SNOQUALMIE RIVERWALK
MASTER PLAN 2015

CITY OF SNOQUALMIE

BHA
BRENT HARLEY & ASSOCIATES

SNOQUALMIE RIVERWALK MASTER PLAN

January 23, 2015

Prepared by:
BHA
BRENT HARLEY & ASSOCIATES

City of Snoqualmie
www.ci.snoqualmie.wa.us

Table of Contents

Credits

City of Snoqualmie:

Matthew R. Larson, Mayor
Kathi Prewitt, City Councillor
Charles Peterson, City Councillor
Bryan Holloway, City Councillor
Bob Jeans, City Councillor
Kingston Wall, City Councillor
Heather Munden, City Councillor
Chelley Patterson, City Councillor
Robert R. Larson, City Administrator
Nancy Tucker, Planning Director
Lauren Hollenbeck, Senior Planner
Nicole Sanders, Associate Planner
Dan Marcinko, Public Works/Parks Director
Larry White, Parks Lead
Phil Bennett, Urban Forester

This plan has graciously been supported, in part, by funding from the King Conservation District and the King County Flood Control District

Riverwalk Master Plan Stakeholder Committee:

Richard Anderson – Northwest Railway Museum
Trapper Bailey – Planning Commission
Amy Brockhaus –Mountains to Sound Greenway Trust
Kevin Brown –King County Parks
David Eiffert – Downtown Merchant/Property Owner
Danny Evatt –Economic Development Commission
Robert Foxworthy – King County Parks
Tony Fuchs – Puget Sound Energy
Voyislav Kokeza – Downtown Merchant/ Property Owner
Rod Lapison – Salish Lodge and Spa
Mac McInnis – Snoqualmie Mill Ventures
Steve Mullen-Moses – Snoqualmie Nation
Heather Munden – City Council
Mary Norton – Parks Board, Meadowbrook Farm Preservation Assoc.
Steve Pennington – Snoqualmie Arts Commission
Nate Perea – Snoqualmie Valley Chamber of Commerce
Charles Peterson – City Council
Mike Seal – Downtown Merchant/Property Owner
Tom Sroufe – Snoqualmie Mill Ventures
Wendy Thomas – Downtown Merchant/Property Owner
Cindy Walker – Northwest Railway Museum

Planning by Brent Harley and Associates Inc.:

Brent Harley
Christine Bilodeau
Carlos Zavarce
Bernard Messeguer

WWW.BRENTHARLEY.COM

Disclaimer

The intent of all documents found within this master plan is to illustrate the proposed spatial relationships within the study area. Engineering, detailed design, geo-technical assessment and/or drainage design must be completed and approved prior to construction.

INTRODUCTION

The Snoqualmie Riverwalk will re-connect the people of Snoqualmie to the water.

Introduction

The proposed Snoqualmie Riverwalk has been identified by the City of Snoqualmie in their Comprehensive Plan and Downtown Master Plan as a "destination trail loop" to be "widely enjoyed by residents and visitors alike". Its development is viewed as a key component to the City's goals of a having a healthy, diverse economy that includes being recognized as a "tourism destination with a distinctive sense of place". As the local tourism economy is developed into "a mainstay of the City's economic vitality", the Snoqualmie River is to be "maximized as a tourism asset".

The Snoqualmie River is at the heart of the Riverwalk project. It is an important natural resource and plays an integral role in the connection of the various development and environmental components that define the area's ecosystem. Downriver from the core area of the City, the spectacular Snoqualmie Falls attracts approximately 2 million visitors to the area each year. Snoqualmie's historic downtown has been carefully preserved and regulations are in place to ensure that new development acts as a complement to the established form and character. The desire to develop improved waterfront access to the Snoqualmie River and linkages to Snoqualmie's key focal points comes in response to the demands of a growing local population, combined with the economic opportunity of having a world class tourist attraction in close proximity to Seattle.

The purpose of the Riverwalk Master Plan is to illustrate and describe the design and planning elements of the Riverwalk. It acts as a guide to development of this key, Snoqualmie centered, tourism facility and community amenity, outlining the trail system's phased implementation in a methodical and environmentally sustainable fashion, over time.

What is a Riverwalk?

Cities all over the world have developed *Riverwalks*. They all have the following in common:

- A formalized non-motorized trail, built to follow the edge of the primary river running through the central business district (CBD) of a city or town;
- Caters to the enjoyment of the river with the backdrop of the urban setting;
- Provides visual and physical access to the river;
- Links recreational, public open spaces and commercial enterprise to the river;
- Acts as the cornerstone to an expanded trail network that connects the CBD to other sectors of the City;
- Becomes an attraction and focal point in its own right.

The Fork, Winnipeg, Manitoba, Canada

Platte River Parkway, Denver, Colorado, USA

San Antonio's River Walk, San Antonio, Texas, USA

Neuse River Trail, North Carolina, USA

Snoqualmie Riverwalk Vision

Within this framework and context, the Vision is to:

"Create the Snoqualmie Riverwalk as a distinctive, unique-to-Snoqualmie, trail system, linking the Snoqualmie River to the key City focal points, while acting as an attraction and community amenity that provides an inspiring experience for visitors and residents alike."

Snoqualmie Riverwalk Goals and Objectives

Once developed, the Riverwalk will:

- Re-connect the City to the Snoqualmie River and its distinct riverside identity;
- Increase public access and enjoyment of the Snoqualmie River;
- Link Snoqualmie's focal points and attractions from Snoqualmie Falls to the Meadowbrook District;
- Connect to regional trails and lands beyond;
- Attract tourists to the core of the City of Snoqualmie;
- Encourage Snoqualmie Falls visitors to extend their visit into the Downtown Historic District;
- Act as an amenity that assists in establishing tourism as an increasingly important role in the Snoqualmie economy;
- Act as a key new component to the City's recreational infrastructure;
- Become a key element of the Downtown Historic District revitalization and improvements;

- Be eco-friendly, sustainable and preserve a sense of being in the wilderness;
- Be flood-friendly and gravitate around the water;
- Be a lifestyle asset for Snoqualmie residents;
- Offer a loop system and public spaces for a variety of programming;
- Complement Snoqualmie's small town character;
- Represent the different river identities.

The Riverwalk is envisioned to play an important role in linking the City's focal points – the Downtown Historic District, the Northwest Railway Museum, the Snoqualmie River and its adjacent wilderness, the Snoqualmie Falls, the Salish Lodge and others. It will also be instrumental in connecting the regional trail systems, acting as a trail staging and destination point. By involving a marriage of the physical, environmental, economic, social and cultural realities of the City of Snoqualmie with a well defined Tourism Strategy, the means of crystallizing the tourism potential of the region can be achieved. The Riverwalk will become a key attribute, helping to define Snoqualmie's character and identity. As a journey and a destination, it needs to:

- Optimize the quality of experience being offered;
- Anticipate visitor desire lines and linkages;
- Reflect and complement the capacities, staging, and programming of the focal points that it connects;
- Be aligned with local history and regional context.

At the center of the Riverwalk, the Snoqualmie River becomes a vital tourism and recreation asset. Its placement and layout needs to respect the environmental sensitivities of the setting while relating to the realities of spring runoff and flooding. Its design and development must be informed by and respect the natural elements that make up the River's riparian area. Done well, the successful Snoqualmie Riverwalk will be widely enjoyed by everyone.

Area Location and Context

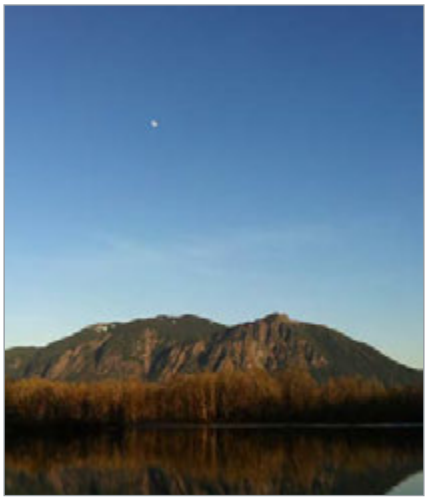
The City of Snoqualmie is located in King County, Washington, approximately 25 miles east of Seattle. Nestled in the Cascade Mountains, it lies along the Sound Greenway, a beautiful stretch of corridor along Interstate 90. Best known as the home of the Snoqualmie Falls, a 268 foot waterfall that is one of Washington State's most popular scenic attractions, the area has abundant recreational and sightseeing opportunities.

The Snoqualmie River always played a pivotal role in the development of the area. Native Americans used the river and area as a seasonal rendezvous point for trade between the coast tribes and those inland. The first European settlers were attracted by the forests and fertile prairies of the River valley. Farms, logging and milling operations grew around the River in the mid 1800s. The first local mill, run by water power, was opened at the confluence of Tokul Creek and the Snoqualmie River about 1872. By 1877, there were twelve logging operations on the Snoqualmie River. By 1886, logging camps on the river sustained a great number of jobs and sent millions of board feet of logs downstream. The City of Snoqualmie was officially founded in 1889. Links to the coast were strengthened with the construction in 1890 of the Seattle, Lakeshore and Eastern Railway. Subsequently, the Snoqualmie Falls was harnessed for its hydroelectric power in 1899. Throughout this time, agriculture adjacent to the River, in the form of dairies and hop farms, were a significant driver to the local economy.

However, as time marched on into the 20th Century, the need and connection to the Snoqualmie River as a cornerstone to the economy became less and less important. Gradually the mills closed, railway use declined and the viable capacity of the power plant was surpassed by new developments. With the completion of Interstate 90 in the 1970s, Snoqualmie became more accessible to the coast by road. As the jobs gradually left, more residents began to commute, working in the communities to the West.

Recently, there has been a resurgence of economic activity and interest in Snoqualmie. With the establishment of the Snoqualmie Ridge Business Park, many new jobs a have been created and associated residential development occurred. Further, with all of its natural attributes, tourism has been identified as a significant opportunity for Snoqualmie. The Snoqualmie Falls, the Salish Lodge, the Downtown Historic District, the Northwest Railway Museum, the Snoqualmie Casino, Three Forks Natural Area, Meadowbrook Farm, Borst Lake and the DirtFish Rally School facility, all attract increasing numbers of visitors to the area. In addition, Snoqualmie is home to more than 30 miles of multi-use trails ranging from short, easy hikes to more challenging alignments that connect to regional pathways such as the Snoqualmie Valley and the Preston-Snoqualmie Trails.

The missing piece is a coordinating link to tie all these features and focal points together. The Snoqualmie Riverwalk will fill that opportunity.



