Little Squalicum Park

Bellingham, Washington

MASTER PLAN

February 15, 2010

Belt Collins Northwest LLC
1925 Post Alley, Suite 3B
Seattle, WA 98101
T: 206.285.4395
www.beltcollins.com/seattle

ACKNOWLEDGEMENTS

This document represents the collaborative process between various public and private organizations, the City of Bellingham Staff and citizens of the City of Bellingham. This effort could not have been successful without the contributions from the following individuals that participated in public meetings and reviews, and who generously shared their time during the planning process.

Bellingham Staff

Gina Gobo Austin, Project Engineer, City Project Manager
Tim Wahl, Greenways Program Coordinator
Leslie Bryson, Design and Development Manager
Renne LaCroix, Environmental Specialist
Freeman Anthony, Project Engineer, Public Works
Marvin Harris, Parks Operations Manager
Steve Nordeen, Park Operations
Tom Slack, Park Operations

Stakeholder Advisory Team

Jane Blume, Bellingham Parks & Recreation Advisory Board
Eve Magyar, Bellingham Technical College Capital Projects Coordinator
Becky Schlotterback, Birchwood Neighborhood Association
Barb Campbell, Birchwood Neighborhood Association
Dan Welch, Birchwood Neighborhood Association
Frank Ordway, Birchwood Neighborhood Association, Acting President
Frances Badgett, Birchwood Neighborhood Association, President
Bruce Sheppard, BNSF Railroad, Manager Environmental Remediation
Todd Kuhn, BNSF Railroad, Manager Public Projects
Randy Whitman, CH2MHILL
Jack Weiss, Bellingham City Council
Louise Bjornson, Bellingham City Council
Edie Norton, Columbia Neighborhood Association
Meredith Murray, Columbia Neighborhood Association
Kurt Baumgarten, Washington State Department of Ecology (Ecology)
Mary O'Herron, Washington State Department of Ecology (Ecology)
Vanessa Rayner, Ecology and Environment, Inc. (consultant to EPA)
Mark Longtine, Ecology and Environment, Inc. (consultant to EPA)
Howard Orlean, U.S. Environmental Protection Agency (EPA)
Mary Jane Nearman, U.S. Environmental Protection Agency (EPA)
Jeanne O'Dell, U.S, Environmental Protection Agency (EPA)
Anara Thomas, Grateful Dogs Off Leash Association
Jon Gunschel, The Oeser Company
Chris Secrist, The Oeser Company President
Wendy Steffensen, North Sound Bay Keeper (ReSources)
Carol Williams, Port of Bellingham Maintenance Supervisor
Mike Stoner, Port of Bellingham Environmental Director
Robin Dupre, ReSources
Judy McCarthy, SALSA-G (Security @ Little Squalicum Action Group)
Lynne Givler, Whatcom County Parks Operations Manager
Rod Lamb, Whatcom County Parks Design and Development Supervisor
Jeff Parks, Whatcom County Sheriff's Office

Consultants

Belt Collins, Seattle, WA
GeoEngineers, Bellingham, WA
Northwest Ecological Services, Bellingham, WA
Herrenkohl Consulting, Bellingham, WA
Pacific Surveying and Engineering, Bellingham, WA
ARC Architects, Seattle, WA

EXECUTIVE SUMMARY

The 2010 Little Squalicum Park Master Plan has been developed as an update to the original Park Management Plan prepared in 1990. The new Plan establishes a program for park activities, site restoration and resource protection. The Plan also provides a framework for immediate and long-range facility and site improvements as well as park operations and management. More in-depth site and resource management recommendations can be found in the 1990 Management Plan.



Waterfront Park and Estuary

The Master Plan's development coincided with an ongoing investigation of environmental clean-up of contaminants in the park's soil and water. As a result, the Plan can be used as a blueprint for post clean-up site restoration and park aesthetics.

The park master planning effort was spearheaded by the City of Bellingham staff and included a Stakeholder Advisory Team comprised of various public and private agency stakeholders and project consultants. In addition to the Stakeholder Advisory Team, there was an extensive public participation process where community input was utilized to define issues, establish alternatives and develop a Preferred Master Plan. The public forums ensured ideas from interested individuals were considered. In order to provide a more rounded cross section of community input, questionnaires and public feedback were also collected on the City's website.

The planning process began with an analysis of the existing site conditions, as well as an in-depth review of earlier studies and resource data. The City of Bellingham Staff spent considerable time exploring park development concepts. These concepts established a framework for the Master Plan. After developing a comprehensive understanding of the site issues, park opportunities and constraints were explored. This exploration included the development of several Master Plan Concepts that addressed a variety of park planning scenarios ranging from a plan emphasizing resource preservation to a plan maximizing recreation opportunities. With Stakeholder Advisory Team feedback, a Preferred Master Plan was developed that addressed public desires and City of Bellingham needs. The final steps in the master planning process included Parks and Recreation Board approval and City Council adoption.

The Little Squalicum Park Master Plan addresses both the City's and the public's desire to provide park uses that are compatible with the site's unique setting and natural resources. The preservation and enhancement of wildlife habitat was a primary consideration. Other important considerations included minimizing the development of man-made structures, maintaining views, providing unimpeded access to the Bellingham Bay waterfront and ensuring park uses are compatible with surrounding neighborhoods and businesses.

The program developed for Little Squalicum Park provides for an array of active and passive park uses in a variety of settings ranging from waterfront meadows to secluded woodlands. Proposed Park amenities include multi-use trails (pedestrian/bicycle, ADA accessible), picnic facilities, active play areas, informal play areas and areas for quiet contemplation and discovery. Environmental education and interpretation of site resources is emphasized. Future park amenities might include the addition of environmental or local art work at key sites within the Park. Future public access of the Lehigh (Tilbury) Pier was strongly supported throughout the development of the Master Plan. Provisions for the addition of the pier have been

incorporated into the Master Plan. No new park improvements have been located within the adjoining Burlington Northern and Santa Fe (BNSF) Railroad right-of-way and the adjacent Port of Bellingham property.

A significant portion of the east side of the Lower Park will be dedicated to wetland enhancements and wildlife habitat. In this area, park facilities and activities are constrained in order to provide large and contiguous wildlife corridors. Enhancements to wetlands and upland areas will optimize water treatment and quality. A proposed tidal estuary along the bay could provide vital habitat to juvenile salmon and other small fish. Trails and other human encroachment into this area are limited. Other habitat improvements might include the addition of bat and swallow houses. The public supports select clearing of tree canopy to open views, provide a greater sense of comfort and security and to create a more desirable setting for park activities.

Vehicular access and parking is proposed at three locations around the Park to disperse use and minimize impacts. Parking will be expanded at the Marine Drive trailhead to accommodate up to 27 vehicles. A shared weekend parking arrangement will be explored with BTC, providing significant capacity on the east side of the Park. The existing Mt. Baker Plywood parking lot (Port property) will continue to provide shoreline access. If public access to the Lehigh (Tilbury) Pier is established in the future, additional parking in the vicinity of Squalicum Beach may be necessary.

For the most part, the existing trail system will remain in its current configuration, with the exception of a newly aligned Lower Park Trail. This trail will be reconfigured to accommodate wetland improvements and the shoreline estuary. Cross park circulation will be improved by the addition of several linking trails offering greater connectivity to the various BTC campus buildings. A system of secondary trails will be established in the Lower Park to access more secluded areas of the site.

In order to maintain the uncluttered and natural appearance of the Park, structures and facilities will be low key and blend with the park's natural setting. Proposed facilities include restrooms at the Marine Drive Trailhead and a possible future restroom near the beach and adjacent to the Lehigh (Tilbury) Pier. Additional structures include a picnic shelter in the Upper Park, a wetland boardwalk accessing the west side of the estuary and several bridges spanning the newly aligned creek and estuary outflow. Picnic tables and benches will be provided at activity areas and overlooks. A small outdoor classroom or gathering area will be incorporated into the open space near the BTC campus. Lastly, the spring site north of the Marine Drive Bridge will be emphasized, possibly by incorporating a stone holding basin and cascading falls.

The Park is operated under the existing policies of the City of Bellingham, which may be modified from time to time. The Park should be annexed so that management and law enforcement are both under the City of Bellingham's control.

Implementation of the plan will require considerable capital expenditure for site restoration, facilities, and ongoing management. Park improvements will be phased to follow a logical construction sequence and will be implemented based on available funding.

SECTION I INTRODUCTION 2
- Purpose and Need for the Plan
- Planning Process

SECTION II EXISTING CONDITIONS 4
- Regional Context
- Existing Land Use and Ownership
- Access and Circulation
- Existing Park Use and Facilities
- Natural Resources
- Site History
- Cultural Resources
- Built Environment

SECTION III ANALYSIS, OPPORTUNITIES AND CONSTRAINTS 16
- Composite Analysis
- Park Development Opportunities

SECTION IV STAKEHOLDER AND PUBLIC INPUT 20
- Park Qualities
- Park Issues

SECTION V PROGRAM DEVELOPMENT 22
- Mission Statement
- Goals
- Desired Park Programming and Facilities

SECTION VI MASTER PLAN CONCEPTS 24
- Concept A - Little Squalicum Springs
- Concept B - Little Squalicum Confluence
- Public Reaction to the MP Concepts

SECTION VII MASTER PLAN 29
- Master Plan
- Public Reaction to the Master Plan
- Park Structures
- Sustainable Design
- Management Recommendations

SECTION VIII REFERENCES CITED 41

SECTION IX APPENDIX 42
- Stakeholder Workshop Summaries
- Public Meeting Summaries
- Public Comments
- Wetland Reconnaissance & Existing Conditions Report
- Planning Level Cost Estimate
- 90% Estuary Report

Supporting Documentation Available At:
http://www.cob.org/government/departments/parks/projects/little-squalicum-park-master-plan.aspx

I. INTRODUCTION

PURPOSE AND NEED FOR THE PLAN

The Little Squalicum Park Master Plan is a guide for long-range development of park facilities, site restoration, habitat improvements and site management. The Plan has been developed to define uses and activities, including the quantity, pattern and character of new and existing park facilities, and to provide a blueprint for future park development. The Plan will also assist the City of Bellingham in developing management practices for day-to-day operations of the Park. This Master Plan was developed to augment and refine recommendations established in the 1990 Little Squalicum Park Site Management Plan.

Development of the Master Plan coincides with a planned environmental clean-up of the park site. A portion of the clean-up is being conducted by the Environmental Protection Agency (EPA) in response to contamination found in soil and water at the site. The sources for this contamination include historic and ongoing industrial uses adjacent to the site as well as storm runoff from nearby roads and residential communities. Previous on-site sand and gravel operations and an abandoned landfill have also contributed to the contamination.



Public Site Visit



PROCESS AND SCHEDULE (*Figure 1)*

A complete description of the type, location and extent of known contamination can be found in the Little Squalicum Park Remedial Investigation (Integral Consulting, Inc. 2008).

PLANNING PROCESS *(See Figure 1)*

The Master Plan and Environmental Clean-up planning efforts occurred simultaneously in order to provide an integrated approach to the site's clean-up and establish a framework for future park settings, features and uses.

With the help of planning and environmental consultants, as well as specialists from key government agencies, the City of Bellingham developed a master planning process that included a Stakeholder Team as well as an

extensive public participation component. The Stakeholder Team was comprised of City of Bellingham Staff, the consulting team and representatives from: the Birchwood and Columbia Neighborhoods, Bellingham Parks and Recreation Board, Bellingham Technical College (BTC), Port of Bellingham, Burlington Northern and Santa Fe (BNSF) Railroad, Oeser, Environmental Protection Agency, Washington Department of Ecology and Whatcom County. During the course of the master planning effort, five Stakeholder Team meetings were held prior to major milestones in the planning process. These meetings provided an avenue for understanding the spectrum of stakeholder and community needs, concerns, aspirations, gathering and understanding pertinent data, generating strategies and working toward consensus recommendations.

The public participation component included three public meetings as well as two Parks and Recreation Board meetings and a City Council meeting. In addition, input was gathered from questionnaires, emails and letters. The public has been given the opportunity to comment during each phase of the Master Plan's development. A project website was also used.

Planning for Little Squalicum Park has followed a systematic process with each phase of the project building upon the last. After initial project scoping was completed in Phase 1, an extensive resource inventory and analysis was conducted in Phase 2. Project team members spent considerable time in the field discussing existing site conditions and potential park development, habitat and site restoration opportunities. These findings were documented and a series of analysis and synthesis maps were produced.



