT

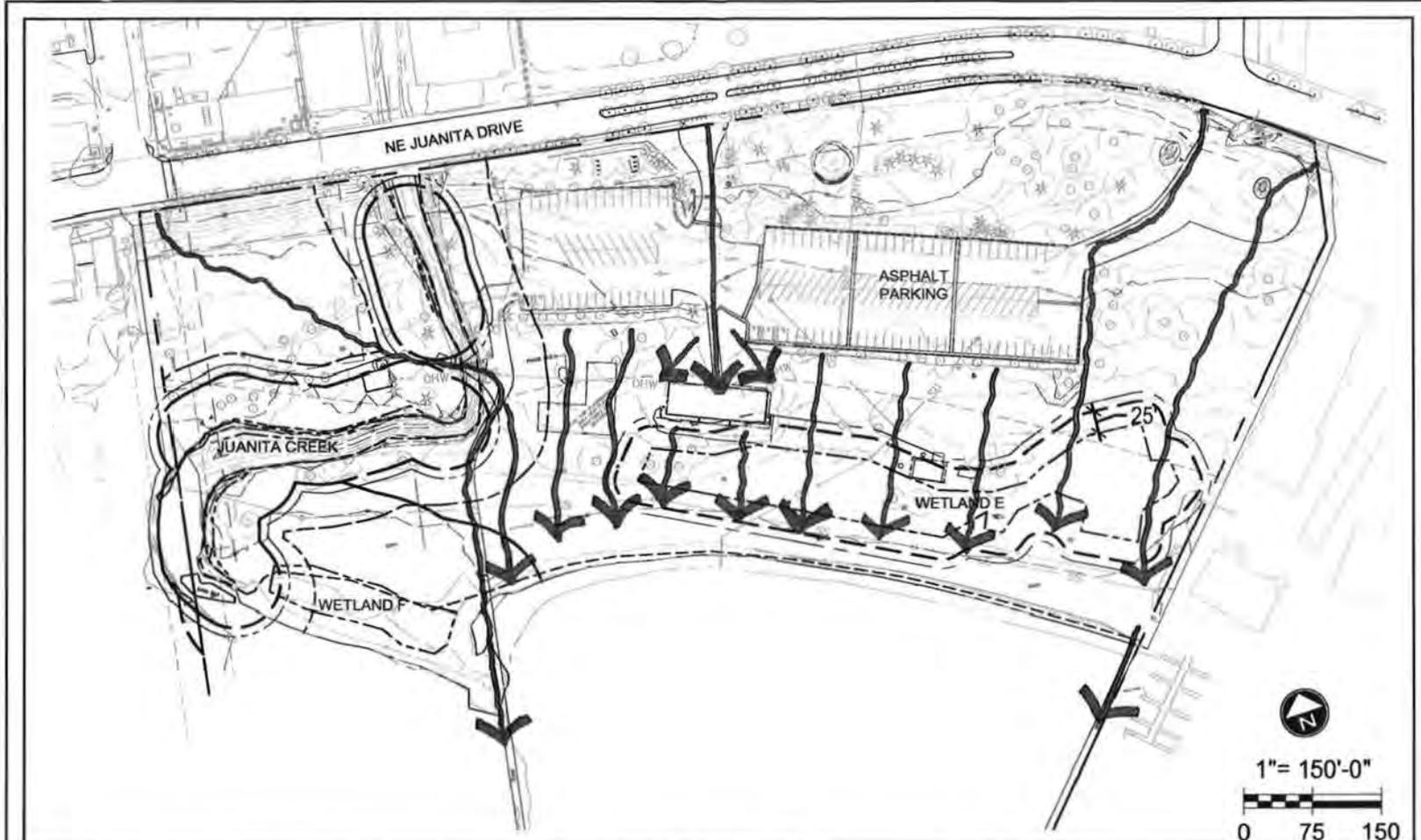
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Kirkland, WA 98034

**FIGURE 12A OF 25: WETLAND E EXISTING CONDITIONS -
USACE JURISDICTION**

PROPOSED: JUANITA BEACH PARK PHASE 1 DEVELOPMENT
IN: CITY OF KIRKLAND
AT: NE JUANITA DRIVE
COUNTY OF: KING **STATE:** WA
APPL. BY: CITY OF KIRKLAND PARKS
DATE: NOVEMBER 2008
REVISED: APRIL 2009

PREPARED BY:
J.A. BRENNAN ASSOCIATES, PLLC





PURPOSE: Develop a lakofront promenade with seating walls, stream enhancements and park enhancements to improve swimming beach water quality.