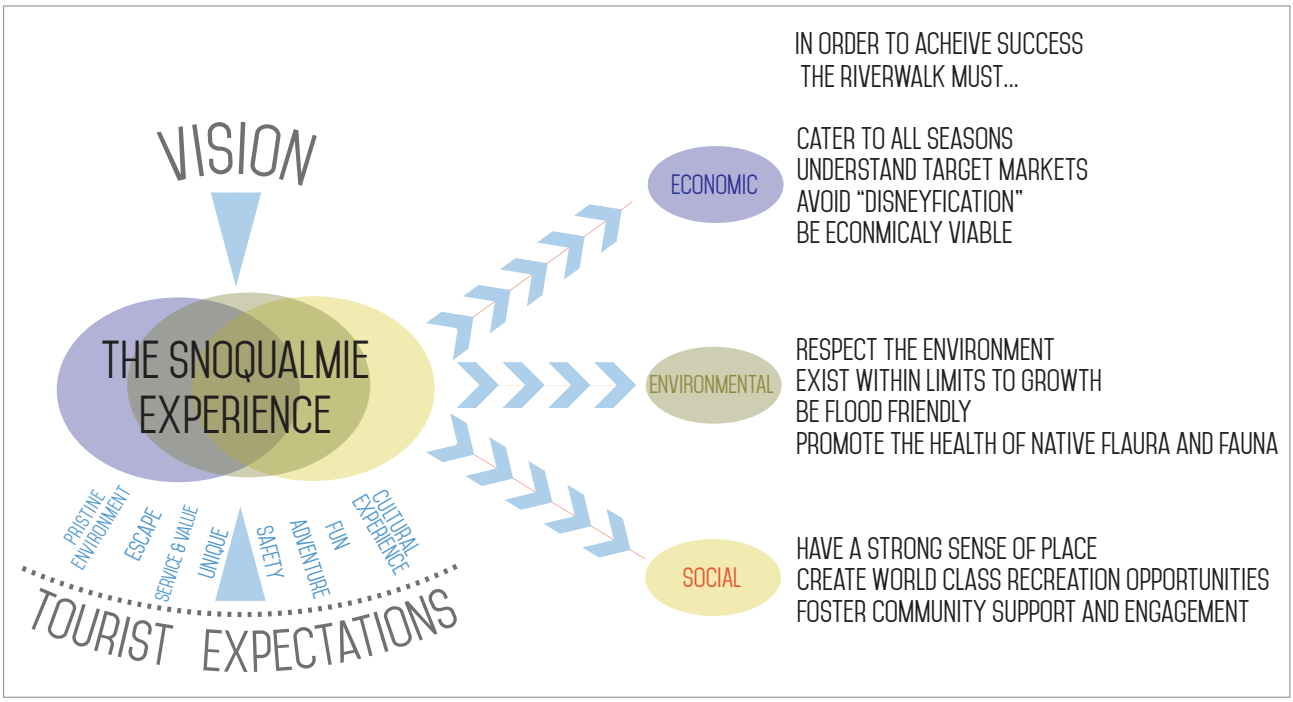
Developing the Snoqualmie Riverwalk Experience

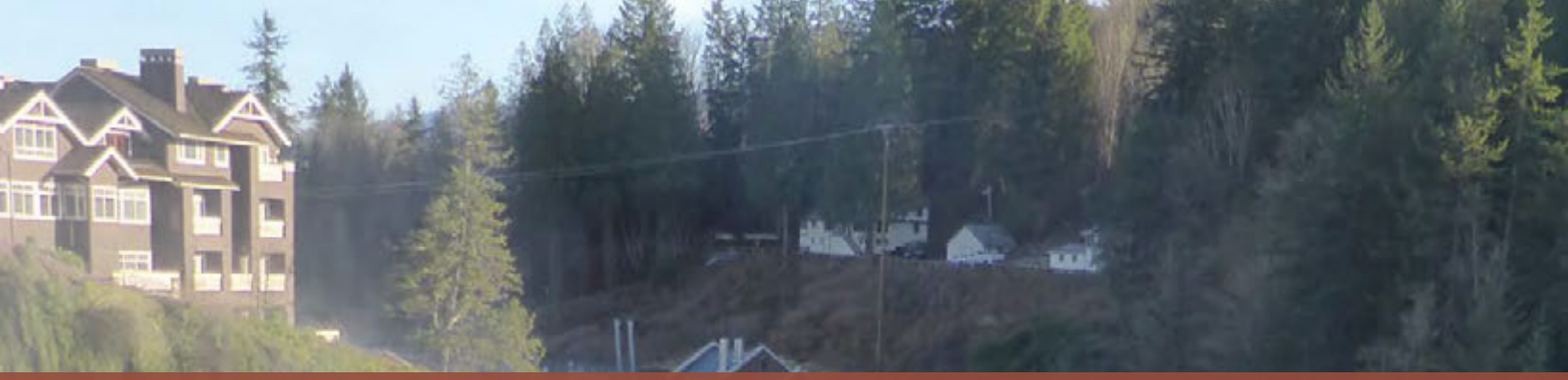
The development of the Snoqualmie Riverwalk must take into account:

- The opportunities and constraints impacting on the project;
- The physical and environmental realities of the site;
- The issues and desires of the stakeholders, as identified through a series of sessions in the spring and summer of 2014.

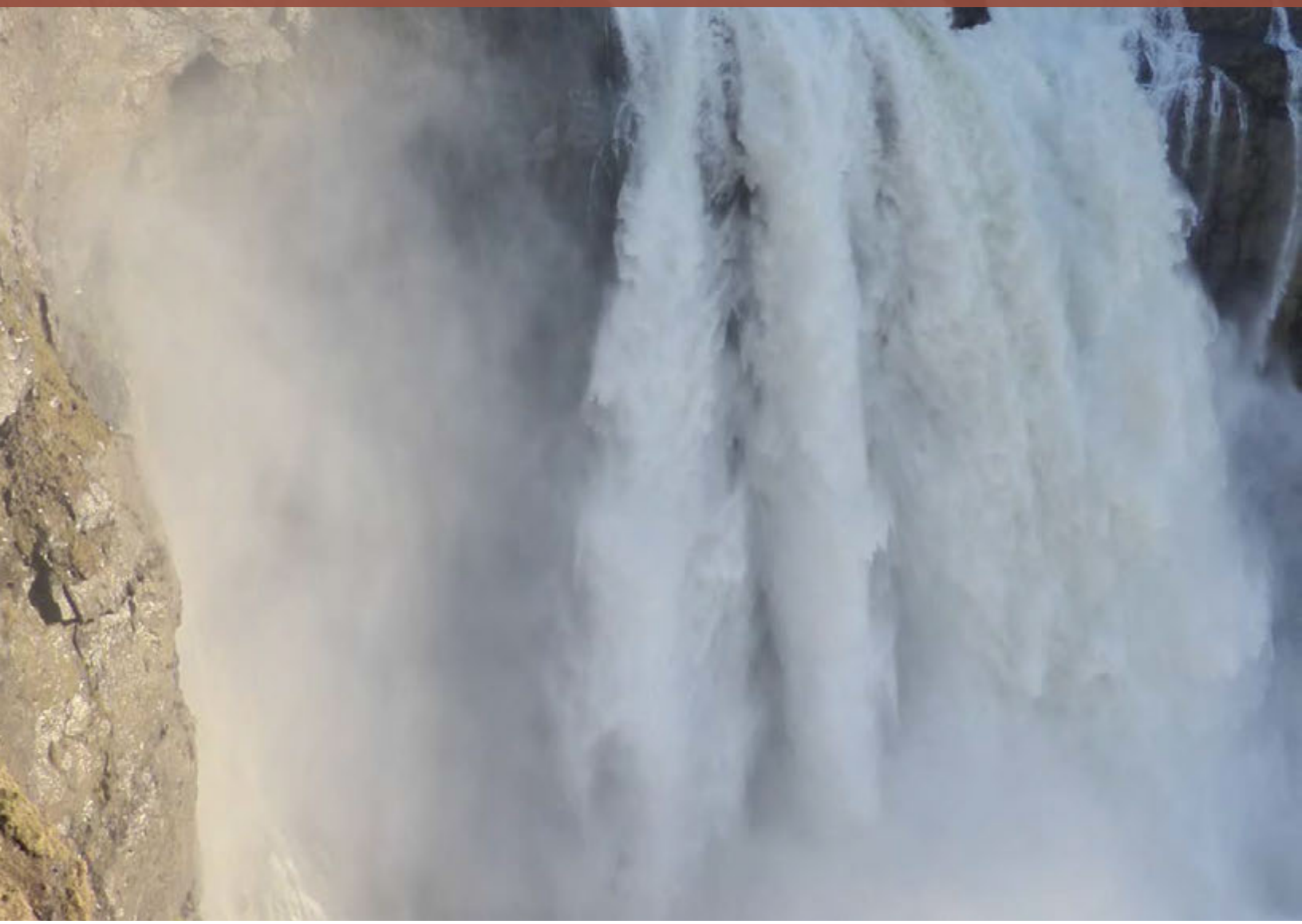
Once established, the specific elements of the Riverwalk are intended to:

- Re-connect the residents and visitors of Snoqualmie to the River;
- Complement and act as a catalyst to current and future tourism amenities, facilities and programming in the region;
- Have a strong sense of place;
- Cater to all season use;
- Benefit the local economy and quality of life for the residents of Snoqualmie.





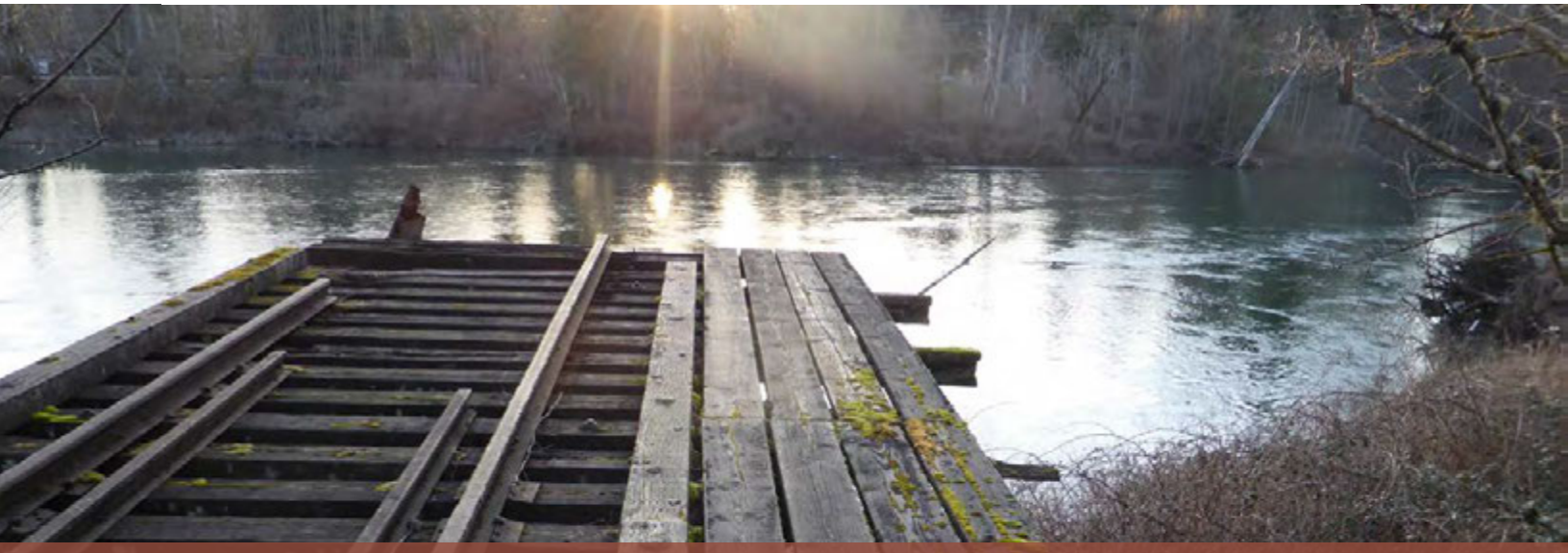
EXISTING CONDITIONS



Study Area

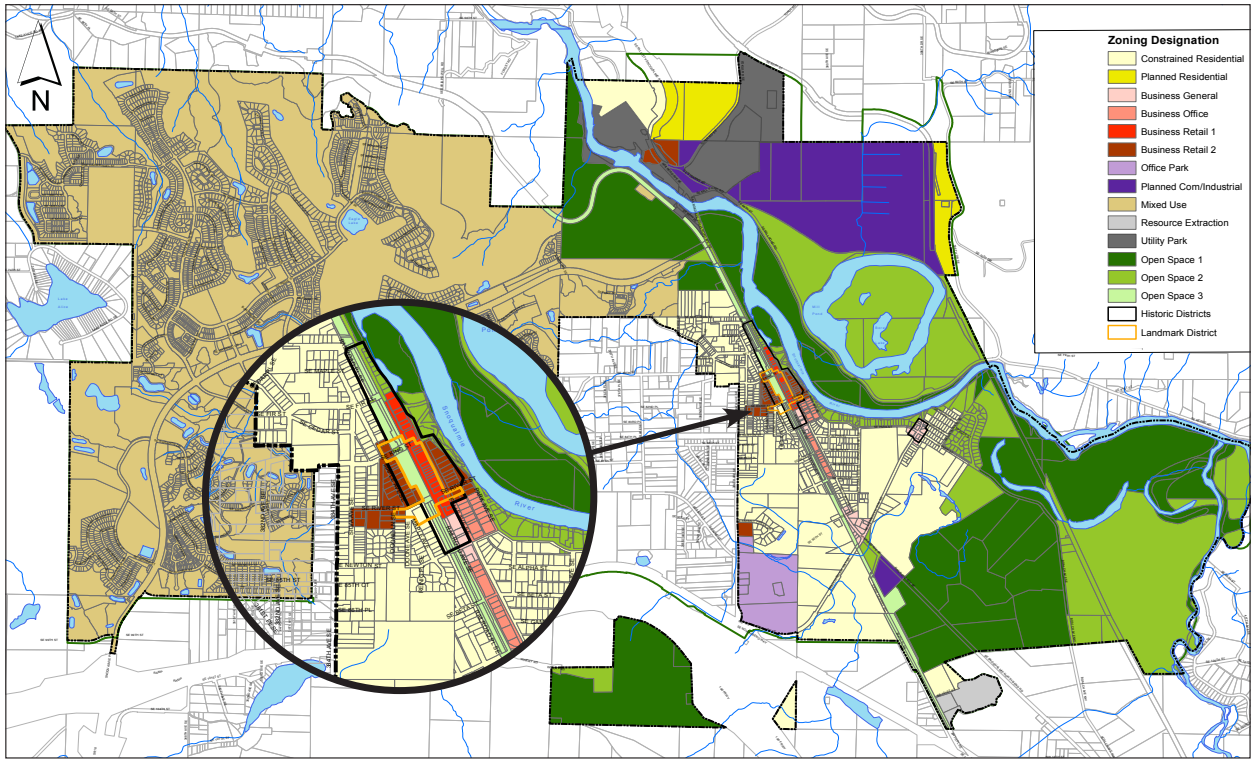
This study focuses on the areas in between Snoqualmie Falls and the Three Forks Natural Area and includes important landmarks such as the Meadowbrook Farm, the Downtown Historic District and Borst Lake. Specific attention needs to be paid to the following:

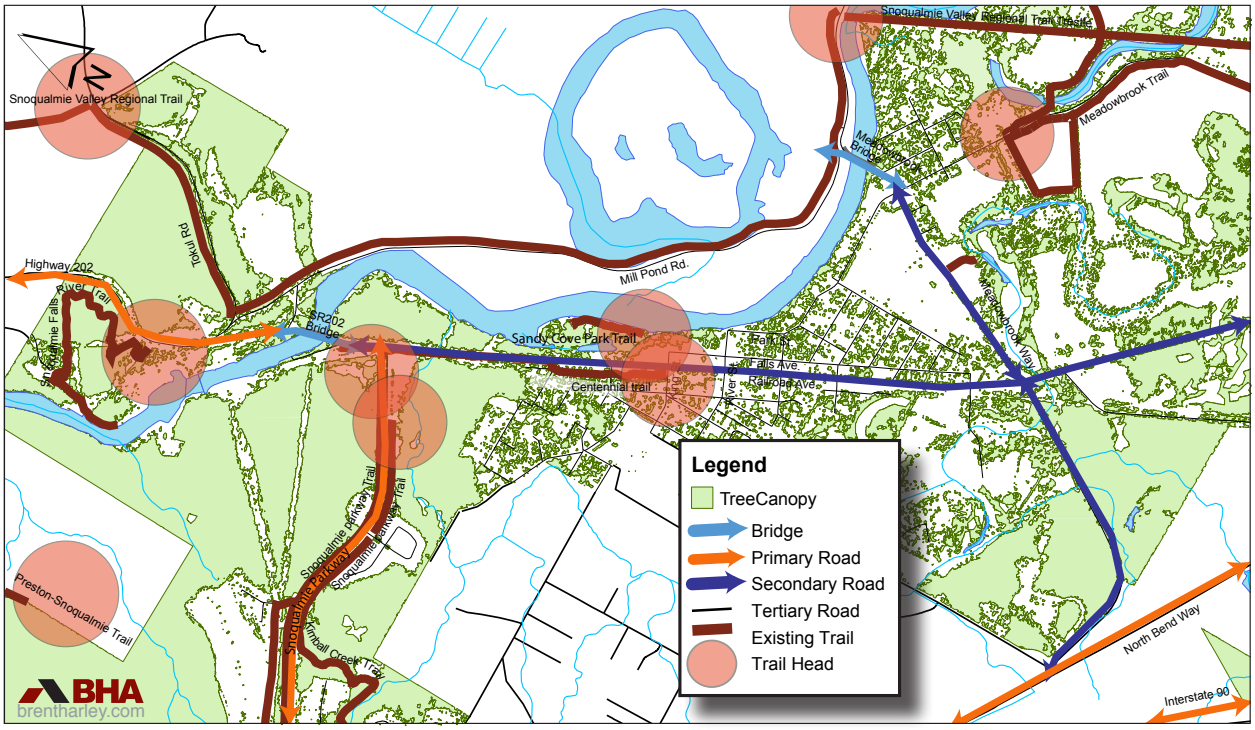
- The study area has experienced flooding of varying levels of severity throughout the years, a reality that must inform all aspects of the Riverwalk design and development.
- The City's main residential hub is located in the Snoqualmie Ridge area to the south-east of the study area, up the Snoqualmie Parkway.
- Highway 202 is the main north-south road that runs through Snoqualmie's shoreline jurisdiction passing over the Snoqualmie River upstream from the Snoqualmie Falls.
- Snoqualmie Falls is a popular tourist destination visited by approximately 2 million people every year.
- The region has a variety of trails including the Snoqualmie Valley Regional Trail (SVRT) which connects the greater King County regional trail network.
- The Downtown Historic District area is a mix of businesses, residential, schools and open space.
- At present, the City's built environment has turned its back on the River.
- The river's South Shore, which is characterized by the downtown area, offers a small public access point to the river at Sandy Cove Park and some partial views at Riverview park.
- The river's North Shore is primarily composed of vacant natural spaces with no formalized river access.
- With the exception of Snoqualmie Falls and the Three Forks Natural Area there are no formalized built connections to the Snoqualmie River.



The areas beyond Snoqualmie's Downtown are a nature lovers paradise waiting to be explored.

Land Zoning





Roads, Trails and Linkages

Physical Realities

The Snoqualmie River runs past and through the City's commercial Downtown Historic District and residential areas on its way to the spectacular Snoqualmie Falls. Tied to the River, the Snoqualmie Valley has experienced a wide variety of human activity and use over the years, including tribal settlements, logging, farming, tourism, transportation, and electrical power generation. The following review of the Valley's current, settlement impacted, and natural physical realities, all influencing the design of the Riverwalk, are divided by the River into the South Shore, the North Shore and Common Elements.

South Shore

- The South Shore is composed of commercial and residential development and vacant properties, all with a predominately urban character;
- The City of Snoqualmie's Downtown area is located outside of the main transit axis formed by Highway 202 and the Snoqualmie Parkway (1). When travelling through these areas, there are no visual clues to the presence of the River or the Downtown area nearby;
- The City's Downtown sits on the upper banks of the Snoqualmie River. The existing street network runs parallel to the river leaving limited space between the developed area (2) and the river banks;
- The buildings located in the Downtown core follow an alignment that face away from the river (3), creating a strong barrier for visual or physical access to the river;

Snoqualmie Study Area

- The South Shore river banks (4) are predominantly steep with significant erosion;
- The location, height and layout of some of the existing buildings in the Downtown Historic District acknowledge the issues of potential flooding, others do not;
- Sandy Cove Park (5) offers good views of the River from a manicured lawn open space area, providing direct access to the water with limited wading use during low flow periods during the summer. This area is subject to significant erosion and has been identified as an erosion control area;
- The River (6) is also visible from the road segments along the high bank at the intersection of River Street and Park Street;
- Riverview Park (7), the Meadowbrook District and Park Street offer limited screened views of the River;
- The Northwest Railway Museum (8) is located in the core of the Downtown Historic District. An impressive display of a variety of train engines and cars from their collection is displayed on the decommissioned section of the railroad running along Railroad Avenue. The museum also owns the Railway History Center. It is located in the southeast end of Snoqualmie. To this date this facility which actively restores old historic trains has not yet open to the public.

1

2

3

4

5

6

7

8

North Shore

- The North Shore is composed of well vegetated undeveloped lands with a natural environment character;
- The North Shore river banks (8) are generally relatively gentle;
- Borst Lake and the surrounding lands (9) represent an area of potential for the development of water related activities. The area offers stunning views of Mount Si and is located across from the Downtown area;
- There are partial views of the River (10) when travelling along Mill Pond Road and some informal trails leading to sand bars along the river banks;
- The Old Trestle (11) offers excellent views of the River and adjacent sand bars;
- The Snoqualmie Valley Regional Trail (SVRT) (12) follows the former CMSP&R railroad track bed, located on the northern edge of the study area. This County-administered trail is interrupted by the presence of the Old Mill site within which the railroad bed as not yet been converted into the trail. As such, the west end of the SVRT stops at Tokul Road and the east segment terminates with an elevated trestle that crosses the Snoqualmie River from the Three Forks area (13) and ends abruptly with a staircase that leads down to Reinig Road (14);
- The Snoqualmie Falls and Salish Lodge (15) are well known tourist attractions that are located at the north west of the study area;
- The Preston-Snoqualmie Trail (17) is a County-administered trail built on the former SLS&E railroad bed. The trail ends in the western corner of the study area just before the Snoqualmie Falls sector;
- The new Hydropower Museum (16) associated with the Puget Sound Energy's Snoqualmie Falls Hydroelectric Project is located on the south shore of the Falls but has not yet been open to the public;
- The Old Mill Power House (18) and its chimney stack are also located in the Mill Pond area. The brick building is adjacent to the current site of the Dirt Fish Rally School. Due to its structural instability, the Power House is not open to the public but is still an important landmark of the history of the Mill area;
- Also related to the Old Mill site is the Sycamores Grove (19) on Reinig Rd. These trees were planted as street trees in the Mill's heyday. They are now the only remnant of the former Mill worker neighborhood that once stood there.

Common Realities

- Snoqualmie Falls is the primary physical attraction to the area. Other than at the Falls, the public's relationship and ability to see the Snoqualmie River is relatively limited. Visual access is available when crossing the SR 202 Bridge, the Meadowbrook Bridge and the Snoqualmie Valley Regional Trail (SVRT) Trestle;
- The Old Trestle was part of a railway that used to connect the South and the North Shore of the Snoqualmie River. It was decommissioned after a flood event that took away the portion traversing the River. At the time, it was decided to not repair the trestle. The southern portion has been largely removed but the section on the North Shore was left and is now an iconic historic landmark of the Mill Pond area;
- Crossing the Snoqualmie River, the Meadowbrook Bridge (20) (a single lane metal bridge built in 1921) and the SR 202 Bridge (21) (a two lane metal bridge built in 1931) connect the South and North Shores

- The river is flood prone, requiring careful consideration of elevations and potential erosion and a loss of natural habitat;
- Due to the dangers presented by the strong flow of the Snoqualmie River combined with Snoqualmie Falls and debris hazards along the shoreline, the majority of public access to the river is in the form of visual access versus physical access (constraining the use of the river for activities like swimming and boating).


8


9


10


11


12


13


14


15


16


17


18

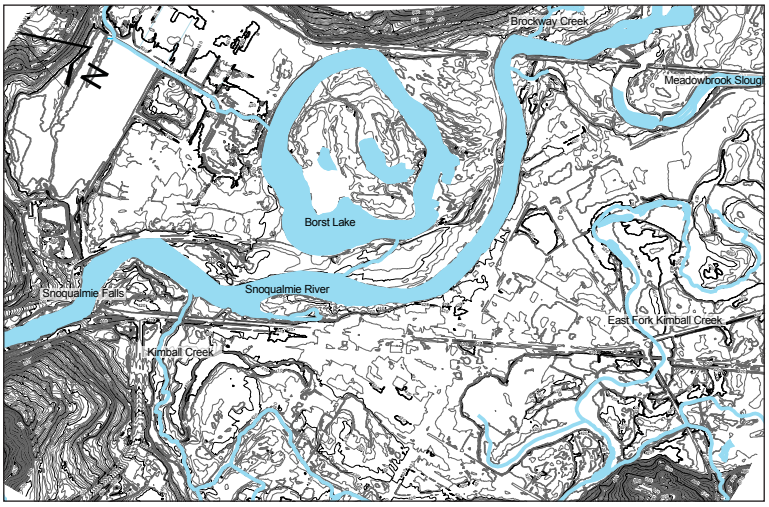

19


20


21

Environmental Realities

The Snoqualmie River and its tributaries run through the middle of the Snoqualmie Valley, framed by the spectacular and predominant Mount Si to the east and by the smaller Rattlesnake Mountain to the north. Over time, the River has carved through this broad flat plain, leaving oxbow lakes and wetlands, shaping the Valley's natural conditions and influencing human history. The drainage patterns meander and link to the River, ultimately moving west over the Snoqualmie Falls. The City of Snoqualmie is largely sited on the Snoqualmie River floodplain.