Stakeholder Field Trip

Upon completion of the analysis phase of the project, stakeholder and public meetings were held to identify assets, issues, desires and a preliminary program for park facilities and improvements. The input received during these meetings established the framework for the development of two Master Plan Concepts in Phase 3. The Master Plan Concepts explored a range of viable park improvement possibilities and were presented and evaluated at stakeholder and public meetings. In Phase 4, a Preferred Master Plan was selected and refined at stakeholder and public meetings. Finally, the master planning effort culminated with the development of a complete Master Plan document in Phase 5.

II. EXISTING CONDITIONS

REGIONAL CONTEXT *(See Figure 2)*

Little Squalicum Park is approximately 24 acres and is located along the northeast shore of Bellingham Bay. The northeast corner of the Park is located within the City limits. The remainder of the Park is included within Bellingham's Urban Growth Area and includes Whatcom County Parks property.

The Park is zoned for Recreational Open Space and is surrounded by residential, industrial and institutional land uses. Little Squalicum Park is part of the largest contiguous public open space near the north shore of Bellingham Bay. The adjacent Little Squalicum Beach (Port Property) offers the largest and most accessible public beach near downtown Bellingham. Additional public parks within a one mile radius include: Squalicum Creek Park (34.5 acres), Carl Lobe Park (.5 acres), Birchwood Park (4.3 acres), Shuksan Meadows Park (.8 acres) and Lorrainne Ellis Park (.5 acres). The Bay to Baker Trail (regional trail) connects to the north side of the Park. Upon completion of future phases, the Bay to Baker Trail will connect the Park to a regional trails network within Bellingham and outlying areas.

EXISTING LAND USE AND OWNERSHIP

Little Squalicum Park is bordered by a mix of land uses and ownership. Adjacent properties include the BNSF railroad on the south end of the Park, single family residential along the east and west sides of the Lower Park, Oeser Cedar and Morse Steel to the north and BTC along the east and west sides of the Upper Park. The park land is owned by both Whatcom County and the City of Bellingham; however, the agencies have a joint agreement granting management authority to the City of Bellingham Parks and Recreation Department. In addition, there are several private tracts of land with access Rights-of-Ways adjacent to park property. These include a 100-foot BNSF ROW along the south side of the Park, Olympic Portland Cement Company (OPC) Pier Railroad Parcel, the Eldridge Heir's Creek Parcel and the Eldridge Industrial Sites lot (see Appendix A of the Remedial Investigation, Integral Consulting, Inc., 2008 for complete legal descriptions). The entire beach frontage on Bellingham Bay is owned by the Port of Bellingham.



Bellingham Technical College

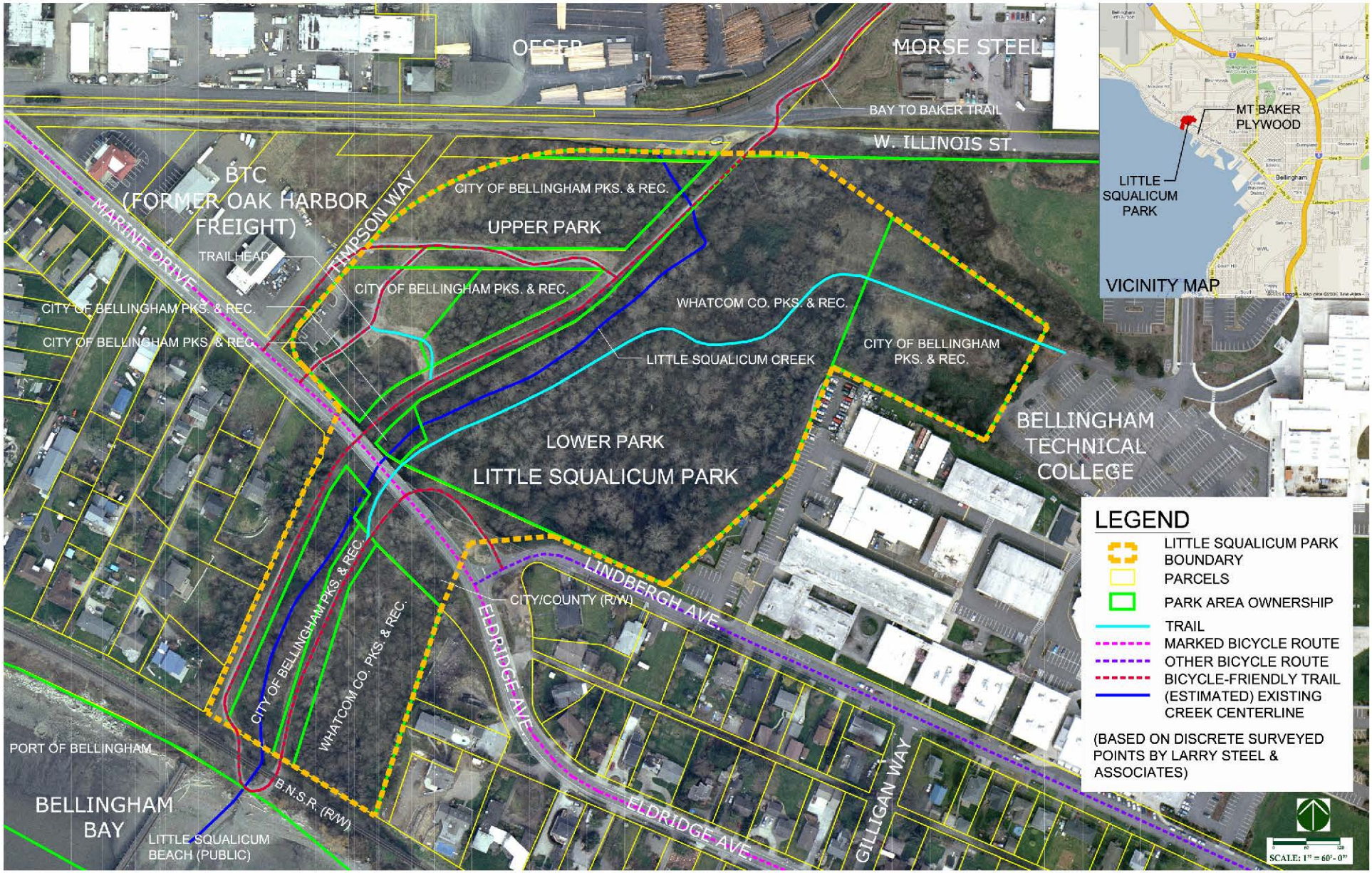
ACCESS AND CIRCULATION

The park property is bisected by the Marine Drive right-of-way which includes an elevated bridge spanning east-west across the site. The main entry into the Park is located near the west end of the bridge at Marine Drive and Timpson Way. The park entry includes a trailhead and parking lot that accommodates 14 vehicles. There are no other parking facilities located within the park property. Additional vehicle parking occurs at various BTC campus parking lots and at the Squalicum Beach parking lot adjacent to Mount Baker Plywood.

Trail access into the Park can be found at several locations around the Park's perimeter. The park site is the terminus to the Bay to Baker Trail - a major urban trail connecting Bellingham Bay to the Birchwood Neighborhood and beyond. Other trail connection points occur on the west side at the Marine Drive trailhead, on the east side at BTC's north parking lot and at the intersection of Lindbergh Avenue and Eldridge Avenue, and on the south side along Little Squalicum Beach. Marine Drive, Eldridge Avenue and Lindbergh Avenue are all designated bike routes in the City's Birchwood Neighborhood Plan.



Mount Baker Plywood Parking Lot



REGIONAL CONTEXT MAP *(Figure 2)*

EXISTING PARK USE AND FACILITIES

Little Squalicum Park provides an array of passive recreation opportunities in a natural open space environment. The wooded trails are a popular destination for hikers, dog walkers, joggers, cyclists and birdwatchers from nearby neighborhoods. The adjacent Little Squalicum Beach attracts large numbers of beach goers and is a popular place to gather and watch sunsets. In addition, the beach offers a launch site for neighborhood kayakers. The Park provides unimpeded access from West Illinois Street all the way to Little Squalicum Beach.

In addition to human activities, the Park provides important wildlife habitat and a connecting corridor linking Bellingham Bay to outlying habitat areas. The park site includes regulated critical areas.

The Park is relatively undeveloped with few facilities other than trails and the parking lot at Marine Drive. Park signs are comprised primarily of park regulations and signs warning visitors of the potential health hazards associated with contacting contaminated streams and surface water.

NATURAL RESOURCES

Landforms and Slopes (See Figure 3)

Little Squalicum Park is situated within a steeply sloped ravine that runs southwest towards Bellingham Bay. The ravine functions as a primary drainage basin for much of the surrounding area. Portions of the north and east ends of the Park occupy flat areas above the ravine. The ravine itself is characterized



Sunset at Little Squalicum Beach

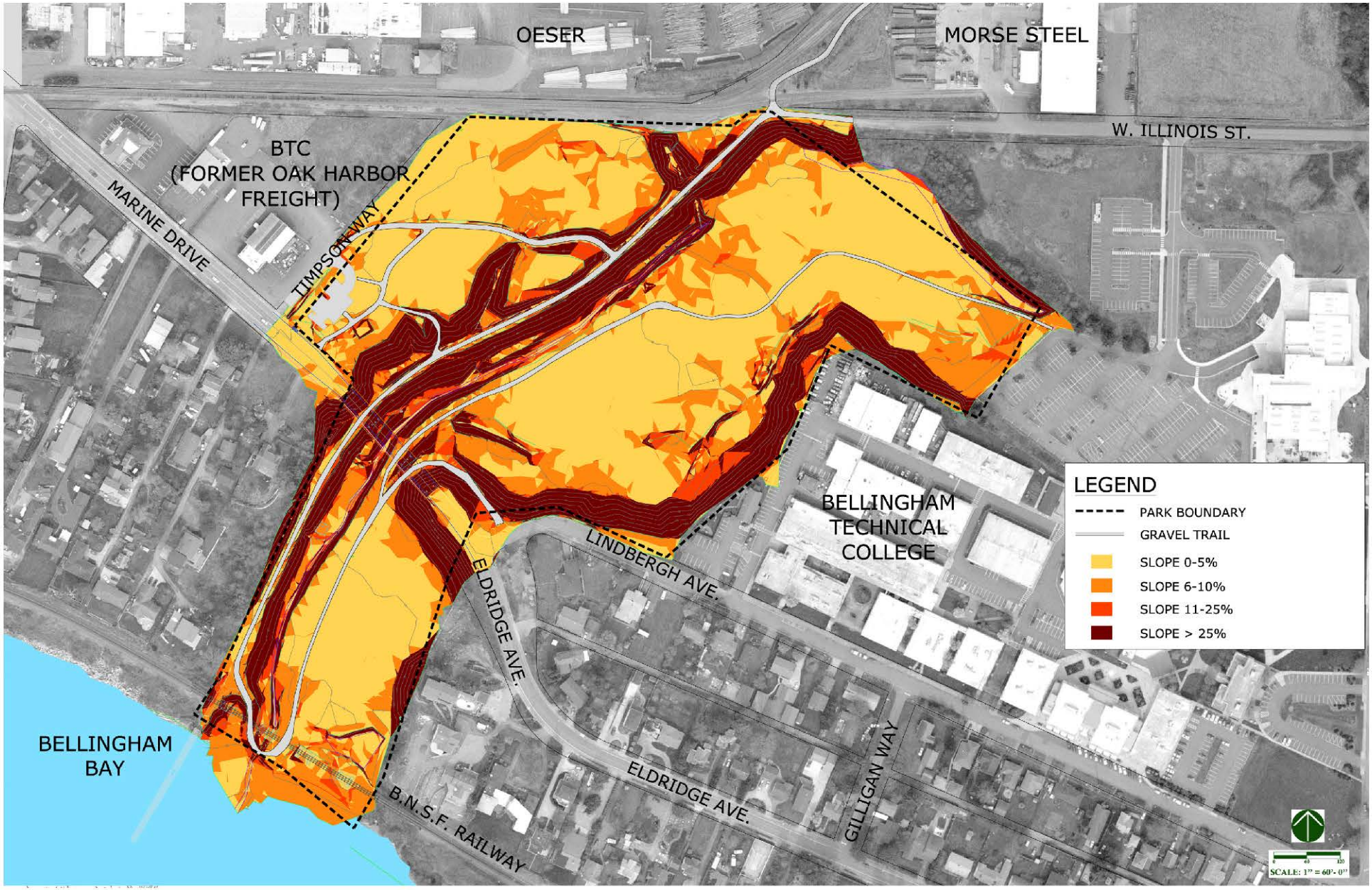
by steeply sloped sides with a flatter bottom. Some of these landforms can be attributed to earlier sand and gravel extraction that occurred at the site (Integral Consulting, Inc. 2008). A marine shoreline and cobble beach are located at the park's southern perimeter.