DATUM: Horizontal NAD 83(91)
Vertical NAVD 88

ADJACENT PROPERTY OWNERS: See Figure 25

LATITUDE: 47°42'18.45"N
LONGITUDE: 122°12'46.92"W

**CITY OF KIRKLAND
PARKS AND RECREATION DEPARTMENT**

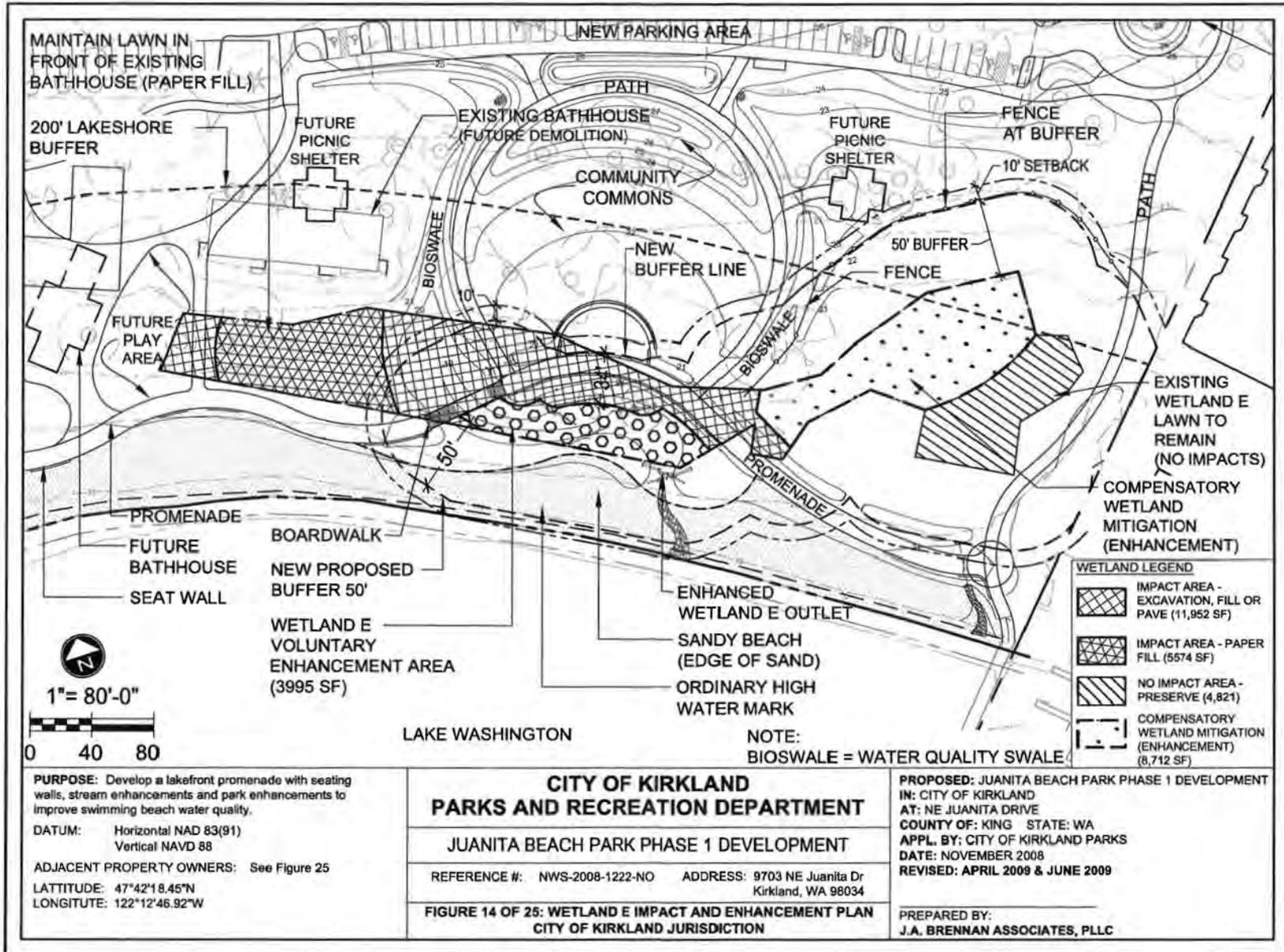
JUANITA BEACH PARK PHASE 1 DEVELOPMENT

REFERENCE #: NWS-2008-1222-NO **ADDRESS:** 9703 NE Juanita Dr
Kirkland, WA 98034

**FIGURE 13 OF 25: EXISTING BEACH ACCESS
USACE JURISDICTION**

PROPOSED: JUANITA BEACH PARK PHASE 1 DEVELOPMENT
IN: CITY OF KIRKLAND
AT: NE JUANITA DRIVE
COUNTY OF: KING **STATE:** WA
APPL. BY: CITY OF KIRKLAND PARKS
DATE: NOVEMBER 2008
REVISED: APRIL 2009

PREPARED BY:
J.A. BRENNAN ASSOCIATES, PLLC



NOT USED

PURPOSE: Develop a lakfront promenade with seating walls, stream enhancements and park enhancements to improve swimming beach water quality.

DATUM: Horizontal NAD 83(81)
Vertical NAVD 88

ADJACENT PROPERTY OWNERS: See Figure 25

LATTITUDE: 47°42'18.45"N
LONGITUDE: 122°12'46.92"W

**CITY OF KIRKLAND
PARKS AND RECREATION DEPARTMENT**

JUANITA BEACH PARK PHASE 1 DEVELOPMENT

REFERENCE #: NWS-2008-1222-NO **ADDRESS:** 9703 NE Juanita Dr
Kirkland, WA 98034

**FIGURE 16 OF 25: NOT USED
USACE JURISDICTION**

PROPOSED: JUANITA BEACH PARK PHASE 1 DEVELOPMENT
IN: CITY OF KIRKLAND
AT: NE JUANITA DRIVE
COUNTY OF: KING **STATE:** WA
APPL. BY: CITY OF KIRKLAND PARKS
DATE: NOVEMBER 2008
REVISED: APRIL 2009

PREPARED BY:
J.A. BRENNAN ASSOCIATES, PLLC