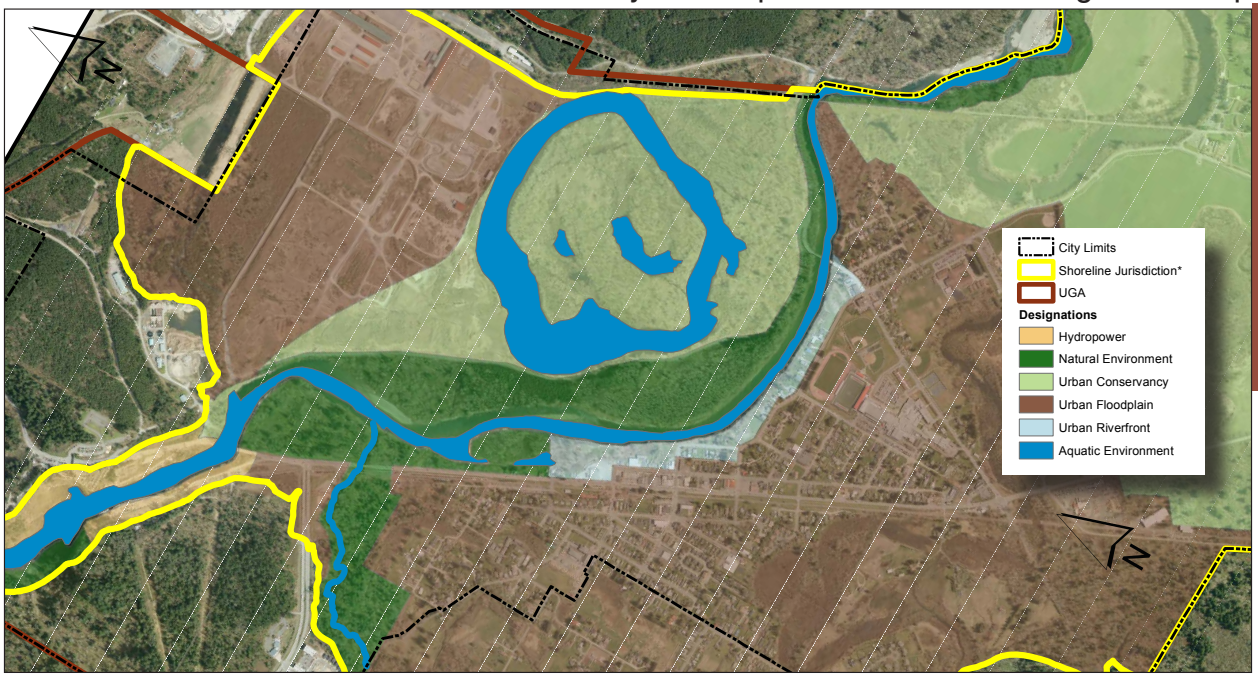


The realities of being located on a floodplain, and all of the associated implications that brings, has been one of the primary guiding factors to determining the alignment and development of the Riverwalk. The City of Snoqualmie has completed extensive analyses of the River's shoreline environment (see Appendix 1).

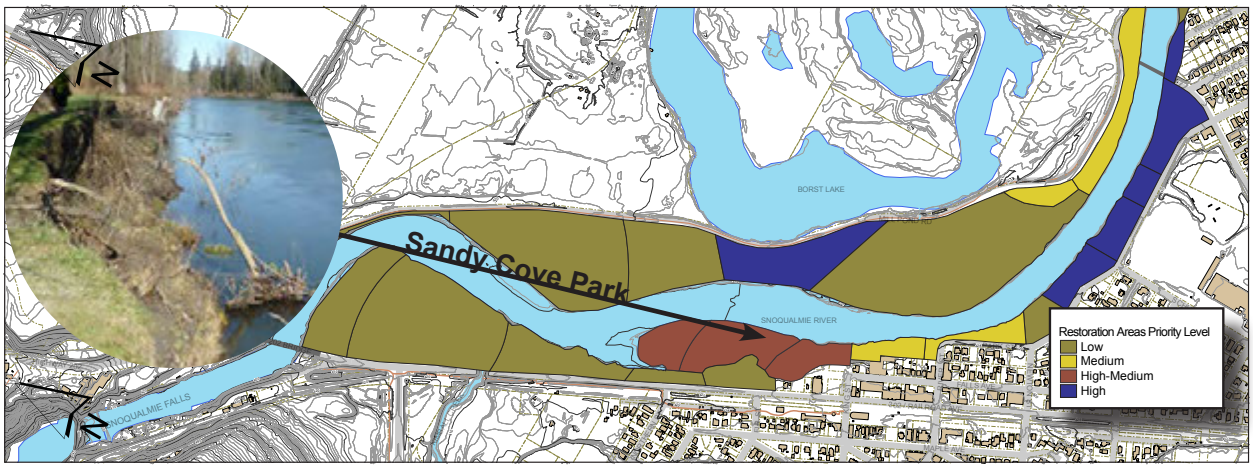
Annual flood events are part of the life of the residents of the Snoqualmie river floodplain. The City of Snoqualmie is one of the most flood prone cities in the United States. (www.kingcountyfloodcontrol.org)

Through these analyses, the water's edge of the Snoqualmie River has been divided into a series of different shoreline environment classifications. The intent was to designate and encourage development that will preserve and enhance the existing conditions and character of the shoreline (Snoqualmie Shoreline Master Plan, 2011). The Riverwalk is proposed to be developed along the Snoqualmie River, largely through the shoreline designations Urban Riverfront and Natural Environment.

City of Snoqualmie Shoreline Designation Map



Erosion and invasive plant species are important concerns for the City of Snoqualmie. Waterfront areas lacking a dominant riparian/native vegetation presence or where ecological functions have been compromised are prone to such problems. One area the City has focused on for erosion restoration is the upper and lower banks of Sandy Cove Park, located in the heart of the Downtown Historic District.



Shoreline Restoration Areas

Existing Recreation

Snoqualmie's most significant public landmark, important Native American cultural resource and tourism asset is the 268 foot cascading Snoqualmie Falls (Snoqualmie Shoreline Master Program, 2014). Above the Falls, recreational activity along the shoreline of the Snoqualmie River are found at Sandy Cove Park, Riverview Park, and Three Forks Natural Area, as well as the privately owned Mount Si Golf Course. Sandy Cove Park accommodates such passive recreation as picnicking and river viewing, as well as an informal beach. Limited active recreation facilities exist at Riverview Park, with a basketball court, a picnic shelter and children's play equipment. There are no direct views of or access to the river. The Three Forks Natural Area contains a City owned off-leash dog park, and is bisected by the King County Snoqualmie Valley Trail. Recreation at this location consists mainly of passive or low intensity uses such as viewing the riverfront, hiking, fishing, and in the summer, picnicking and river wading. In addition, the Mount Si Golf Course provides an 18-hole golf course, driving range and putting green.

The City has a number of parks and recreational facilities in the floodplain portion of its shoreline jurisdiction, including the Meadowbrook Farm Open Space, Centennial Fields Park and Railroad Park. These are not significantly affected by their location within shoreline jurisdiction, except for periodic flooding considerations. Meadowbrook Farm is a 450 acre open space property jointly owned by North Bend and the City of Snoqualmie. It provides informal areas for community events, recreation and a network of trails. They maintain the meadows of the farm, highlighting the Snoqualmie Tribe's food gathering prairie and hop farming history and are a prime site for elk viewing. Centennial Fields provides recreational facilities including three baseball fields, one football field, a picnic shelter and a children's play structure. Railroad Park is an urban park associated with the Northwest Railway Association's 1890s railway depot and outdoor display of railroad artefacts in the historic Downtown. The area is formally landscaped, including a rose garden and gazebo, as well as interpretive displays of the logging industry.

Active recreation uses, including kayak, canoe and river raft access to the Snoqualmie River below the Falls, are provided by Puget Sound Energy within the boundaries of the hydroelectric project, consistent with the FERC hydroelectric facility license requirements. The opportunity for expanded riverfront recreation, such as swimming or boating above Snoqualmie Falls is significantly limited due to the hazards of steep banks, cold water and swift currents, as well as proximity to the Falls and the hydroelectric facilities.

Existing Tourism Experience (Market Realities)

The area's primary attraction is Snoqualmie Falls. Almost 2 million tourists visit the Falls each year. With this, there is a clear and obvious opportunity for the City to tap into this potential tourism market. Unfortunately, to date, only a small portion of those visitors extend their stay and visit Downtown.

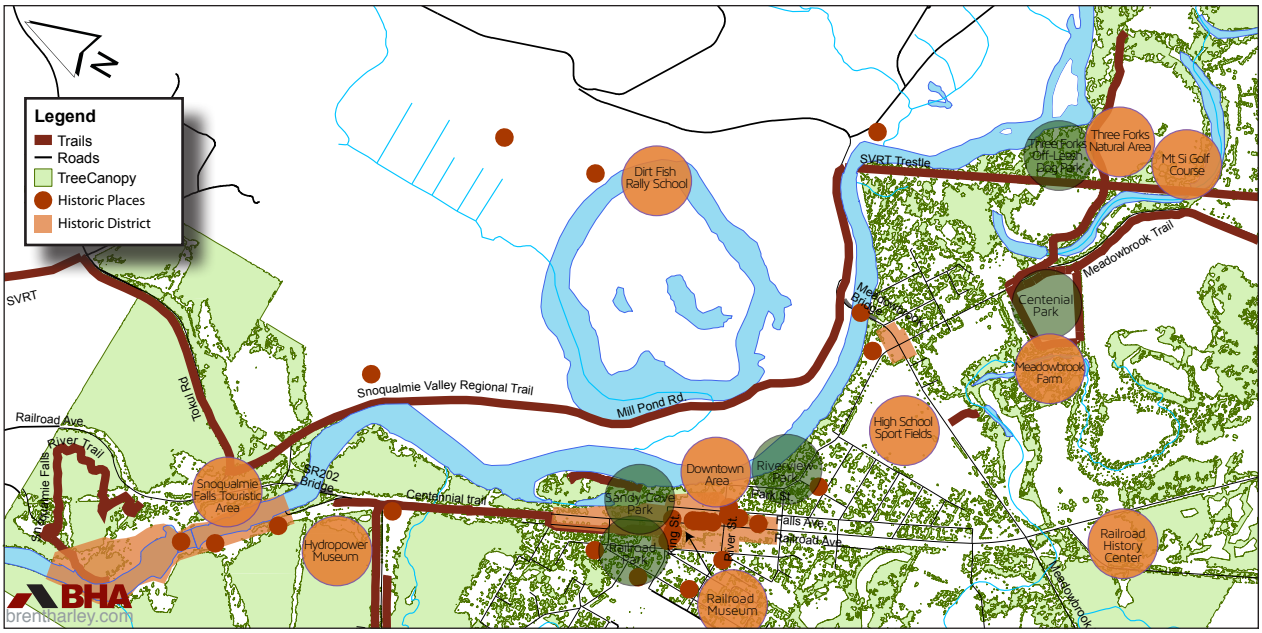
The majority of these tourists access the Falls, descending from Highway 90, via Snoqualmie Parkway ultimately reaching a T- intersection with Highway 202/Railway Avenue. At this decision point, existing signage makes it clear that the visitor should turn left to go to the Falls. Equally, there is a lack of a statement of arrival and the invitation to turn right directly to visit the Downtown Historic District of the City of Snoqualmie.