Elevations within the Park range from 65 ft. on the north end to 20 ft. near the beach. Generally, slope gradients are shallower (0 to 10%) running southwest towards the beach. The east and west sides of the ravine are steeply sloped with gradients exceeding 25%. During a site visit, two unstable slopes were identified and are located in the southwest and northeast portions of the site (GeoEngineers 2009).

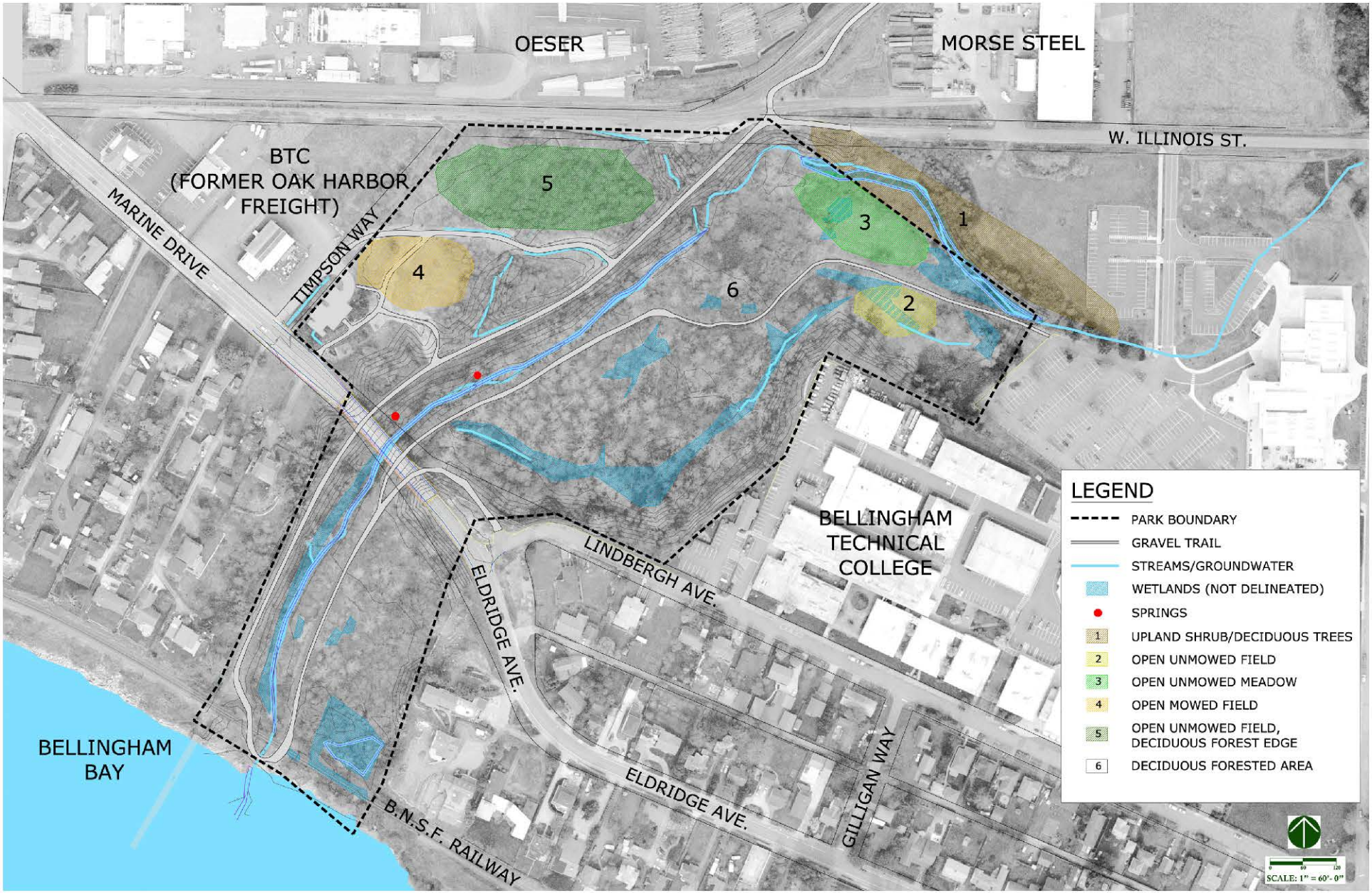
Vegetation (See Figure 4)

The site is primarily vegetated with a deciduous forest intermingled with occasional small open meadows. The forested portion of the site is dominated by deciduous, marginally hydrophytic species. Dominant species include black cottonwood (Populus balsamifera) (approximately 15 to 17 inches in diameter at breast height [DBH]), red alder (Alnus rubra) (approximately eight inches DBH), big leaf maple (Acer macrophyllum) (approximately 15 to 20 inches DBH), ornamental hawthorn (approximately four inches DBH), Himalayan blackberry, snowberry (Symphoricarpos albus), red osier dogwood (Cornus sericea), reed canarygrass (Phalaris arundinacea), and orchardgrass (Dactylis glomerata). Invasive, noxious species (especially Himalayan blackberry) dominate much of the understory. Based on the historic use of the property, the forest is approximately 35 years old.

The site contains four primary areas of open meadow: the upper terrace in the northwest corner of the site, the north central portion of the site, an area between the north central



SLOPE ANALYSIS MAP *(Figure 3)*



NATURAL RESOURCES MAP *(Figure 4)*



Open Meadow

and northwest meadows, and a mowed area adjacent to the existing parking lot. The extent of open meadow appears to be less than the 40 percent described by Sheldon and Associates in 1991. Additional evidence of a progression toward forested conditions is the frequent shrub and sapling patches located throughout all the unmowed meadows. Dominant plants vary depending upon the location, but often include invasive/noxious species including reed canarygrass, teasel (Dipsacus sylvestris), and tansy (Tanacetum vulgare). The plant community locations and list of dominant species are included in Appendix C of the Wetland Reconnaissance and Existing Conditions Report.

Streams and Water Resources

Streams within the Park include Little Squalicum Creek and an unnamed, intermittent tributary flowing from the Oeser site. The primary water sources for Little Squalicum Creek include stormwater pipes flowing from Oeser/Cedarwood Community and the Bellingham Technical College/ Birchwood Community stormwater systems as well as seeps, springs and precipitation within the Park boundaries. In addition to the streams the Park has a number of open water ponds and expressions of groundwater located at the north, east-central and south-east portions of the site. These features are associated with delineated or presumed wetlands. There are no surface water connections between these water bodies and Little Squalicum Creek, although subsurface connectivity is likely. A detailed description of the Park's streams and water resources can be found in the Appendix.

As documented in the 2008 topographic survey (White Shield, 2008) four large and several smaller culverts associated with Little Squalicum Creek and the unnamed tributary can be found within the park site. Consistent with previous reports (Integral Consulting, Inc., 2008 and Springwood and Associates, 1992), the stream was observed to originate from two separate stormwater culverts located at the north perimeter of the Park. The stream continues for approximately 1500 feet before discharging to Bellingham Bay. According to previous reports (Integral Consulting, Inc., 2008 and Springwood and Associates, 1992), a 5-foot x 6.2-foot box culvert discharges water from the Oeser Company facility and the Birchwood Neighborhood. A 36-inch culvert conveys water from BTC and the Birchwood Neighborhood, discharging to Little Squalicum Creek just upstream from the box culvert associated with the Oeser/Cedarwood area. These sources converge to form an open channel in a narrow, steep ravine.

A 48-inch stormwater culvert and a large spring discharge into the Little Squalicum Creek approximately mid-site, near the Marine Drive bridge. The conduit is reported to convey County stormwater (Wilson Survey/ Engineering, 2009). The fourth culvert, an 18-inch conduit, discharges water from Wetland 2, characterized in reports as the historic stream channel. This culvert, also located near the Marine Drive overpass, was dry during July 2009 site visits.

At the south end of the Park, within the BNSF right-of-way, the stream is conveyed under the existing trail via a 36-inch culvert and discharges directly to the cobble beach and Bellingham Bay.



Upper Little Squalicum Creek



36-Inch Beach Culvert



Wetlands

Wetlands

The Park contains fourteen wetlands with several extending off-site (see Wetlands Reconnaissance and Existing Conditions Report in the Appendix for a compete description of Wetlands). The site conditions appear to match the wetland delineation completed in 1991, with minor changes in vegetation. The wetlands include palustrine emergent, palustrine scrub/shrub, and palustrine forested vegetation classes and permanently inundated, seasonally inundated, seasonally saturated hydrologic regimes.

Thirteen of the fourteen on-site wetlands are rated using the DOE rating forms as Category III wetlands. Only one is rated as a Category II wetland. Seven of the wetlands appear to be isolated, while the rest are connected to Little Squalicum Creek or Bellingham Bay. It is likely the City of Bellingham and Whatcom County will have influence over the required wetland buffers. These agencies differ on which wetlands are regulated, but most wetlands are expected to have 60-foot standard buffers and the Category II wetland is expected to have a 75-foot standard buffer.

Shoreline

Although the shoreline along Bellingham Bay is not within the Park boundary, it does play an important role in park functions and activities. Beach use accounts for the majority of park visitation.

The beach is characterized by large cobbles and storm deposited driftwood logs. This particular stretch of beach bears the brunt of winter storms and is heavily eroded. High wave and wind energy is common. The beach is inaccessible during high tides.

Development along the beach is limited to the existing park trail, the culvert for Little Squalicum Creek, and an abandoned concrete plant pier extending from the western park boundary into Bellingham Bay. Little Squalicum Creek discharges directly onto the cobble beach and into the bay.



Log Strewn Beach

Wildlife

No state or federal Threatened, Sensitive, or Endangered plant or animal species were observed on park property, nor have any been documented on available resource maps. Project ecologists observed several species of birds and small mammals common to urban environments. Anecdotal information suggests the presence of a Coopers hawk nest onsite. Coopers hawk is not a state Priority or federal listed species. The Park is a habitat remnant of undeveloped land within a highly urbanized environment.

Little Squalicum Creek is not documented as containing state Priority or federal listed fish species. Project ecologist did not observe any fish during their site visits. This is consistent with Whatcom County's designation of the stream as having "presumed potential/ historical distribution" of anadromous fish. The culvert at the mouth of the stream appears to be a partial fish barrier during low tide conditions; however, the culvert is not documented by WDFW as a fish passage barrier on the SalmonScape interactive mapping program. The stream is highly altered, contains documented contamination (Integral Consulting, Inc., 2008), and has a highly variable, flashy hydrologic regime as a result of storm water inputs. As a result, the stream currently has low fish habitat value for spawning and rearing and may never achieve these functions unless hydrology and contaminant levels are brought back to more natural conditions (Monahan, pers. comm., 2009 and Vasak, pers. comm., 2009).

SITE HISTORY

Throughout the site's known history it has been occupied and utilized for a wide range of uses beginning with the first known Native American inhabitants to its current use as a City of Bellingham Park. The following historical timeline was obtained from the Remedial Investigation (Integral Consulting, Inc., 2008).

Prehistoric	Known as Wh-mahl-ut-choo (place of many springs) by Central Salish tribes. Shell midden deposits in the area indicate the site was occupied and utilized for hunting, fishing and gathering.
1860s	Utilized by settlers for agriculture including hay, dairy and orchards. Haying continues until the 1980s.
1890	Mainline of Great Northern Railway Built. Shoreline recreation begins along the beach at the end of the Eldridge streetcar line.
1912	Olympic Portland Cement railroad and plant constructed. Gravel mining begins and continues until 1967.
1925-1935	U&I Sugar Co. sugar beet refining plant operates on site of present day Oeser pole yard.
Late 1930s	Sanitary landfill for municipal waste operates for 2 to 3 years at the east end of the Park.
1940s	Truck gardening (a farm where vegetables are grown for market) begins on BTC site; continue into the 1960s, gradually becoming hay.
1940	Oeser Cedar Co. begin operations, continuing to present.
1967-1972	Surface of the gravel pit leveled and drained. Peeler logs are stored on the site by Mt. Baker Plywood.
1976	Little Squalicum ravine purchased for a public park by Whatcom County.
1990	Park development planning commences as park visitation increases. Additional property acquisition begins after City purchases Birchwood rail to trail property.
2008	City begins update of the 1990 Master Plan as EPA reintegrates park clean-up work into its Oeser Superfund site clean-up.