After spending time at the Falls, visitors typically leave via the Highway 202, returning to the Snoqualmie Parkway intersection. The easy decision is to simply turn right and drive back up to Highway 90. A lack of enticing wayfinding signage and a lack of knowledge and visual invitation to what they might find in the Downtown core results in a missed tourism opportunity for the visitors as well as the businesses of Snoqualmie.

As a pedestrian/bike riding visitor to the Falls, there is no safe or obvious link to the Downtown core. This is again a lost opportunity to engage with visitors.

The Downtown Historic District clearly has a series of attributes that should be of interest to tourists. The City, its core area businesses and the Northwest Railway Museum have made significant efforts to maintain, refresh and redevelop Snoqualmie's historic character. However, aside from the challenges of encouraging visitors to visit, there are several shortcomings that need to be considered. These include a lack of parking and lack of well defined focal points.

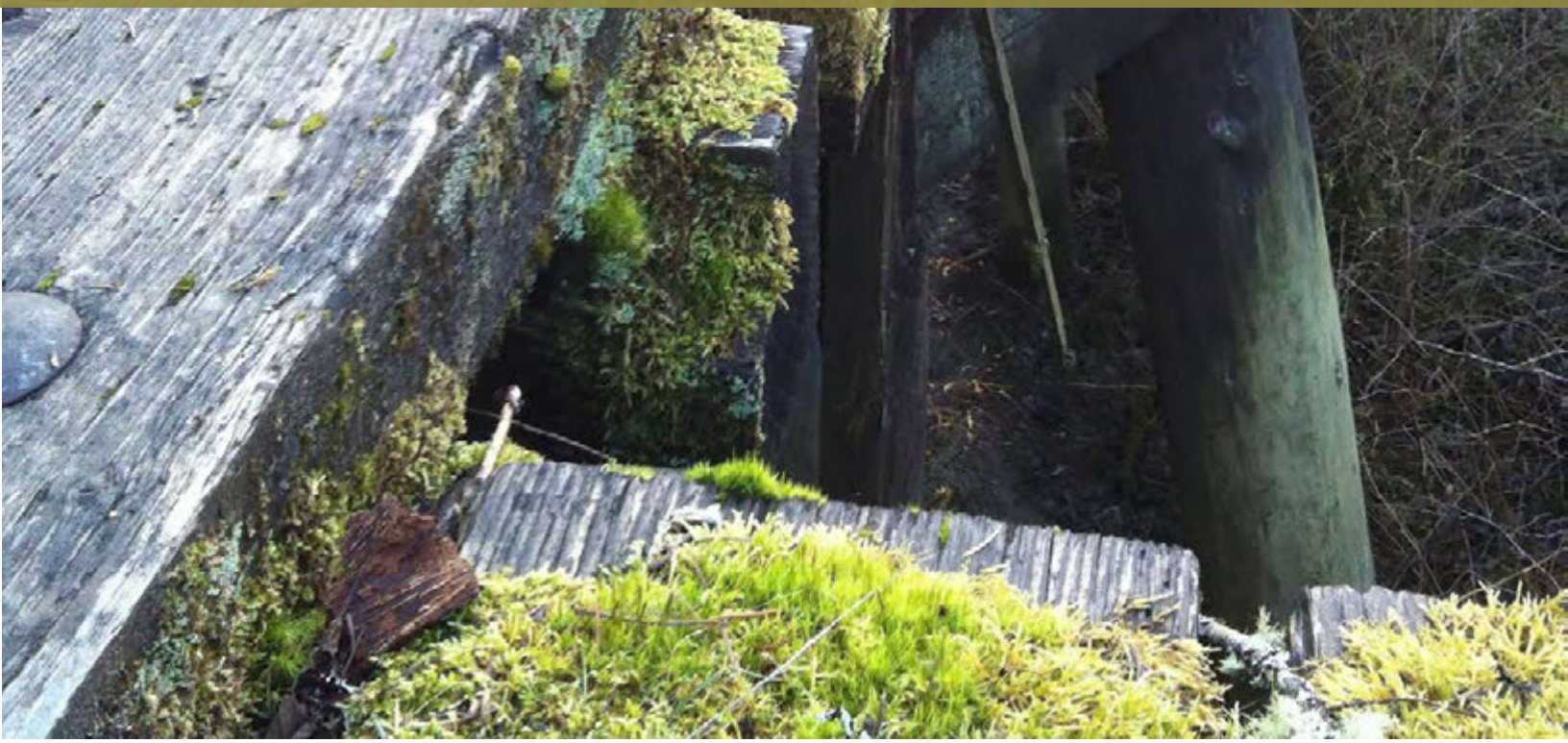
Developed in conjunction with well defined staging areas, key focal points, easier parking, well defined wayfinding signage and tourism event/festival programming, the Riverwalk will establish another reason for tourists to visit Downtown.



Snoqualmie Attractions

This page is intentionally left blank

SITE ANALYSIS



Riverwalk Areas of Focus, Issues and Opportunities

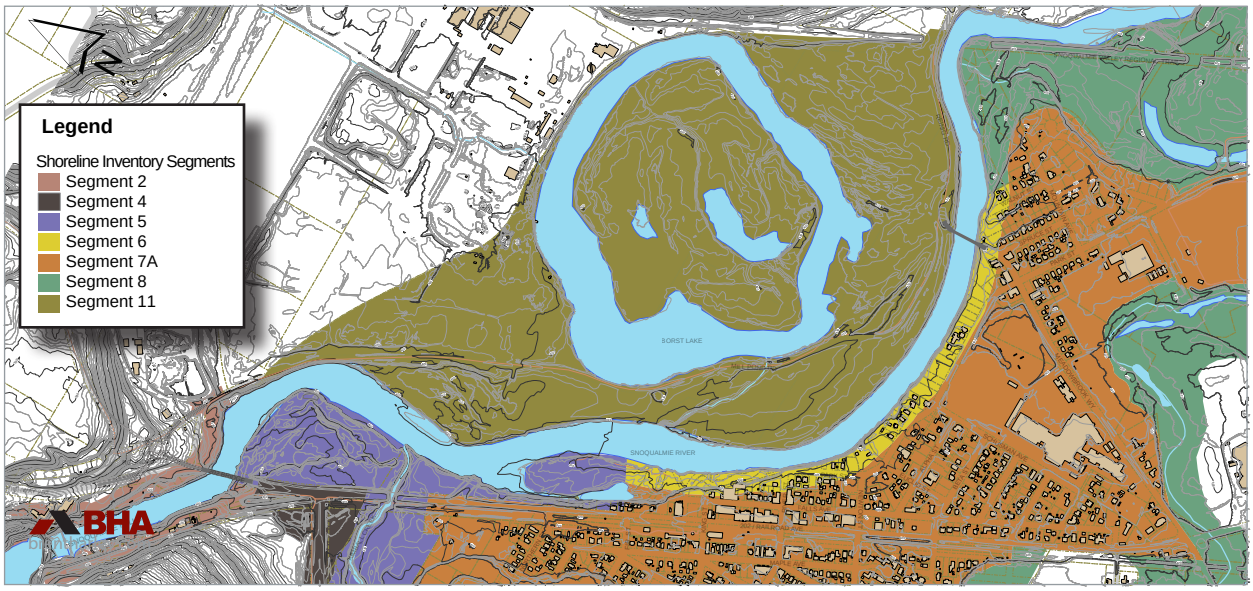
There are a series of development issues, opportunities and constraints within the study area that directly impact on and influence the areas of focus as they relate to the development potential of the Riverwalk. These are divided into categories of and are described as follows:

- Environment;
- Recreational Facility Opportunities;
- Access;
- Character and Ambience;
- Visitor Expectations;
- Potential New Focal Point Elements;
- Political, Jurisdictional and Land Ownership Realities;
- Programming and Operational Opportunities;
- Development Opportunities;
- Future Potential;
- Development Zones;
- Unifying the Snoqualmie Shoreline.

The shoreline uses, activities and development should result in minimal adverse impacts to and no net loss of shoreline ecological functions

Environment

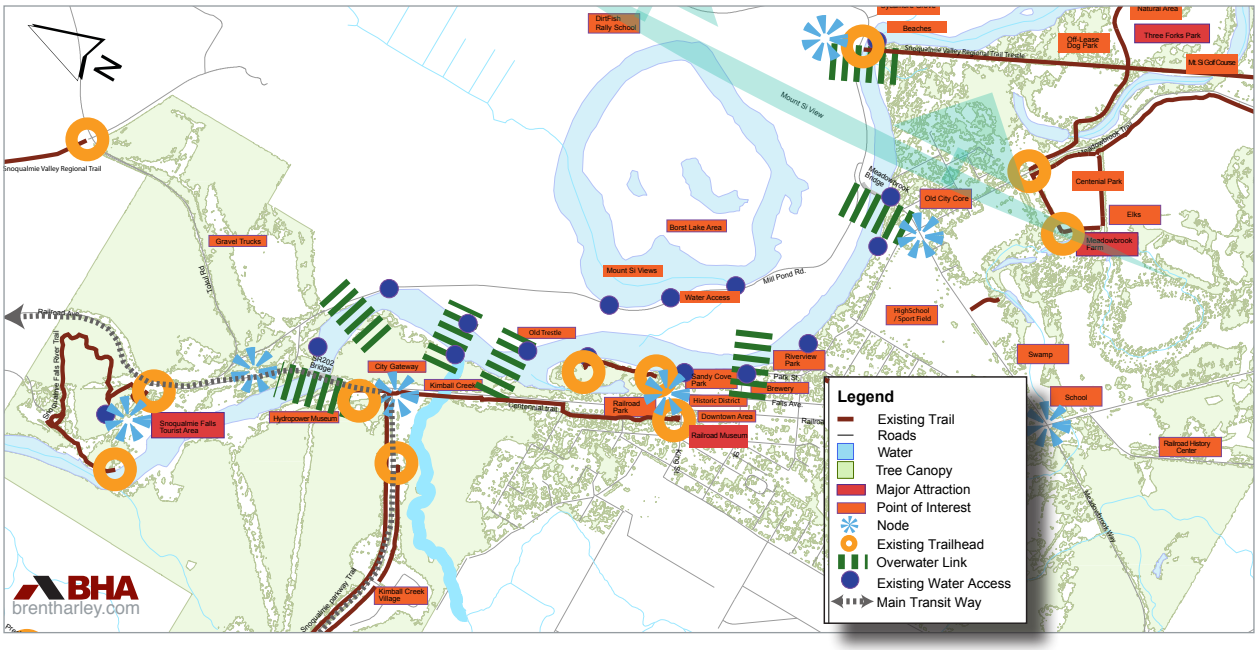
- The Snoqualmie River is a fast moving, high volume, water course that needs to be respected when discussing physical access;
- Snoqualmie Falls and its surrounding cliffs provide spectacular visual qualities while being utilized for, and impacted by, the intake and controls of the associated Puget Sound Hydroelectric Project;
- The Snoqualmie Valley is located in a flood prone area. The Snoqualmie River has a history of frequent and severe flooding. Based on this reality, careful consideration and planning of land uses and development within the floodplain is extremely important. The City of Snoqualmie's land use pattern was developed in response to the natural features of the valley and the historical use of the land. Virtually all aspects of the City's development and post flood recoveries have been shaped or influenced by the Snoqualmie River. This must play an important role in the routing, elevation and structural elements of the Riverwalk;
- The use of impervious surface construction materials for the Riverwalk and associated structures should be avoided. Covering areas with such surfaces will prevent or retard the entry of water into the soil mantle causing increased volumes and velocity of water runoff. This in turn will contribute to greater levels of erosion, sediment deposition and movement of pollutants associated with storm water;
- The impact of any newly developed impervious surface areas will need to be mitigated by the creation of adjacent vegetation strips and bio-retention zones;
- The existing mature forests and vegetation cover play a significant role in flood control and have significant aesthetic value that should be retained to the greatest degree possible in all aspects of development, and enhanced per the restoration priorities found in Appendix 1;
- The 2011 Snoqualmie Shoreline Master Program outlines a requirement that development of the shoreline must have minimal adverse impacts and no net loss of shoreline ecological functions. More details on the shoreline inventory parcels can be found in Appendix 1.



Shoreline Inventory

Recreation Facility Opportunities

- The Riverwalk, as a comprehensive trail network is an incredible recreational facility opportunity. Conceptually, it is anticipated that the Riverwalk will be made up of a spectrum of trail types ranging from the dominant "spine" trails paralleling both sides of the Snoqualmie River which in turn stage a hierarchy of "lesser" trails that loop and access other focal points and activities;
- The Snoqualmie River cannot support active recreation (boating and swimming) due to the hazards presented by rapidly moving water, especially in the area between the Falls and the Meadowbrook Bridge;
- Boating activities are possible on the Snoqualmie River below the Falls and above the Meadowbrook Bridge;
- Opportunities exist to extend Riverview Park on Park Street with enhanced playground features (spray park, playscape, beach volleyball court, etc);
- Located on the North Shore of the River, across from the Downtown Historic District, Borst Lake offers opportunities for the development of water oriented activities associated with tourism and resident recreation. Docks and launches for self-propelled boats, should be formalized and linked to the rest of Snoqualmie by the Riverwalk. A water quality study for fishing and potentially beaches for swimming should be undertaken;
- The Borst Lake area has stunning views of Mount Si, ideal for photography, painting and passive recreation;
- Single track trails for walking and mountain biking through the North Shore woods, as accessed by the dominant "spine" trail elements of the Riverwalk, is a significant recreational facility development opportunity;
- Access to the King County Trail System will enable the Riverwalk to be a destination and focal point for hikers and bikers from outside of Snoqualmie.



Access

- The placement, alignment, volume of traffic and sight distances of Highway 202 immediately adjacent to Snoqualmie Falls presents serious access and safety challenges to pedestrian and bicycle traffic;
- The connection between the Falls to Snoqualmie's Downtown is fragmented, discouraging pedestrian and cyclist travel between the two focal points. Resolving this will need to be attended to as a key element of the Riverwalk development;
- The existing Highway 202 Bridge crossing the Snoqualmie River is not pedestrian/ cyclist friendly. This presents a significant opportunity to enhance the pedestrian and cyclist experience with the creation of a more visually attractive, secure and safe crossing, separated from the vehicular traffic. The merit of expanding the pedestrian lane of the current bridge or building a second bridge for car traffic while converting the existing one to a pedestrian bridge should be explored;
- The opportunity exists to connect the North Shore with the Downtown Core via a pedestrian bridge which would create a physical link to the accessible water-based recreation potential of Borst Lake;
- Decommissioning the existing Park Street roadway and converting it into a segment of the Riverwalk should be explored. In theory, vehicular traffic would be redirected down the existing laneway (one-way).
- The Snoqualmie Valley Regional Trail (SVRT) is disconnected on each side of Snoqualmie. East of Snoqualmie, the elevated trail on the decommissioned trestle ends abruptly in close proximity to Borst Lake. From there the trail users must use Mill Pond Road, or other mixed use roads, to reconnect with the SVRT west end on Tokul Road;
- The Preston-Snoqualmie Trail is missing the final link in order to connect to the Snoqualmie River area. It is currently offered only as a connection to the Snoqualmie Ridge sector;
- The pedestrian and cyclist access from the Snoqualmie Ridge residential area toward the site area is made by the Snoqualmie Parkway trail which runs along Snoqualmie Parkway to the Highway 202 intersection;
- The opportunity exists to create cohesive pedestrian and cyclist primary routes to connect the trails and encourage users to visit the Snoqualmie downtown area;
- The Meadowbrook Bridge and approach are not pedestrian and cyclist friendly and should be refurbished as a main Riverwalk connection between the South and North Shores.

Character and Ambiance

- The Downtown area, in conjunction with the development of the Riverwalk, has a high potential as a riverfront attraction. To optimize this, the existing use patterns and architectural renovation, reconfiguration and repurposing of buildings, especially along Falls Avenue and Park Avenue, will need to be encouraged by the City;
- The Downtown area will be the primary focal point of the Riverwalk, acting as a primary staging point, leading to the other key Snoqualmie focal points, connecting to the residential community and bringing vibrancy back to the downtown core;
- The lands at the corner of King Street and Falls Avenue are a critical focal and access point to the Riverwalk. All efforts should be made to ensure that this currently undeveloped property is developed in such a fashion as to optimize its potential as a Falls Avenue visual terminus/icon and character piece that complements the Downtown core, provides a site for activity programming (festivals and events), a meeting place, a winter skating rink, a staging point and access to the waterfront and the Riverwalk;
- A pedestrian bridge, as part of the Riverwalk, should be built as a cornerstone element connecting the natural green space of the North Shore with the urbanized built space of the Historic Downtown District. Done well, this bridge will become a functional and iconic architectural attraction (ie covered bridge or suspension bridge). Its presence will create the opportunity to develop parking capacity in close proximity to the Downtown (as accessed via Mill Pond Road).

Visitor Expectations

Visitor and tourist expectations rotate around:

- Escape;
- Adventure;
- Pristine Environment;
- Uniqueness;
- Culture;
- Service and Value;
- Fun;
- Safety.

Snoqualmie has the raw material to cater to these expectations, attracting visitors and expanding tourism as a mainstay to the economic base. These include:

- The natural environment and setting, defined by the Snoqualmie River and Falls, the amazing mountain vistas and the forested green space;
- The built environment, with the historic downtown and the City's progressive efforts to reinforce and complement it;
- The cultural environment, from the history of Native American traditional use of the area and generation spanning connections to the River and the Falls, to the development of the railway and the economic drivers of farming and logging;

- The enthusiastic residents, stakeholders and entrepreneurs to develop, engage, direct, program and meet the needs and expectations of visitors to their town.

With these attributes, visitors can be attracted to Snoqualmie. However, once the tourists arrive, sustained success is defined by the experience that they have and convey to others. The experience they leave with has become progressively more critical, especially in this day and age of social media, where a bad impression will be broadcast immediately to the world.

This is a constant challenge in that tourists are largely lazy, demanding, and incredibly value sensitive. Their perceptions typically rotate around easy directions, convenience, service and perceived value. The answer lies in catering to the visitor needs and expectations through careful planning and design, provision of high quality programmed facilities and amenities, and delivering well defined service. The quality of the Riverwalk development, as a key linkage and attraction, will play a pivotal role in optimizing the visitor experience.

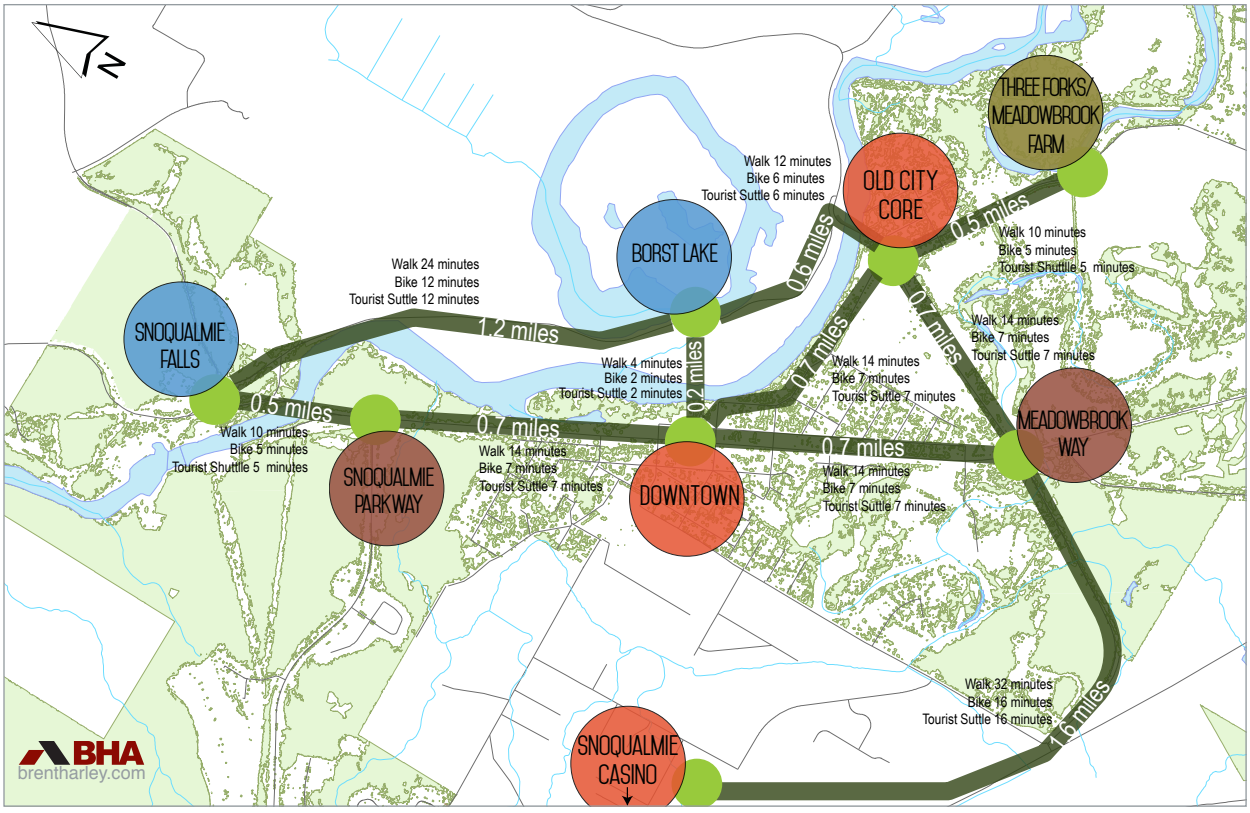
Current physical shortcomings in the Snoqualmie tourism offering include:

- Parking - The lack of convenient, high capacity parking within easy walking distance (approximately 1,200 feet) to the Downtown core areas is one of the Snoqualmie's most significant tourism upgrade issues. The existing parking areas will need to be optimized. The flood reality and shoreline environment of the downtown area does not allow underground parking as a solution. Stacked parking is a possibility, but is aesthetically and economically prohibitive. The challenge is to create additional parking within convenient easy walking distances to the staging areas of the Riverwalk, as well as all areas of highest interest to tourists and visitors to Snoqualmie, without compromising the aesthetic quality of the attractions, amenities and green space. The reality is that there are no large capacity parking development opportunities close to Downtown. As such, the answer lies in the development of a series of smaller satellite parking lots along with a review of public transportation options from the Falls and Casino. Careful attention (character and visual impact analysis, desire lines, walking distances, etc.) will need to be paid to this as parking capacity is increased.
- Sense of Arrival and Wayfinding - The Snoqualmie Parkway and Highway 202/Railroad Ave intersection currently does not provide a strong sense of arrival, is not visually attractive, and does not provide clear wayfinding directions. A gateway feature that addresses these issues will be critical in increasing traffic to Downtown, both from the perspective of visitors to the area on their way to Snoqualmie Falls and on their exit prior to returning up to Highway 90.

Potential New Focal Point Elements

In addition to the existing primary attractions of the Snoqualmie Falls, the Downtown core and the Northwest Railway Museum, potential Riverwalk connected focal points include:

- Formal viewing/seating points along the Snoqualmie River;
- Reversing the existing urban pattern by turning the focus of use to the River, especially along Falls Ave;
- Borst Lake with its spectacular setting, reinforcing and improving opportunities for nature viewing, bird watching, painting, photography, fishing, water recreation and adjacent space for parking;
- Creating an interpretive section of the Riverwalk centered on Kimball Creek, providing an opportunity to integrate a flood and hydrology educational component with a trailhead in the high visibility zone of the Gateway;
- Formalize the Old train Trestle as a historic site feature and destination point of interest on both sides of the Snoqualmie River.