CULTURAL RESOURCES

There are two Native American cultural resource sites within the park, including a shell midden and an archaeologically sensitive area. Due to the highly sensitive nature of these sites, their locations and contents are confidential. A complete description of these and other cultural resources can be found in the Archaeological Excavation Permit Application For Site 45-WH-726 (Northwest Archaeological Associates., 2005)



Oeser Cedar

BUILT ENVIRONMENT *(See Figure 5)*

Roads

Currently there are no surface roads within the Park boundary. Marine Drive (major arterial) bisects the site via a 250-foot long bridge spanning the central portion of the park. Additional surface streets adjacent to the Park include Eldridge Avenue (major arterial), Lindbergh Avenue (neighborhood street), Timpson Way (soon to be replaced by the W. Illinois extension) and W. Illinois Street (proposed collector street). Future street improvements include the extension of W. Illinois Street to the west and south. The proposed alignment will follow Timpson Way and tie into Marine Drive just west of the existing park trailhead. The new road will include an attached sidewalk on the park side of the street. The proposed improvements will encroach into park property at the northwest corner of the Park and along the north property line. W. Illinois Street will serve as the primary access into the BTC Campus and Morse Steel.

Other automobile related infrastructure includes a 14-space asphalt parking lot at the trailhead (including curb and gutter). This facility includes a rain garden for storm water treatment. The parking lot has been designed for future expansion to include 13 additional spaces.

Trails

The existing trail system within the Park includes approximately 4,800 linear feet of crushed gravel trails. The vast majority of trails are Type 1 trails (10 feet wide with 1 foot shoulders on both sides). Several smaller Type 2 trails (6 feet wide with 1 foot shoulders on both sides) can be found near the Marine Drive trailhead. The trail network is comprised of a partial loop that connects the upper north end of the Park to the lower south end near the beach. In addition, there are intermediate trails at the middle of the partial loop connecting to Marine Drive and Lindbergh Ave. The trail utilizes the former OPC railroad bed for the upper leg and returns along a lower leg that meanders back from the beach to the BTC campus. The connector



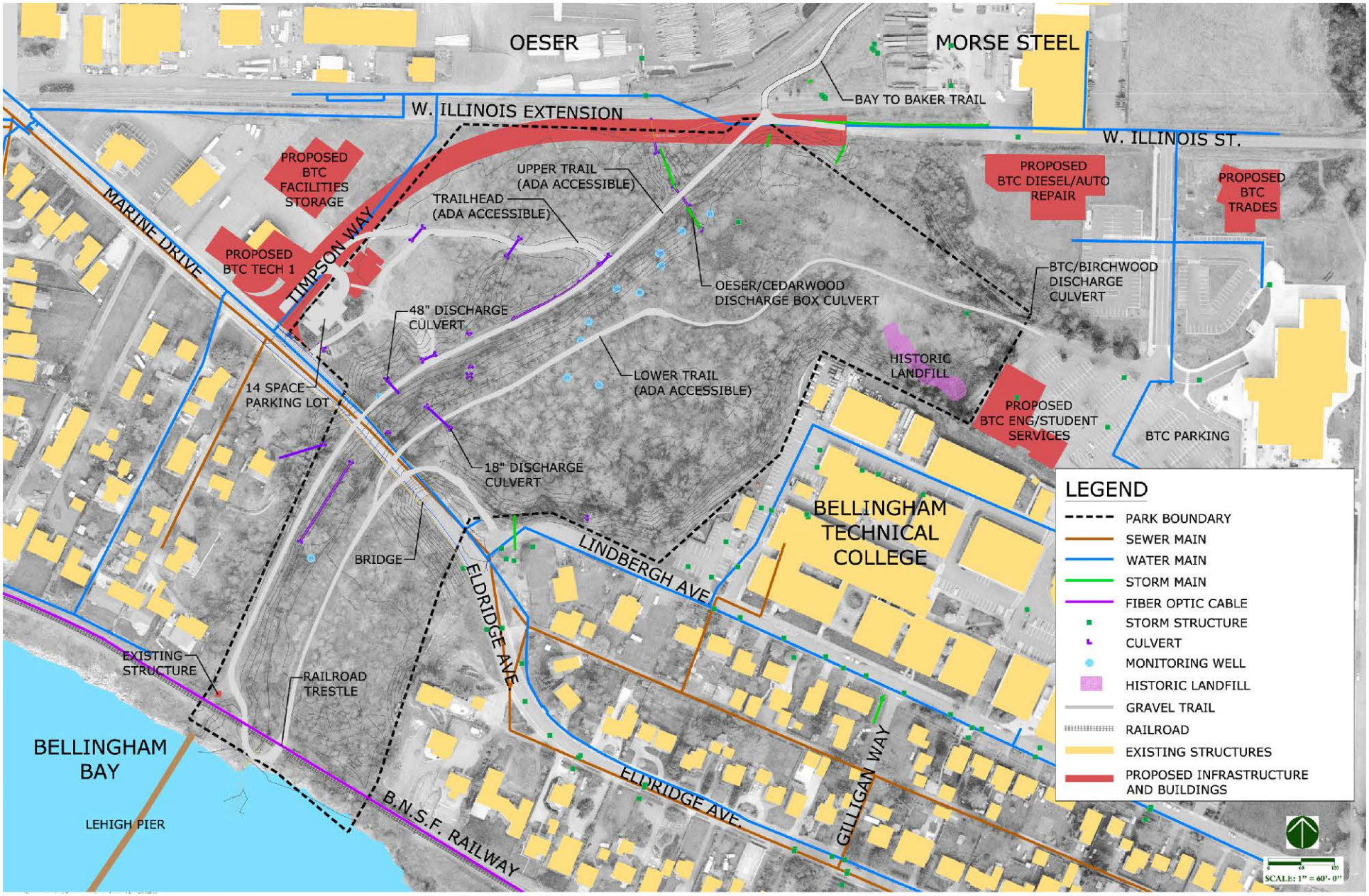
Lower Trail

trails on the east and west sides of the Park descend the ravine's steep side slopes. ADA accessible trails include the main trail from the trailhead parking lot, the OPC railroad bed trail and the lower trail connecting the beach to the BTC parking lot.

These trails also serve as maintenance access roads for the City of Bellingham as well as OPC and the BNSF railroad. In addition, the trails provide beach and Lower Park access for emergency vehicles. Future park and trail improvements must include provisions for emergency and maintenance vehicle access.

Structures

Currently all of the existing structures within the Park are related to transportation or utilities. The Marine Drive bridge and the BNSF railroad trestle tower 60 feet or more above the ravine's bottom. Each of these structures includes several large steel or reinforced concrete support piers. Both structures require periodic maintenance and



BUILT ENVIRONMENT MAP *(Figure 5)*



BNSF Trestle



Lehigh (Tilbury) Pier

convenient access from the Park below.

There is a small concrete enclosure over one of the spring sites just north of the Marine Drive bridge. This spring was likely tapped and utilized for former cement plant operations.

The Lehigh (Tilbury) Cement Company owns a 130-foot pier that extends from the southwest corner of the park into Bellingham Bay. The pier was utilized to receive cement by barge from Canada. This facility is no longer in use. The shallow depths (less than 18 ft.) at the berth face limit its commercial use. The City owns the access to the pier facility.

Utilities

Several utility lines are located under the Marine Drive Bridge. These include a City water main and an unused ductile iron water line previously utilized by Bellingham Cold Storage to convey water directly from the Nooksack River to their facility. Additional utilities include fiber optic cables under the BNSF railroad trestle.

Numerous water mains, sewer mains and storm water mains can be found under major streets adjacent to the Park. Marine Drive, Lindbergh Avenue, Eldridge Ave, and West Illinois Street all have subsurface utilities in close proximity to the Park.

There are at least nine known stormwater culverts that discharge into the Little Squalicum Creek drainage (Integral Consulting, Inc. 2008). These culverts include four large (18-inch, 36-inch, 48-inch, and 6 foot x 5 foot box culvert), and many smaller concrete or steel pipes.

As part of the Remedial Investigation, 14 groundwater monitoring wells were installed in the Park to analyze water quality over an extended period. These wells may or may not remain depending upon the clean-up method utilized to mitigate soil and ground water contamination.



Marine Drive Bridge and Utilities

Historic Landfill

An approximately 7000-square foot sanitary landfill is located in the northeast corner of the Park. The landfill operated for several years in the 1930s. Due to contamination discovered during the Remedial Investigation, the landfill is slated to be removed as part of the site's environmental clean-up under the State Department of Ecology. A complete description of the landfill, its contents and associated contamination is available in the Remedial Investigation (Integral Consulting, Inc. 2008).



Culvert and Monitoring Well

III. ANALYSIS, OPPORTUNITIES AND CONSTRAINTS

COMPOSITE ANALYSIS *(See Figure 6)*

The Composite Analysis Map was prepared to highlight significant aspects of the existing conditions inventory that will most influence park development. The Composite Analysis presents a framework for the development of park uses, facilities and settings, site restoration and habitat improvements.

Park Access: There are five primary access locations around the perimeter of the Park. Each location offers convenience, excellent connectivity to parking, regional trails or intensive use areas. Given the confined nature of the ravine setting, few if any viable park access possibilities exist outside of those already established.

Vehicular Circulation: Existing vehicular access to the Park is ideal in many respects, because of the close proximity of major roads, the roads proximity to primary park access locations and the absence of roads within the park setting. The West Illinois Street expansion will significantly improve vehicular circulation to and from the Park.



Marine Drive Trailhead

Trails: Given the difficulty of accommodating trails in a steep ravine, the existing trail system offers a logical network connecting major park destinations and site access locations. However, the linear nature of many of the trails detracts from the natural park experience and promotes excessive speed for bikers. Trail improvements should be implemented to slow bicyclists. Also, efforts should made to improve cross-ravine (east-west) circulation particularly in light of BTC's proposed campus expansion. Lastly, loops and secondary trail opportunities should be explored, allowing exploration and immersion in more remote areas of the Park.

Railroad: The park property is separated from the beach and waterfront by a 100-foot wide BNSF railroad Right-of-Way (ROW). While the railroad does permit limited access across their ROW, they do have restrictions precluding the development of facilities and use areas within their ROW. As a result, no facilities or park settings should be proposed that encourage park visitors to linger within their ROW.