Transit Time

Political, Jurisdictional and Land Ownership Realities

A wide variety of land use, political and jurisdictional regulations will play an immediate and ongoing role in the development of the Riverwalk. These are as follows:

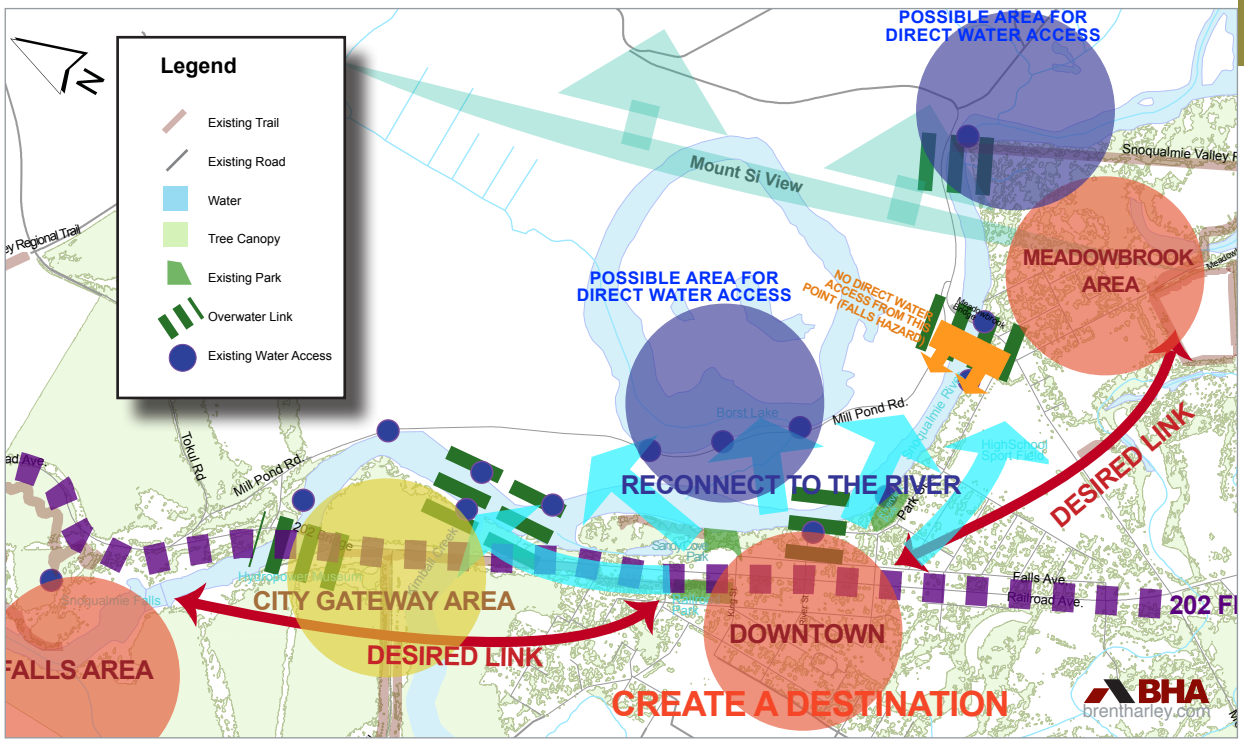
- The City of Snoqualmie zoning and wetlands regulations;
- King County wetlands regulations;
- Floodway and Floodplain boundaries;
- Homeland Security restrictions as they relate to Riverwalk trail development and land use in close proximity to the Snoqualmie Falls / Puget Sound Energy hydroelectric plant;
- The impact of development plans of privately held lands will have to be given careful consideration as final Riverwalk plans are formalized;
- Snoqualmie Tribe and Native American rights;
- King County Trails System Connections to lands beyond, aligning the Riverwalk to regional trails;
- Old Mill Area potential and development (ie. residential, industrial park, recreation facility, historic site, etc.).

Programming and Operational Opportunities

- The Northwest Railway Museum currently runs historic trains on the old Snoqualmie Valley Railroad line between the Downtown and the Falls on the weekends and special occasions. If run as a more regular service, this could complement the use of the Riverwalk by tourists;
- Opportunities to develop a Downtown plaza / gathering focal point to connect directly with the Riverwalk should be explored. Conceptually, this area should be an attractive, iconic visual terminus, large enough to be programmed to host concerts, festivals, competition finish area, etc and yet flexible enough to stand on its own as a Snoqualmie character piece. The empty lot on the corners of Railroad Ave/King St/Falls Ave satisfies all of these attribute requirements and should be preserved/developed into such a plaza. The temptation to formalize this area into a parking lot should be avoided as this would be a significant missed opportunity to provide the community with a valuable amenity and unifying core area.

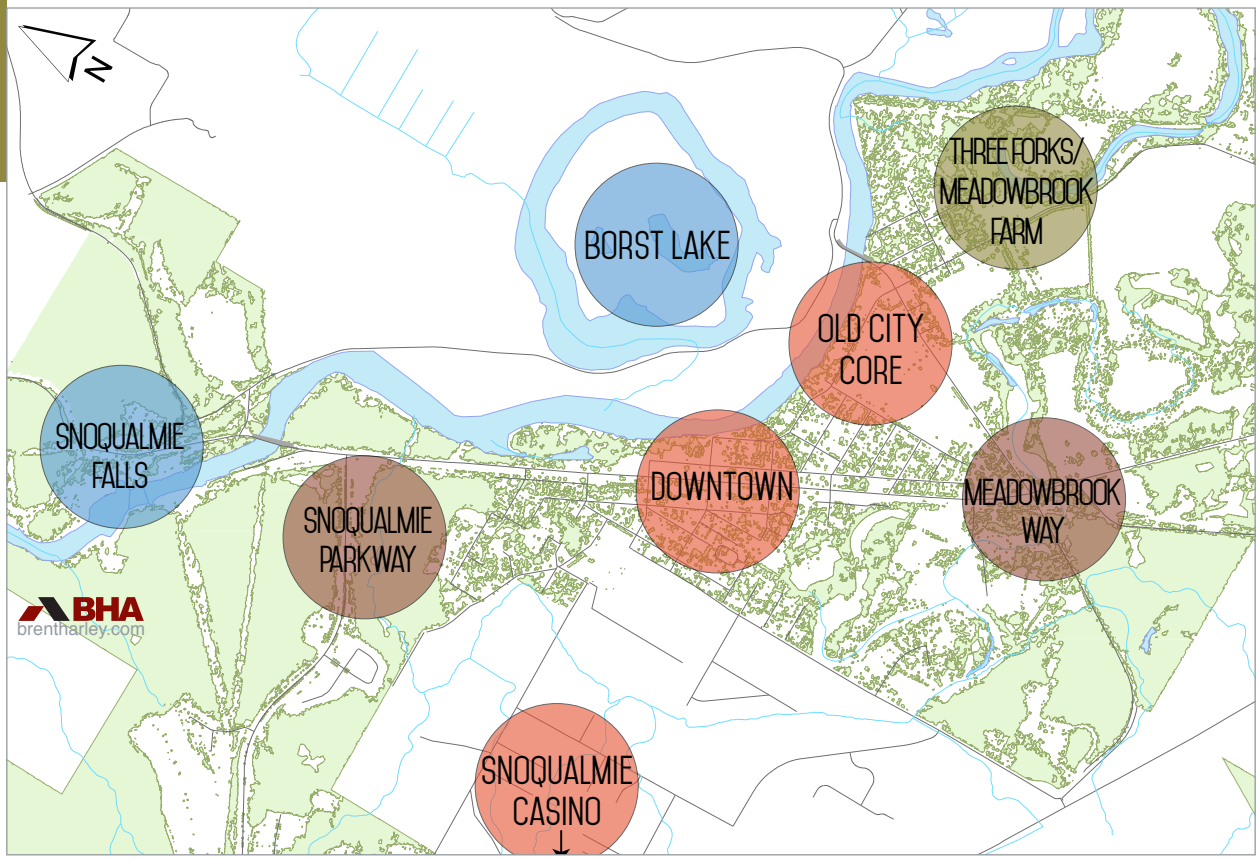
Development Opportunities

- The 2011 Snoqualmie Shoreline Master Program, the Downtown Vision Plan, the Economic Development Plan and the Downtown Plan all strongly recommend the development of Riverwalk trails, viewing platforms, boardwalks, beach access, etc. along the Snoqualmie River shoreline;
- The City has acquired a significant amount of high-bank parcels along the South Shore of the Snoqualmie River which may form the backbone of a Riverwalk trail system with viewing platforms from Snoqualmie Falls to the Meadowbrook Bridge;
- The parcels acquired on Park Street will be used to maximize the area for re-naturalization and bank stabilization. This area also provides an increased visual connection to the River;
- The Meadowbrook District offers a distinct aesthetic experience enhanced by a collection of historic brick buildings and presents the opportunity to create another defined historic district sector in Snoqualmie, linked by the Riverwalk;
- Within the Mill Planning Area, the City has also secured commitments from the property owners for a Riverwalk trail corridor along the North Shore of the Snoqualmie River. This would allow for development of a looped trail system with connections to local and regional upland trail corridors;
- Borst Lake, also referred to as Mill Pond, is surrounded by a wetland offering excellent opportunities for passive recreation facility development tied directly to the Riverwalk featuring a boardwalk and viewing platforms;
- Visual access of the River along the steeper banks of the South Shore can be achieved with the development of viewing platforms as part of the Riverwalk;



Opportunities and Constraints

- The North Shore, with its gentler gradient interface with the River, should enable direct water access where appropriate;
- Dedicated pedestrian access across the Snoqualmie River via a bridge or bridges will be key to the establishment of a well integrated trail network;
- Kimball Creek and its adjacent forested area offer great natural and hydrology elements in immediate proximity to the City's Gateway;
- Connecting Snoqualmie Falls to the Downtown Historic District is critical to the success of the Riverwalk. Highway 202 and its bridge presents serious hazards to pedestrian and bicycle traffic. The bridge could be upgraded to be more pedestrian and cyclist friendly. A second possibility would see the existing bridge converted for pedestrian use, if a new Highway 202 Bridge is built;
- The Meadowbrook Bridge is an important connection that will require the pedestrian walkways to be widened and the approaches to be enhanced as part of the Riverwalk. This will enable connections to Meadowbrook District and a potential waterfront beach park on the North Shore;
- The Snoqualmie Parkway intersection, at present, is not visually attractive and does not provide a sense of arrival. A gateway feature that provides visitors with a sense or arrival and directs their attention to downtown and the Riverwalk experience will be a significant element to encouraging traffic to visit Downtown.



Areas of Focus

Future Potential

Ultimately, the trail network tied into the Riverwalk will potentially include direct linkages to:

- The Old Mill area;
- The Railroad History Center;
- The Snoqualmie Casino;

The potential exists for an additional type of public transport i.e. aerial gondola or tram which could be developed as an attraction, linking key Snoqualmie focal points together (i.e. the Falls, Downtown, the Casino, etc.), acting as a complement to the use of Riverwalk.