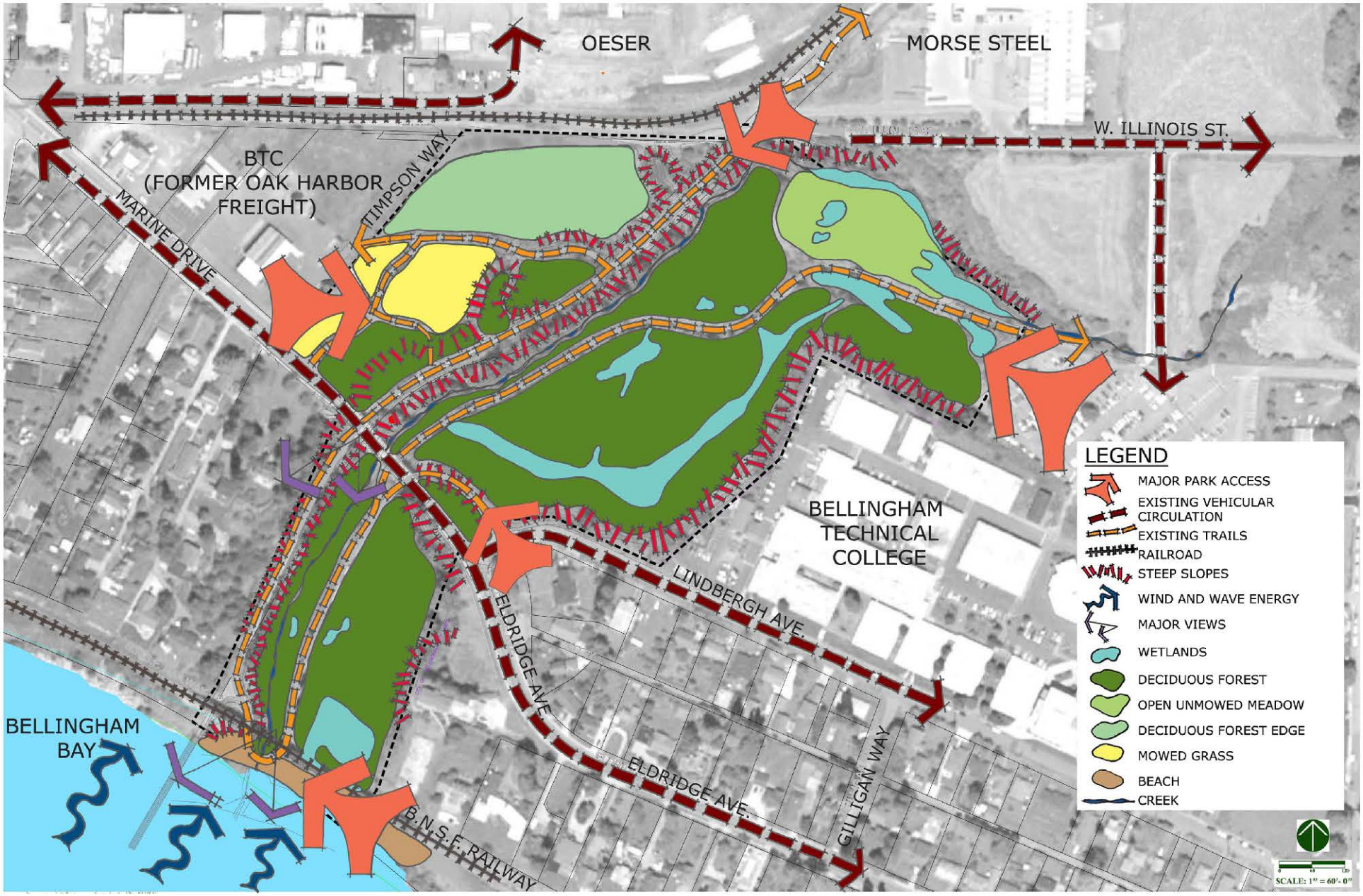
Steep Slopes: The steep side slopes of the ravine severely limit opportunities for park and trail facility development. However, they do provide a natural buffer from adjacent land uses and therefore create excellent opportunities more intimate park settings. Also, the steep slopes discourage human encroachment, therefore providing excellent opportunities for habitat improvements.

Wind and Wave Energy: Little Squalicum Beach is one of the most dynamic and storm prone beaches along Bellingham Bay. High wind and wave energy results in heavy beach erosion, severely limiting opportunities for permanent park facility improvements.

Major Views: Even in its existing heavily forested condition, the Park offers excellent short and long range viewing opportunities towards Bellingham Bay. The Lower Park area and Marine Drive bridge offer tremendous views of Lummi Island and the San Juan Islands. Park improvements should include major view enhancements in these sites.

Wetlands: As described in the wetlands section of the existing conditions report, the Park includes several significant wetland resources. These wetlands function in several important capacities including stormwater detention and filtration, as well as habitat for a wide range of plants and animals. Park improvements should include wetland protection and enhancement, including the introduction of as much storm water into the system as possible.

Vegetation: The Park is comprised of several different vegetation zones including deciduous forest and open meadows. In many cases the vegetation is invasive or nearing the end of its expected life. Park improvements should address site restoration and the proliferation of healthy native plants.



COMPOSITE ANALYSIS MAP *(Figure 6)*

PARK DEVELOPMENT OPPORTUNITIES *(See Figure 7)*

The Park's proximity to Bellingham Bay, the BTC Campus and surrounding neighborhoods combined with its unencumbered access to the water and regional trails, offers tremendous opportunities in terms of creating dynamic and interesting park spaces and experiences. With the exception of the environmental clean-up, the pieces are in place to transform this former gravel mine and landfill into a truly special open space park.

The Development Opportunities Map was created to synthesize the analysis and to determine how specific zones or areas within the Park should be programmed. This map begins to establish those areas in the Park that are most suited for active and passive recreation, habitat improvements and site restoration. These designations are based on existing park uses and facilities, natural resources, existing and proposed off-site development and the potential for creating quality visitor experiences and facilities.

The map includes proposed BTC and West Illinois Street improvements. The buildings in red indicate the 20-year build-out of campus facilities identified in the BTC Campus Master Plan (HKP Architects., 2007). The soon to be completed West Illinois Street extension is outlined in red. The improvements to adjacent and nearby properties will have significant impacts on the Park in terms of improved access and increased use and visitation. The Marine Drive and West Illinois Street intersection will serve as a primary entry and gateway to the BTC campus. This access will be utilized for all modes of transportation including cars, buses, bicycles and pedestrians. In addition to transportation improvements, the West Illinois Street project presents an opportunity to introduce a significant quantity of storm water into the park system. Proposed storm water improvements include a detention facility in the Upper Park. The new BTC buildings west of the Park will result in increased pedestrian and bicycle circulation across the site.

Another proposed improvement within the Park is the development of a tidal influx zone and estuary in the southeast corner of the Park adjacent to the beach. Estuaries of this type have largely been lost on Bellingham Bay and provide critical juvenile fish habitat. The Park Master Plan will be coordinated with the Little Squalicum Shoreline Restoration Study (Coastal Geologic., 2009) to ensure park improvements and stream functions are compatible with the development of the estuary.

Access Connectors: The access connectors identify opportunities for improved park access. Generally the access connectors are located at established park entry points or concentrated use areas where park access should be provided. East-west access across the Park to and from the BTC campus is the great shortcoming of the existing trail system. With the proposed campus expansion along the Park's east and west sides multiple connections through the Park should be established.

Existing/Proposed Trails: The Plan identifies several trail connection opportunities that will improve park circulation and facilitate east-west access across the Park. The first



BTC Connector At Lindbergh Avenue

of these connection opportunities would join the lower main trail to the upper main trail just east of where the primary trailhead connector joins the upper trail. Another connection opportunity would tie the Lindbergh Avenue access trail to the trailhead via the secondary access trail just north of the Marine Drive bridge. The final connection opportunity would facilitate access into the Park from the central BTC campus along an upper walkway that would tie into the Lindbergh Avenue access trail.

Activity Nodes/Areas: The activity nodes/areas identify locations within the Park where more intensive use will be encouraged. These sites have been selected due their ease of access, suitability for active uses, desired settings, compatibility with adjacent onsite and off-site uses and their separation from areas that present the best opportunities for habitat improvements. The settings and site facilities at these locations will promote comfort, safety and encourage extended use.



DEVELOPMENT OPPORTUNITIES MAP *(Figure 7)*

Habitat Areas: The areas of the Park identified as habitat areas have existing natural features including wetlands and vegetation that hold the highest ecologic potential for viable habitat. In most cases these site are well protected or isolated from adjacent uses and activities. These sites also offer the best opportunity for the development of a contiguous and well protected wildlife corridor connecting the bay to outlying habitats. The Plan will emphasize wetland and vegetation enhancements in these areas.

Restoration Areas: The restoration areas are sites that hold less potential for programmed park uses, facilities or habitat. These are transition zones that will provide a buffer between active use areas and habitat. Site restoration and park beautification should be emphasized in these areas.

Canopy Clearing: The Plan identifies several areas where canopy clearing will greatly enhance the visitor experience and sense of safety. The Park's ravine setting and dense tree canopy creates a sense of uneasiness or vulnerability for some park users. Clearing at these sites will open views to and from the Park as well as tie parks spaces together.



View From the Marine Drive Bridge



Public Meeting Comments

IV. STAKEHOLDER AND PUBLIC INPUT SUMMARY

The following bulleted lists describe the key master planning qualities and issues discussed during the first stakeholder team workshop and the first public meeting. A complete description of the meeting summaries can be found in the Appendix.

Park Qualities: These are the aspects of the existing Park that respondents found pleasing or would like to see preserved or protected as part of the Master Plan. The responses heard most often included:

- Preservation of the site in its natural condition
- A desire to see wildlife habitat enhanced at the site
- Protection of important wildlife corridors
- Preserving the natural park experience that makes Little Squalicum Park different from other City parks
- Maintain tremendous access to the water, one of the few public beaches in Bellingham
- Great views to the bay and surrounding islands
- Recreation opportunities (walking, running, biking & nature)
- Family oriented atmosphere
- Great place for children to experience nature (beachcombing)
- Great connectivity to surrounding neighborhoods
- Linkages to area trails
- Greenbelt in an industrial area
- Excellent vehicular access

Park Issues: These are the issues that respondents felt were the most important to address in the Master Plan. The responses heard most often included:

- Need to clean-up the park's contamination
- Ensure current park users understand existing environmental hazards
- Water availability/quantity and quality is a major limiting factor driving site ecology, habitats improvements and features
- Need to introduce as much storm water as possible into the system and retain on site
- The park is underutilized
- Need to attract families and children
- Park attracts undesirables, drug dealing, encourages bad behavior
- Garbage, vandalism, beach fires
- Better sense of security improved park safety
- Park feels like a corridor
- Too many mosquitoes



Beach and Water Access

- High energy shoreline and beach erosion
- Off-trail use (social trails)
- Uncontrolled run-off, no storm water treatment, poor water quality
- Prohibit off-leash dogs
- Provide for off-leash dogs
- The site's hydrology and grades are altered
- Do not impede people's ability to walk on beach
- Restore park creek to historic channel
- Improve park maintenance, facilitate maintenance access
- Park should not feel like an urban park
- Off-site parking in adjacent neighborhoods
- Provide emergency access
- There are no restrooms in the park
- Railroad Right-of-Way restricts use between the park and beach
- City doesn't own the beach
- Need park regulation signs
- Invasive plant species



Beach Trail Within BNSF Right-Of-Way

V. PROGRAM DEVELOPMENT

MISSION STATEMENT AND GOALS

Prior to the development of the Master Plan Concepts, the project team and the City of Bellingham staff developed a mission statement and goals for the Master Plan. These statements were derived from the desires and sentiments expressed by the public during the planning process. The mission statement and goals were established to guide development of the Master Plan and ensured we were fulfilling the public intentions for the Park.

Mission Statement

The Little Squalicum Park Master Plan sets a course for the restoration and revitalization of a vibrant, healthy and ecologically diverse park facility that balances high quality visitor experiences with natural resource enhancements and protection.

Goals

Image

- Transform an environmental clean-up site into an attractive and inviting natural park experience.
- Create an environment that stimulates ecological recovery and promotes an appreciation and an ethic of conservation among visitors.

Visitor Experience

- Provide an interesting, experiential corridor that links neighborhoods, businesses and the BTC campus to each other and to the waterfront.
- Create defined and inviting spaces that reflect the diverse character of the Park.
- Develop a trail system that connects use areas within and around the Park
- Provide secondary trails that allow visitors to immerse themselves in the more secluded sections of the Park for experiences of solitude, discovery and adventure.

Recreational Use

- Provide accessible recreation facilities so people from diverse backgrounds, ages and abilities can use the Park for passive and active recreation as well as enhanced shore line activities.
- Establish large, inviting, open space areas for unprogrammed recreation.

Surrounding Land Use

- Locate visitor facilities and uses in a manner that will retain the quiet and peaceful qualities of the surrounding neighborhoods and businesses.

Resource Restoration and Enhancement

- Restore and enhance the health and diversity of habitats; protect special biological areas and species of plant, animal and fish; and promote sustainable ecosystems.
- Develop water resources that build upon the unique qualities of the springs, estuary and wetlands.

Education and Interpretation

- Utilize a variety of means, including interpretive signage, to educate visitors about the Park's unique natural, cultural and scenic resources, it's history and the ongoing restoration efforts.
- Provide specific areas that also function well for environmental education and interpretive programs.

Maintenance and Operations

- Manage facilities, services, resources and public uses to be economically and environmentally sustainable.
- Use partnerships to improve the City's ability to build and maintain quality facilities and services.

Partnerships

- Work with the surrounding neighborhoods, businesses, educational communities and other stakeholders to ensure that Little Squalicum Park remains a quality park for visitors and the citizens of Bellingham.

DESIRED PARK PROGRAM AND FACILITIES

These are the park uses, facilities and improvements respondents wanted to see included in the Master Plan:

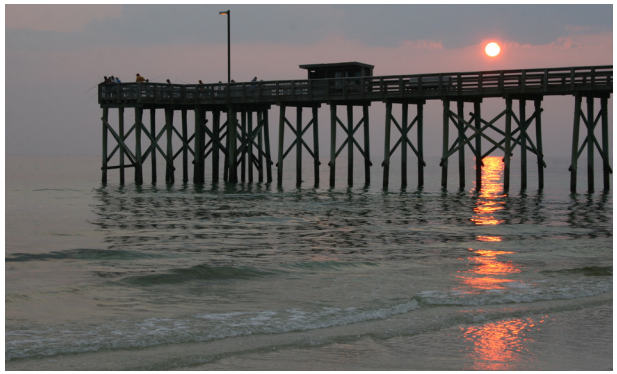
- Removal of site contamination
- Active and passive uses in the Park especially near the beach
- Picnic sites and benches
- Fire pits and bbq areas near the beach
- Improved trails for walking, running and biking
- Looped trail system
- Meandering nature trails
- Enhanced beach facilities and access
- Open meadows for active recreation
- Pier access
- Better sense of security and safety
- Restrooms near the trailhead parking lot and at the beach
- Improved BTC linkages
- Site restoration including indigenous plants, spruce, cedar, madrone
- Improved ADA access
- Improved wildlife habitat and corridors
- Swallow and bat houses
- Fish Habitat
- Playground in Upper Park
- Frisbee golf course
- Public art
- Shared public parking at BTC
- Transfer of the Port parking lot near Mt. Baker Plywood to the City
- Interpretive signs and education
- Park Entry Signs, wayfinding signs and regulatory signs
- Park orientation maps
- Off-leash dog area
- Launch area for small boats and kayaks
- Improved park maintenance
- Do not want to see the Park changed at all, no park or recreation improvements



Boat Launch for Kayaks



Wildlife Habitat



Pier Access



Habitat Structures



Off-Leash Dog Area



Nature Trails

VI. MASTER PLAN CONCEPTS

Based upon the public's feedback, a Stakeholder Advisory Team workshop, and discussions with resource and management experts, Master Plan Concepts were developed. These concepts explored a range of resource enhancement and recreation opportunities for Little Squalicum Park. In order to compare the pros and cons of each concept and to gauge the public's desires, the planning team developed concepts that were distinct yet provided recreation opportunities that were compatible with the proposed level of resource protection.

The concepts ranged from a Master Plan that emphasized wildlife preservation and resource enhancement to a Plan that maximized recreation opportunities at Little Squalicum Park.

CONCEPT A - Little Squalicum Springs *(See Figure 8)*

Concept Vision

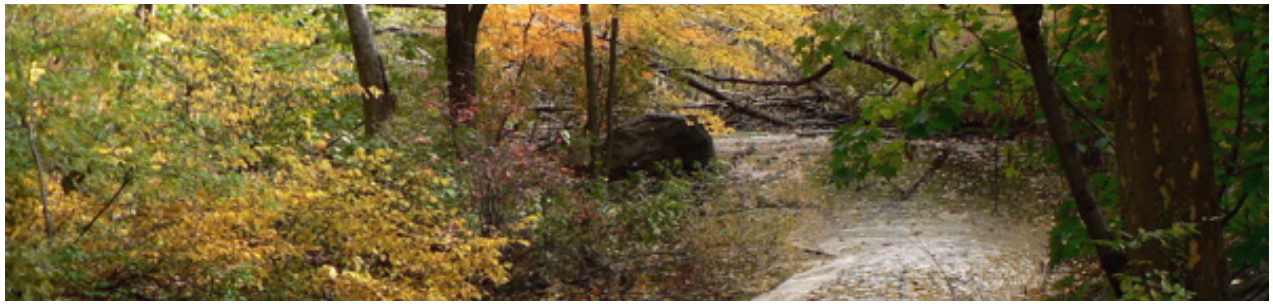
Establish a clean, healthy "natural" park environment focusing on site restoration and habitat improvements. Provide limited recreation facility improvements. Maximize opportunities for quiet contemplation and discovery. Focus on a diversity of low impact and passive recreation uses including education and interpretation.

Key Ideas

- Celebrate the springs - Wh-mahl-ut-choo (Place of Many Springs)
- Emphasize site restoration and habitat enhancements
- Ensure the most significant and sensitive resource areas are protected
- Facilitate wetland capture and treatment of storm water where possible
- Separate direct creek flows (storm drainage) from the estuary until water quality is improved/understood
- Establish a large and vital estuary habitat
- Optimize upstream water quantity and quality (possible direct spring connection)
- Establish facilities that improve the visitor experience and promote a natural park environment
- Establish contiguous wildlife corridors
- Establish buffers into sensitive habitats - utilize steep slopes and surface water to prevent encroachment
- Diversify plant ecosystems, incorporate indigenous plant materials (cottonwood gallery, spruce cedar forest, madrone), eradicate invasive species
- Provide open meadows for unprogrammed/informal recreation
- Open the tree canopy in key areas to improve the visitor experience and safety

Preliminary Program

- Park Entry Signage at Marine Drive
- Park Information/Orientation Signs at Primary Access Points
- Expanded Parking at Marine Drive Trailhead
- Utilize BTC Parking on Weekends
- Improved Multi-Use Trail System and Access
- Improved Connectivity to the BTC Campus
- ADA and Emergency Vehicle Access Trail
- Secondary Trails - Meandering Nature Trails in More Secluded Areas
- Restroom Facility Near the Parking Lot, Possible Future Restroom Near the Pier
- Formal (Tables) and Informal (Boulders) Picnic Sites
- Overlooks
- Interpretive Areas & Signage (History, Natural Resources, Ongoing Restoration Efforts)
- Bridges & Boardwalks
- Habitat Improvements (Bat & Swallow Houses)
- Trail Armoring & Stabilization at Beach
- Regulatory Signage at Key Locations



Habitat Restoration and Enhancements


OESER
MORSE STEEL
W. ILLINOIS ST.
MARINE DRIVE
Proposed BTC Facilities Storage
Proposed BTC Tech 1
Expanded Parking
Picnic Tables
Entry Sign
The Upper Park
Information Sign
Upper Trail #1 (10' +2')
Restrooms
Boulders
Active Play Area
The Springs Trail
The Springs
Direct Spring to Estuary Connection
Cottonwood Gallery
The Back Glade
Lower Trail #2 (6' +2')
BTC Connector Trail
Nature Trail
Cedar Spruce Grove
Proposed BTC Diesel/Auto Repair
Proposed BTC Engineering/ Student Services
BELLINGHAM TECHNICAL COLLEGE
LINDBERGH AVE.
ELDRIDGE AVE.
ALLEY
GILLIGAN WAY
Existing Lower Trail Alignment
Bridge
Overlook
Boardwalk
Estuary
West Meadow
BNSF ROW
Future Restrooms
Nature Trail #2 (6' +2')
Beach Connector Trail
Estuary Inlet
B.N.S.F. RAILWAY
BELLINGHAM BAY
CONCEPT A - LITTLE SQUALICUM SPRINGS
SCALE: 1" = 60'- 0"

(Figure 8)

CONCEPT B - Little Squalicum Confluence *(See Figure 9)*

Concept Vision

Provide a wider range of recreation uses, visitor experiences and facilities, while ensuring key habitats and resources are restored and protected. Ensure that facilities are sensitive to the environment and function in combination as an integrated system. Foster an appreciation and an ethic of conservation among visitors.

Key Ideas

- Restore, enhance and protect the most vital habitat areas
- Establish an integrated system of facilities that are responsive to the site's resources
- Facilitate wetland capture and treatment of storm water where possible
- Maximize the quality and quantity of creek flows through the site and into the estuary
- Shift the W. Illinois detention pond to the west to establish a large active use area adjacent to BTC - utilize detention pond spoils for landfill
- Establish a greater orientation towards active use areas
- Provide large open gathering meadows with facilities that encourage extended use
- Establish a theme to link individual park spaces and create visual interest (environmental art)
- Provide for greater access to the estuary
- Establish contiguous wildlife corridors
- Establish buffers around the most vital habitat areas - utilize steep slopes and surface water to prevent encroachment
- Diversify plant ecosystems, incorporate indigenous plant materials (cottonwood gallery, spruce cedar forest, madrone), eradicate invasive species
- Open the tree canopy in to improve the visitor experience and safety

Preliminary Program

- Park Entry Signage at Marine Drive
- Park Information/Orientation Signs at Primary Access Points
- Expanded Parking at Marine Drive Trailhead
- Utilize BTC Parking on Weekends
- Expanded Multi-Use Trail System and Access
- Increase Connectivity to the BTC Campus
- ADA and Emergency Vehicle Access Trail to the Pier
- Secondary Trails - Meandering Nature Trails in More Secluded Areas
- Pier Access (Overlook, Interpretive Signage, Fishing)
- Restroom Facilities at the Parking Lot and Near the Pier
- Formal and Informal Picnic Sites
- Group Picnic Shelter
- Overlooks & Benches
- Interpretive Areas & Signage (History, Natural Resources, Ongoing Restoration Efforts)
- Bridges & Boardwalks
- Habitat Improvements (Bat & Swallow Houses)
- Trail Armoring & Stabilization at Beach
- Regulatory Signage at Key Locations
- Playground in the Upper Park
- Outdoor Gathering Area near BTC
- Environmental/Local Art



Picnic Sites Near the Water


OESER
MORSE STEEL
W. Illinois St.
W. ILLINOIS ST.
MARINE DRIVE
Proposed BTC Facilities Storage
Proposed BTC Tech 1
Expanded Parking
Restrooms
Picnic Tables
Entry Sign
Active Play Area (Playground)
The Upper Park
Information Sign
Picnic Shelter
Upper Trail #1 (10' +2')
Art
The Back Glade
Picnic Tables
Lower Trail #1 (10' +2')
Bench
BTC Connector Trail #1
Gathering Area
Information Sign
Proposed BTC Diesel/Auto Repair
Proposed BTC Engineering/ Student Services
Cedar Spruce Grove
Nature Trail
Cottonwood Gallery
BTC Connector Trail #2
Wetland Overlook
Upper Walkway
BELLINGHAM TECHNICAL COLLEGE
LINDBERGH AVE.
ELDRIDGE AVE.
ALLEY
GILLIGAN WAY
Existing Lower Trail Alignment
Picnic Sites
Bridge
Boardwalk
Information Sign
West Meadow
Estuary
BNSF ROW
Future Restrooms
Bench
#2 (6' +2') Trail
Pier Access
Beach Connector Trail
Estuary Inlet
B.N.S.F. RAILWAY
BELLINGHAM BAY
CONCEPT B - LITTLE SQUALICUM CONFLUENCE
SCALE: 1" = 60'- 0"

(Figure 9)

PUBLIC REACTION TO THE MASTER PLAN CONCEPTS

The second of three public meetings was held to discuss and comment on the Master Plan Concepts. Most of the meeting participants liked the habitat and resource emphasis of Concept A, including the addition of the expanded shoreline estuary. However the vast majority of meeting participants liked the expanded park programming and facility improvements offered in Concept B. A complete summary of the public's responses can be found in the Appendix.

Interim Park Appearance

Given the extensive cut, fill and regrading potentially associated with the site's clean-up, it is important to understand and visualize the park's interim appearance. In all likelihood significant portions of the existing forest could be removed in their entirety. Restoration will result in a very different park appearance. It could be several decades before the landscape reaches maturity.



Example of a Newly Planted Restoration Site

VII. MASTER PLAN

MASTER PLAN *(See Figures 10 & 11)*

The final Master Plan is a hybrid plan combining specific elements of Master Plan Concepts A & B. Based upon collaboration with the Stakeholder Team and public input, desired components of the concept plans were evaluated and selected. Elements of the plans were chosen in accordance to their compatibility with the natural park experience at Little Squalicum Park, as well as their adherence to the established project mission statement and goals. In some cases alternative settings or locations were selected to accommodate desired park uses or facilities that might not otherwise have been compatible with the overall plan.

Park Vision

Create a park environment that merges resource restoration with high quality visitor experiences and facilities. Establish a clean, "natural" park setting that provides a healthy balance between site restoration, habitat improvements and park uses. Provide opportunities for active park uses as well as, quiet contemplation and discovery. Ensure facility improvements are sensitive to the environment and function in combination as an integrated system. Include a diversity of low impact and passive recreation uses including education and interpretation.

Key Habitat and Restoration Components of the Master Plan

- **Emphasize site restoration and habitat enhancements:** Incorporate environmental clean-up features into the site's ecology. Site clean-up operations could provide opportunities to enhance land forms and wildlife habitats. Utilize clean fill material to soften landforms resulting from earlier mining operations and to create use able park spaces and trail connections. Take advantage of the site's hydrology and ravine setting to create enhanced wetlands and wildlife habitat along the difficult to access east side of the Park. This portion of the park site offers a tremendous opportunity for a contiguous wildlife corridor. Habitat improvements may also include built features like bat boxes and swallow houses.

- **Ensure significant and sensitive resource areas are protected:** Utilize slopes, surface water and dense vegetation to establish buffers adjacent to sensitive resource areas, particularly the estuary and interior wetlands. Provide adequate setbacks for park facilities and uses. In some cases temporary fencing may be necessary to establish vegetative buffers.

- **Facilitate wetland capture and treatment of storm water:** The ravine site is the low point for a large watershed. Take advantage of storm water inputs to establish large and vital wetlands. Develop slow draining wetlands to treat storm water prior to entering the estuary downstream.

- **Establish a large and vital estuary habitat:** In addition to the critical juvenile salmon habitat, the estuary offers tremendous opportunities for interpretation and the development of a unique park visitor experience. In order for the estuary to function as viable fish habitat, human and pet encroachment must be severely limited. Access should only be permitted along established and fenced boardwalks and bridges.

- **Diversify plant ecosystems:** Utilize a variety of indigenous plant materials (cottonwoods, spruce/cedar, madrone) to create diverse and visually interesting park spaces. Eradicate and manage invasive plant species.

- **Open the tree canopy:** Select clearing of tree canopy should be implemented to open views, provide a greater sense of comfort and security and to create a more desirable setting for park activities. Tree clearing will also greatly diminish mosquitoes during the summer months.

Key Programmatic Features of the Master Plan

- **Provide large open meadows for unprogrammed/informal recreation:** The establishment of large open space areas for informal recreation will be essential in developing an active, vital park experience. Take advantage of the Park's unique shoreline setting and varied topography to create memorable and inviting spaces.


OESER
MORSE STEEL
Optional Connector Pipe
Retaining Walls
W. Illinois Mitigation Planting
Nature Trail Option #2
W. ILLINOIS ST.
Proposed BTC Facilities Storage
Proposed BTC Tech 1
Expanded Parking
MARINE DRIVE
The Upper Park
Art
Information Sign
Upper Trail #1 (10' +2')
The Back Glade
Cedar Spruce Grove
Proposed BTC Diesel/Auto Repair
Restrooms
Picnic Shelter
Active Play Area (Playground)
Lower Trail #1 (10' +2')
Bench
Picnic Tables
BTC Connector Trail #1
Bridge
Entry Sign
Information Sign
Gathering Area
The Springs Trail
The Lower Park
Bench
Nature Trail Option #1
Detention Pond
Proposed BTC Engineering Student Services
Spring
Cottonwood Gallery
BTC Connector Trail #2
BELLINGHAM TECHNICAL COLLEGE
Elevated Walkway
Wetland Overlook
Upper Walkway
LINDBERGH AVE.
ELDRIDGE AVE.
ALLEY
Existing Lower Trail Alignment
Picnic Sites
Boardwalk
Information Sign
Estuary
West Meadow
BNSF ROW
Future Restrooms
#2 (6' +2') Trail
Picnic Tables
Existing Beach Trail Emergency Access
Pier Access
Estuary Inlet
Beach Connector Trail
B.N.S.F. RAILWAY
BELLINGHAM BAY
GILLIGAN WAY
MASTER PLAN
SCALE: 1" = 60'- 0"

(Figure 10)


LOG STREWN BEACH
PICNIC SITES
COTTONWOOD GALLERY
ESTUARY
BOULDERS IN MEADOW
WETLANDS/STREAM
SPRING SITE
BAT HOUSES
ESTUARY
WETLANDS
PIER ACCESS
Saratoga Passage Marine Stewardship Area
INTERPRETIVE SIGNAGE
BOARDWALK
WILDLIFE
ENVIRONMENTAL ART
ENVIRONMENTAL ART
ENVIRONMENTAL EDUCATION
TRAILS ON STEEP SLOPES
OUTDOOR CLASSROOM
STREAM
LABYRINTH
MASTER PLAN IMAGES

(Figure 11)



Example of Spring Site Park Feature

- **Consider park spaces as a series of interconnected rooms:** Think of the Park as a series of interconnected rooms. Each has a unique character, setting, activities and points of interest. Utilize natural elements or park features to establish an identity for each space within the Park.

- **Celebrate the springs:** Salish people referred to the site as Wh-mahl-ut-choo (Place of Many Springs). In recognition of the site as a place of many springs, make one or more of the spring sites a park attraction and interpretive opportunity. Consider developing the spring site near the Marine Drive Bridge as a park destination. Possible improvements might include a stone basin and cascading falls accessed by one of the secondary park trails.

- **Utilize the site's environmental clean-up and restoration as an educational and interpretive opportunity:** Given the diversity of habitat improvements including the estuary, wetlands, meadows and forests, the Park offers tremendous opportunities for research and visitor education.

- **Optimize trail connectivity within the Park and to surrounding areas:** With the proposed expansion of the BTC campus and the anticipated growth within the surrounding community, optimize trail access and connectivity within the Park. An emphasis on cross-park trail connections should be addressed, particularly connections between the main BTC campus and the proposed campus expansion along W. Illinois Street.

- **Provide opportunities or immersion in more secluded areas of the park:** Take advantage of the Park's diverse vegetation and landscapes by providing opportunities for more intimate immersion into more secluded areas of the site. Establish secondary nature trails that are off the beaten path.

- **Maintain Emergency, Maintenance and ADA Access throughout the site:** Ensure park trails and restoration improvements do not impede emergency vehicle access to the Lower Park and beach. Recognize the BNSF Railroad and the Lehigh Cement Company need to maintain facilities and infrastructure in and adjacent to the park site. Modifications to the main trails (#1 type) must meet ADA requirements.

The Upper Park

The Upper Park is envisioned as a high activity area in Little Squalicum Park. This portion of the site should provide large open meadows for unprogrammed recreation and gatherings. This area also serves as a gateway to the BTC campus along the soon to be completed W. Illinois Street extension. As a result, this portion of the Park should be inviting, visually interesting and encourage recreation activities. Given the active orientation of this area and its separation from sensitive habitats, this site could accommodate additional park programming including:

- Fenced Off-Leash Dog Area
- Disk Golf Course
- Playground

Master Plan improvements in the Upper Park will include expansion and new facilities at the existing trailhead at Marine Drive and W. Illinois Street. An entry sign will identify the park access along Marine Drive. The existing 14-space parking lot will be expanded to accommodate 27 vehicles. Expansion of the parking area may include expansion of the existing stormwater filtration system. A new restroom facility will be provided near the parking lot. Other park facilities will include a picnic shelter, picnic tables, information signs and possibly a playground east of the parking lot. Trail improvements will include minor modifications to trails connecting to the proposed sidewalk along W. Illinois Street. Landscape improvements will include extensive clearing of shrubs in the meadow area, as well as the introduction of park and streetscape trees and shrubs at select locations.

The Back Glade

The Back Glade is envisioned as the Park's natural area, where human activity is balanced with environmental sensitivity. This area of the Park offers a tremendous opportunity to draw visitors and activity from the BTC campus into the Park. As a result, the Back Glade will serve as a portal, transitioning the visitor from the built environment into the natural environment. The newly aligned (more meandering) path will link a series of wetland, forest and meadow spaces together.

The natural environment will be emphasized and only a few park facilities will be incorporated. These facilities will include an outdoor classroom or gathering area near the BTC campus, a few picnic tables, park benches, information signs and possibly art pieces. In addition to the newly aligned main trail, a primary BTC connector trail will link the Lower Park trail with the Upper Park Trail. This trail segment will provide greater cross-park connectivity between the main campus and outlying BTC buildings. In addition, several secondary nature trails will provide park visitors with opportunities to access more secluded areas of the Park.

Site restoration will include expansion and enhancements to existing wetland areas and integration with source hydrology including springs, seeps, and stormwater conveyance systems. Existing spring and seep-fed ponds and wetlands located at the toe of the slope at the northern end of the site would be connected to a wetland complex located along the southeast portion of the Cottonwood Gallery. Wetlands in the Back Glade would feature a combination of open-water and forested elements, offering habitat complexity. Wetland features will capture and store natural and stormwater runoff, enhancing surface and subsurface site hydrology, and improving the down system stream flow regime.

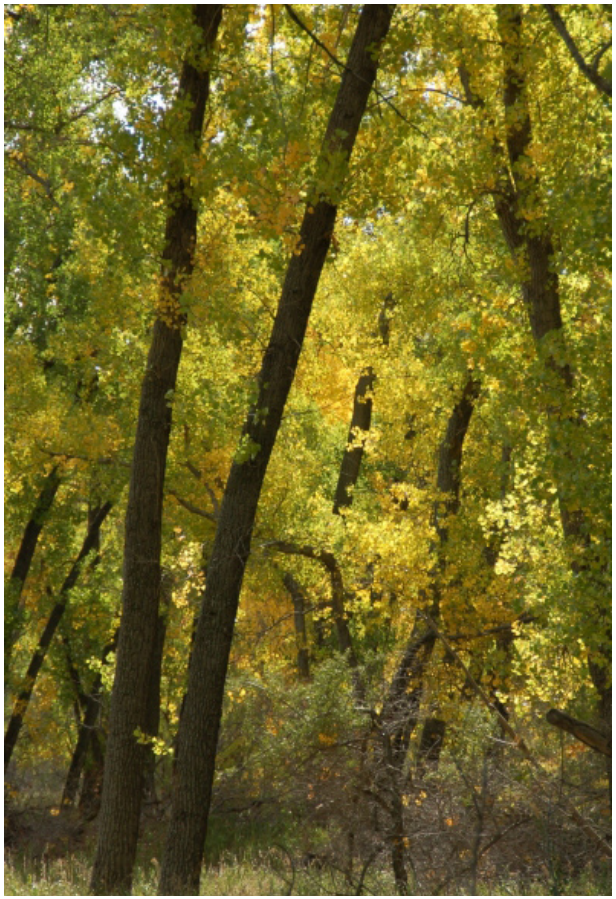
Existing storm water outflows in the vicinity will be piped or channeled to the upper reaches of the wetlands. New stormwater generated from the Illinois Street improvement project will be routed to a stormwater detention pond located in the Back Glade, and connected to outflow from the wetland ponds to provide hydrology for the wetland complex proposed for the southeast portion of the Cottonwood gallery. Vegetative plantings in the Back Glade will be comprised of a diverse mix of indigenous species, including a cedar/spruce grove. Wetlands and buffers will be enhanced with plantings of native species and protected from human impacts where possible.

The Cottonwood Gallery

The Cottonwood Gallery is envisioned as a lightly forested natural area where park visitors can experience a woodland environment without encroaching into some of the more sensitive wetland habitat areas. Park facilities will be low-key including benches, meandering secondary trails and possibly art pieces.

Nearby park improvements will include the addition of a secondary BTC connector trail linking Lindbergh Avenue with the Upper Trail just north of the Marine Drive bridge. This trail connection will require an elevated walkway along Lindbergh Avenue and a connector trail linking to the Lower Park Trail.

Like beads on a chain, a series of wetlands associated with a meandering stream channel are envisioned within the southeast portion of the Cottonwood Gallery. Existing wetlands will be enhanced and new wetlands may be created, serving as the featured aquatic resource amenities to the site. These features will convey water from the Back Glade to the open stream channel located in the central portion of Little Squalicum Park, leading into the West Meadow. This design will return surface water flow to an area of the



Example of a Cottonwood Gallery

site previously occupied by Little Squalicum Creek. As with aquatic resource features in the Back Glade, the wetland complex will be designed to naturally capture, store, and treat stormwater entering the site, maximizing natural processes that attenuate flooding and cleanses surface runoff.

At the point of transition from the Cottonwood Gallery to the West Meadow will be a small area referred to as "The Springs". At this point the site springs, together with inflow from up-basin wetland complexes are conveyed into the West Meadow through an enhanced stream channel. The existing channelized stream will be reconfigured from a linear, entrenched gully to a gently meandering stream with more gradually graded stream banks enhanced with native riparian plant species. In-channel treatments may be used to facilitate the natural maintenance of the stream channel path and instream habitat complexity.



Example of the Desired Setting for the West Meadow

The West Meadow

The West Meadow is envisioned as the signature park space and activity area within Little Squalicum Park. This site will become the primary attraction and destination (along with the beach) for park visitors. The meadow will occupy an elevated bench above the adjacent estuary and beach. The perched meadow will provide a unique vantage point for relaxation and informal play.

Trail improvements will include a newly aligned Lower Park Trail and bridge spanning the estuary's stream inlet. The bridge will be designed and constructed to accommodate emergency vehicles. The Lower Trail and Upper Trail will connect in a loop at the edge of the park property. Both segments of trail will be ADA accessible in their entirety. The existing hairpin loop trail within the BNSF right-of-way providing access to the beach will be retained if permitted by the BNSF Railroad. However, no improvements are proposed for this segment of trail.

Park facilities in the West Meadow will include picnic tables, park benches, information signs and possibly art. Extensive clearing of trees and vegetation will occur along the West Meadow's shoreline frontage. However, select trees along the beach will be retained and protected.

Park planning in the West Meadow should take into consideration potential future public access to the Lehigh Cement Company pier. Public access to the pier would significantly increase park visitation. A potential restroom site has been identified just north of the pier.



Example of a Fenced Boardwalk Along Estuary

The rehabilitated Little Squalicum Creek conveying water from The Springs and up-basin wetland complex terminates at the northwestern portion of the proposed Little Squalicum Park Estuary.

The Estuary

The Estuary is envisioned to be the premier habitat enhancement feature in Little Squalicum Park. Special attention should be given to buffering and protecting this feature from human and pet encroachment. The estuary provides not only critical fish habitat, but an excellent interpretive opportunity.

Access to the estuary should only occur at select locations that can be easily controlled. Proposed estuary access includes a fenced boardwalk along the estuary's peninsula and a #2 trail paralleling the beach. This trail would include a small bridge spanning the estuary inlet. This bridge should be designed and constructed to accommodate maintenance vehicles. Several connector trails will link this trail segment to the adjacent beach.

PUBLIC REACTION TO THE MASTER PLAN

The third of three public meetings was held to discuss and comment on the Preferred Master Plan. The majority of meeting participants liked the overall direction of the plan including the habitat emphasis, park programming and proposed facility development. Most of the public's questions and concerns focused on off-leash dog regulations at the park. While most of the meeting attendees supported continued off-leash regulations, some participants expressed concerns regarding habitat protection. A complete summary of the public's comments can be found in the Appendix.

PARK STRUCTURES

Design considerations for park structures in Little Squalicum Park are outlined below. They are meant to be applied to each structure type and help guide future design decisions.

Architectural Style
The character of the structures should acknowledge a park with great views and be based on the design goals of the Master Plan, and the unique qualities of each zone of the Park. The architectural style of the structures should consider the following:

Materials, Color and Details
The Park setting, particularly along Bellingham Bay, is stellar. It is recommended that the structures blend with the Park's natural setting, and that the idea of "immersion" guide future design direction.

Zones Within the Park
The five zones of the Park will feel distinct within the context of the larger whole. Immersion and blending can happen, but the structures can still reflect the quality of each park zone. Being at the water's edge in The Estuary should require a different approach than being near the parking lot at The Upper Park.

Creating a Place in Time
There should be an understanding of the Park's place in history, past, present and future. A "picturesque" replication of the past is not appropriate; nor is a strictly "modern" approach right. Finding balance between these extremes and creating authenticity will be the most interesting and important goal of the architectural design.

SUSTAINABLE DESIGN

Sustainable design features for the Park structures should address three key areas.

Energy Use
- Using compact fluorescent fixtures or LED lights will help reduce energy use.
- Exterior lighting could be photovoltaic operated.
- Indoor lights can be on motion sensors or time clocks.
- Radiant heat and natural ventilation generally proves less costly to operate than a furnace / forced air system.
- Green roofs may be a consideration. They provide thermal insulation that can reduce energy use and may help with the idea of the "immersion" noted above.

Water Use
- Low flow water closets and urinals have improved over the years. Water less urinals are still difficult to maintain and should be avoided.
- Stormwater from roofs can be used in rain gardens, possibly reducing irrigation needs.
- Composting toilets might be a consideration, but will depend upon staff input and public acceptance.
- Toilets, urinals and sinks can be photocell operated.

Maintenance
- Automatic locking doors on time clocks can reduce the need for staff to travel to the Park at closing time and can help reduce the City's carbon footprint.
- Materials that are easy to repair, maintain and have inherent longevity will reduce the cost and environmental impacts of materials that need to be replaced more often. For example, metal roofs last longer than asphalt shingle roofs, and stainless steel plumbing fixtures will last longer than porcelain ones.

Other Low Impact Site and Facility Development Strategies
Sustainable design features for the Park site should include the following:

- Reduction of the amount of impervious surfaces found in parking lots and sidewalks. Pervious surfaces allow rainwater to percolate through, cleaning and recharging aquifers, streams and wetlands.

- Expansion of the exisitng rain garden at the Marine Drive Trailhead. Rain gardens absorb and filter stormwater runoff from hardscape areas such as roofs and roads. Stormwater pollutants including oil and grease are filtered out by vegetation before entering the ground.

Salmon Safe Designation
Focusing on the urban environment is an important new direction for Salmon-Safe and for Washington's efforts to restore the health of Puget Sound. Salmon-Safe offers the nation's first and only peer-reviewed certification linking land management practices, from farmlands to parks, with the protection of urban watersheds containing streams or wetland resources. Certification requires management practices that reduce stormwater runoff and non-point source pollution, helping to protect Pacific Northwest salmon watersheds. This is a long-term goal for the City to consider.

MANAGEMENT RECOMMENDATIONS

Crime Prevention Through Environmental Design
The Little Squalicum Park Master Plan considers how to provide a safe and secure setting for park users. Ideas of "defensible space" have become increasingly important and are well-known as Crime Prevention Through Environmental Design (CPTED). There are three areas to consider:

Natural Surveillance
The idea of "eyes on the street" should guide the design as it develops. Being able to see park areas and entrances to park structures will be important. Providing places for sitting can give people opportunities to view these areas and give park users opportunities to connect with each other. Lighting can provide added safety. Easily trimmed landscaping will help maintain views for surveillance.

Natural Access Control
Lighting, signage and landscape can guide park users and discourage unwanted activities. Plantings near buildings and the siting of buildings should be done to reduce opportunities to climb onto roofs.

Maintenance
Poorly maintained buildings and graffiti can lead to more of the same, making a park feel less safe and help foster crime. Anti-graffiti products should be used to help get rid of graffiti quickly. Other materials should be selected based on whether they are easily maintained and repaired.

Park Standard Specifications
It will be important to match the specifications of the Park's new buildings with the specifications used in the Bellingham Parks and Recreation system. This will reduce maintenance and operations costs and make life easier for maintenance staff. However, there may be reasons to consider changes to the standard specifications. Some items may have not have met expectations or are discontinued. Others (for example, light fixtures) may not be appropriate for the architectural style of the new buildings.

Park Operations & Monitoring
General procedures for the Park currently include operating hours from 6 am to 10 pm. Pet regulations are subject to current City Municipal code and policies. Facility and grounds maintenance will be modified to meet increased use and demands within the Park. Initially, an increased law enforcement presence should be provided. As park use grows, fewer patrols may be necessary.

Park improvements should include implementation of a monitoring program. The purpose of this program is to determine whether or not existing recreation facilities are meeting recreation needs and to provide a management system to track use patterns, monitor the impacts recreation is having on facilities and resources, and to establish a database for safety and law enforcement issues. The monitoring system would ensure that informed facility, resource and management decisions would be made at Little Squalicum Park. Typically data is gathered through visitor use surveys, facility and resource monitoring and compiling law enforcement and safety records and contacts.

The City of Bellingham should develop an education campaign to inform visitors about park regulations including resource protection. Currently, a variety of City and County statutes are in effect at Little Squalicum Park. A single set of park rules and regulations should be established and posted at the park entrance.

PARK DEVELOPMENT STRATEGIES

In order to alleviate issues (i.e. multiple rules and regulations, law enforcement responsibilities) associated with ownership by multiple jurisdictions, the City of Bellingham should look at annexation or acquisition opportunities associated with the ark including:

- Whatcom County Parks- Property within Little Squalicum Park
- Port of Bellingham - Mt. Baker Plywood parking lot and Squalicum and Little Squalicum Beaches
- Lehigh Cement Company - Pier

Explore partnership opportunities with BTC for:
- Shared parking
- Educational and Interpretive Programs

Ensure park wetland restoration projects and the estuary development are coupled with related park improvements. Approval for the implementation of park improvements in or adjacent to wetland buffers might become problematic if not completed simultaneously.

Phasing
The amount of improvements that can be accomplished each year will depend on available funding. The plan could take anywhere from five to 15 years to complete. Development of the Park should follow a logical sequence such as:

1 Implement site restoration improvements after the environmental clean-up is complete including: earth work, drainage features and wetlands
2 Open the Park up by removing select trees and undergrowth that remain after clean-up.
3 Implement new cross-park trail connections
4 Establish new park plantings
5 Incorporate park facility improvements
6 Establish educational/interpretive opportunities
7 Incorporate environmental or local art
8 Establish pier access and the beach restroom

Costs
Given the unknowns associated with the site's environmental clean-up, a complete planning level cost estimate can not be determined. However, an estimate of probable costs associated with known park improvements can be found in the Appendix. This estimate does not include costs associated with the environmental clean-up or development of the estuary.

Sections describing the proposed Master Plan improvements can be found on the following pages.



(See Sections A, B, & C on the Following Pages)



SECTION A

SCALE: 1"= 25'-0"



MASTER PLAN SECTIONS



SECTION B

SCALE: 1"= 25'-0"



SECTION C

SCALE: 1"= 10'-0"

MASTER PLAN SECTIONS



BEFORE



AFTER

MASTER PLAN BEACH PERSPECTIVE

VIII. REFERENCES CITED

Coastal Geologic Services, Inc. 2009, Little Squalicum Shoreline Restoration Study, Bellingham, Washington.

Earthworks Environmental, Inc. 2009. Wetlands Delineation and Mitigation Plan, West Illinois/Timpson Way Street Extension. Bellingham, Washington.

Ecology. 2004. Little Squalicum Creek Screening Level Assessment. Publ. No. 04.03.014. Washington State Department of Ecology, Olympia, Washington.

HPK Architects. 2007. Bellingham Technical College Master Plan. Mount Vernon, Washington.

Integral Consulting, Inc. 2008. Ecology Toxics Cleanup Program EPA Brownfields Program, Draft Final Report, Little Squalicum Park Remedial Investigation. Bellingham, Washington.

Monahan, J. 2009. Watershed Ecologist, GeoEngineers. Personal communication with Bob Walsh on 9 August 2009.

Northwest Archaeological Associates, Inc. 2005. Cultural Resources Monitoring Report at the Coast Millennium Trail Squalicum Connector. Seattle Washington

Northwest Ecological Services, 2009. Wetland Reconnaissance and Existing Conditions Report for Little Squalicum Park. Bellingham, Washington.

Sheldon and Associates, 1991. Upland Vegetation and Wetlands Analysis Report for Little Squalicum Creek Mitigation Site. Seattle, Washington.

Springwood Associates, 1992. Little Squalicum Creek Wetlands Mitigation Plan. Seattle, Washington.

White Shield, Inc. 2008. Topographic survey for Little Squalicum Park.

Wilson Survey/Engineering. 2009. City of Bellingham West Illinois/Timpson Way Extension Project Stormwater Engineering Report. Bellingham, Washington.

USEPA. 1997. Potentially responsible party search Oeser Company Superfund site. United States Environmental Protection Agency, Office of Environmental Cleanup, Region 10, Seattle, Washington.