Development Zones

A series of Riverwalk Development Zones have been identified. Their basic attributes are as follows:

- City Gateway - Located at the intersection of the Highway 202 and the Snoqualmie Parkway, this zone is a high traffic area. As the main access line for the 2 million visitors per year to Snoqualmie Falls, it is also the prime entrance to the downtown business district. The planning of the Riverwalk in this zone will facilitate opportunities to strategically develop a formal gateway and wayfinding area, designed to capture the Falls tourist traffic and redirect it to Downtown. It also contains the pedestrian and cyclist access staging point, approaching the 202 Bridge and to the Falls area;
- Kimball Creek - Adjacent to the busy intersection of the Gateway area, the Kimball Creek zone offers an opportunity to integrate a flood and hydrology educational component as an interpretive section of the Riverwalk. The mature forested area plays a significant role in flood mitigation and has significant aesthetic value;
- Park Street - The City has acquired a number of parcels on Park Street which are recommended to be used to maximize the area for re-naturalization and bank stabilization. This zone will also act as a public viewpoint looking out over the water. In addition, the Park Street traffic pattern will need to be adjusted to maximize parking, pedestrian and biking opportunities. The concept would be to decommission the existing Park Street roadway and convert it into a segment of the Riverwalk. Vehicular traffic would be redirected one way down the existing laneway;
- Sandy Cove Park - As the Downtown prime natural riverfront area, Sandy Cove Park can act as a direct complement and staging component of the Riverwalk. This zone will offer universal accessibility and views of the River in an edge of urban natural setting. Further, the river inlet and environmental realities of the Park's peninsula offer great wildlife and bird viewing opportunities. Assessment of the shoreline erosion problem along the riverfront of the Park has lead to the City initiating a bank stabilization project;
- Downtown - The downtown core is located in a high potential waterfront area. However, the interaction between the commercial businesses along Falls Street and the River needs to be refocused in order to capture all of the opportunities that this location offers. One of the downtown's most significant barriers to cater to tourism facility development and visitation is the limited space available for parking expansion. The existing parking uses prime locations focused on convenience and accessibility as opposed to being used to create more esthetic background and spaces for the downtown users. The downtown area will be the primary and most important development zone to enable the success of the Riverwalk. Done well, it will create the catalyst to Snoqualmie

establishing its riverfront and tourism economy. Collectively, this will enable the downtown area to offer a vibrant, high quality user experience tied to the River. This entertainment oriented hub of commercial enterprize will not only cater to the needs of the local community but it will service visitor expectations, becoming an attraction in its own right;

- Borst Lake - The Borst Lake zone presents various options and opportunities for direct water activities that the Snoqualmie River cannot support due to the hazards presented by rapidly moving water. The area also has stunning views of Mount Si and a strong natural character. The lands to the south of Mill Pond Road and Borst Lake offer some of the space for parking that the downtown lacks. By connecting this zone to the Downtown via a pedestrian bridge, this will create a dynamic interaction of tourism, recreation, entertainment and commercial activity;
- The North Shore - Characterized by a natural and wilderness identity. The North Shore zone offers a distinctive forested experience combined with the adjacent historic industrialization (the Old Trestle, the Old Powerhouse and its smoke stack, the Mill etc.). While its current connections to the River are relatively informal, there is a significant Riverwalk opportunity linking the Falls, the City core and the Meadowbrook District as well as connections to the Snoqualmie Valley Regional Trail (SVRT). Meadowbrook District: The Meadowbrook District offers a distinct experience enhanced by a collection of historic brick buildings and presents the opportunity to create a well defined historic district within the study area. The Meadowbrook Bridge is an important connection that will require the pedestrian enhancements. Further up stream, the east part of the river is well position to create a formalized beach and river access.

Breathtaking views of Mt. Si from Borst Lake

Unifying the Snoqualmie Shoreline

The Riverwalk has the ability to be the common ribbon tying together all of the unique and special attributes of Snoqualmie as they relate to the River. The Riverwalk Master Plan will illustrate how the areas of focus are linked together, creating a well balanced and integrated experience for visitors and residents to enjoy. Based on the analysis of the existing conditions and direction defined by the City and stakeholder consultations, the following strategies were established to guide the creation of the Riverwalk Master Plan:

Develop a Connection to the Snoqualmie Falls

- Attract people visiting the Falls to Downtown
- Create a trail to access the falls from the Riverwalk

Invigorate the Downtown Area

- Develop tourism opportunities Downtown
- Develop the riverfront
- Build a City Gateway

Create a Tourist Destination

- Create public space for passive and active programming
- Capitalize on the Snoqualmie River's pristine environment and unique features

Utilize the Borst Lake Area

- Create a variety of tourism opportunities
- Develop water related retail and services
- Connect to downtown via a pedestrian bridge

Transform Park Street

- Maximize the street for tourism related parking
- Build an access trail and water viewpoint

Create a Trail System

- Build with principles of universal access
- Connect with the regional trail system

Create a City Gateway

- Build a pedestrian friendly intersection
- Integrate wayfinding elements
- Create a visually attractive area with views of the water

Connect with the Water

- Maximize water views and experience in each zone

In order to satisfy Stakeholder expectations, the Riverwalk must:

- Maintain a small-town character
- Respect the residents
- Enhance the livability of the area
- Respect the local environment
- Preserve the riparian ecosystem
- Create tourism business opportunities.

This page is intentionally left blank

DESIGN PROCESS AND EXPLORATION

Riverwalk Concepts

The primary challenge for the design of the Snoqualmie Riverwalk was to explore the range of potential aligned with the development vision, goals and objectives. Following a detailed site inventory and analysis, five Riverwalk concepts were created.

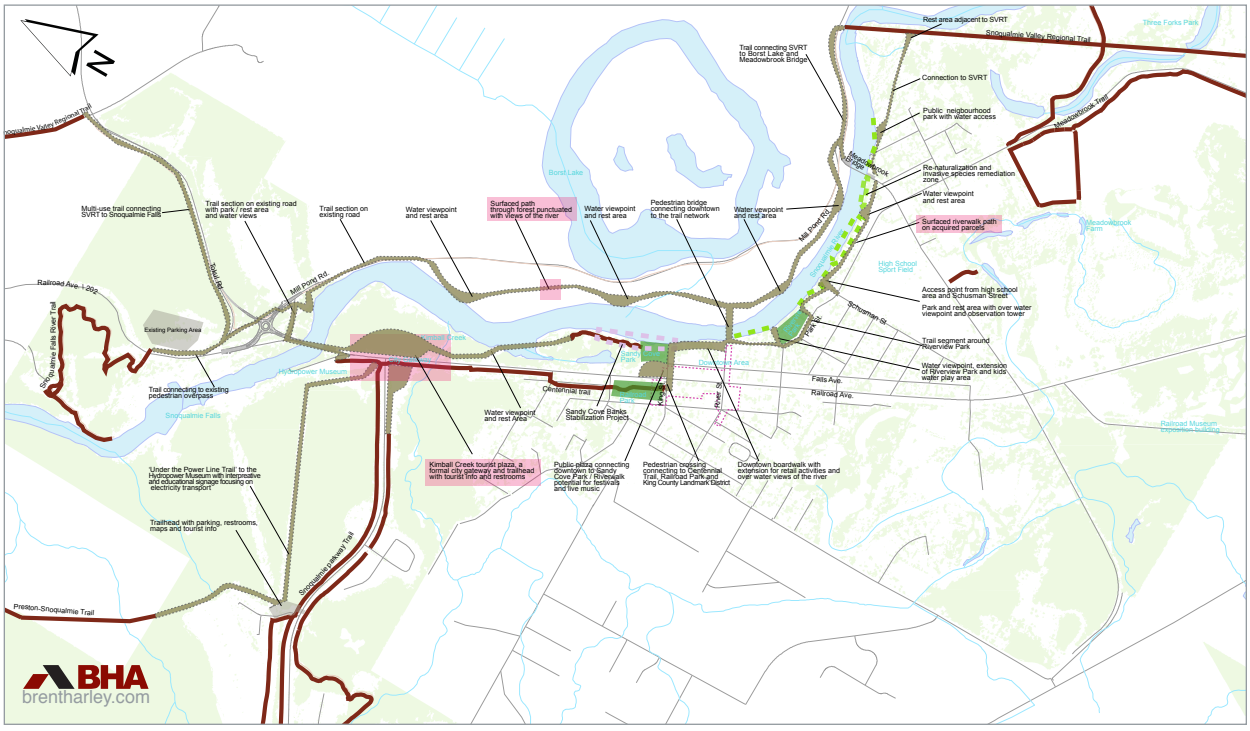
Preliminary Concepts

Concept 1: Surface Trail

Based on the desire to develop a trail network that enhances local recreation and quality of life, this concept focused on the creation of a series of trails (gravel, dirt, hardtop) connecting residential areas with the River and the surrounding natural attributes of the area. The informal character of these trails provides an organic appeal and opportunity for a high quality nature-based product. This concept takes advantage of the trails relatively low cost of construction while maintaining an almost totally separate routing from roads and vehicular traffic, bringing users up close to the banks of the river.

Key Features:

- Surfaced trail network (gravel/pavement) separated from road;
- Recreation asset connecting SVRT and other trails;
- Kimball creek gateway;
- Connects to the falls;
- Proposes a bridge to the North Shore;
- Creates a path along Park Street;
- Connects the Preston-Snoqualmie Trail to the Hydropower Museum through a “under the powerline” trail.

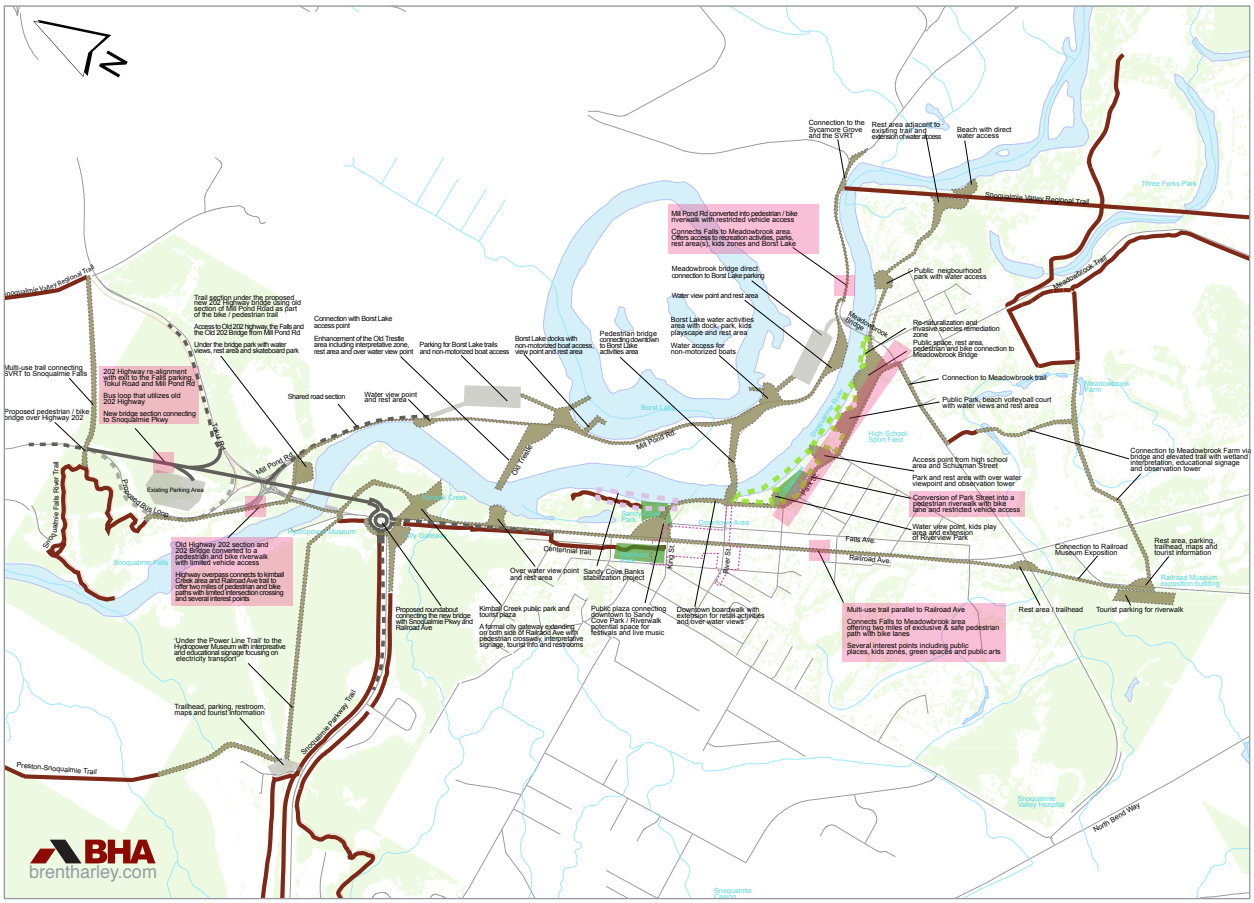


Concept 2: Road Right of Ways

This concept explored the potential opportunities to use sections of the existing road network aligned with and as part of the 'Riverwalk'. By converting Railroad Avenue, Mill Pond Road and Park Street into pedestrian/cycling corridors, the plan aims to draw in tourists from satellite attractions to the downtown and river area. The village setting would provide increased opportunities for active transportation and a traffic free village core.

Key Features:

- Valley trail paralleling existing road networks;
- New Highway 202 pattern;
- Parking at North and South ends of Borst Lake;
- Creates a connection to Meadowbrook Farm Trail;
- Creates an opportunity for water access along park street;
- Creates Roundabout/Gateway at Kimball Creek & Snoqualmie Parkway intersection.

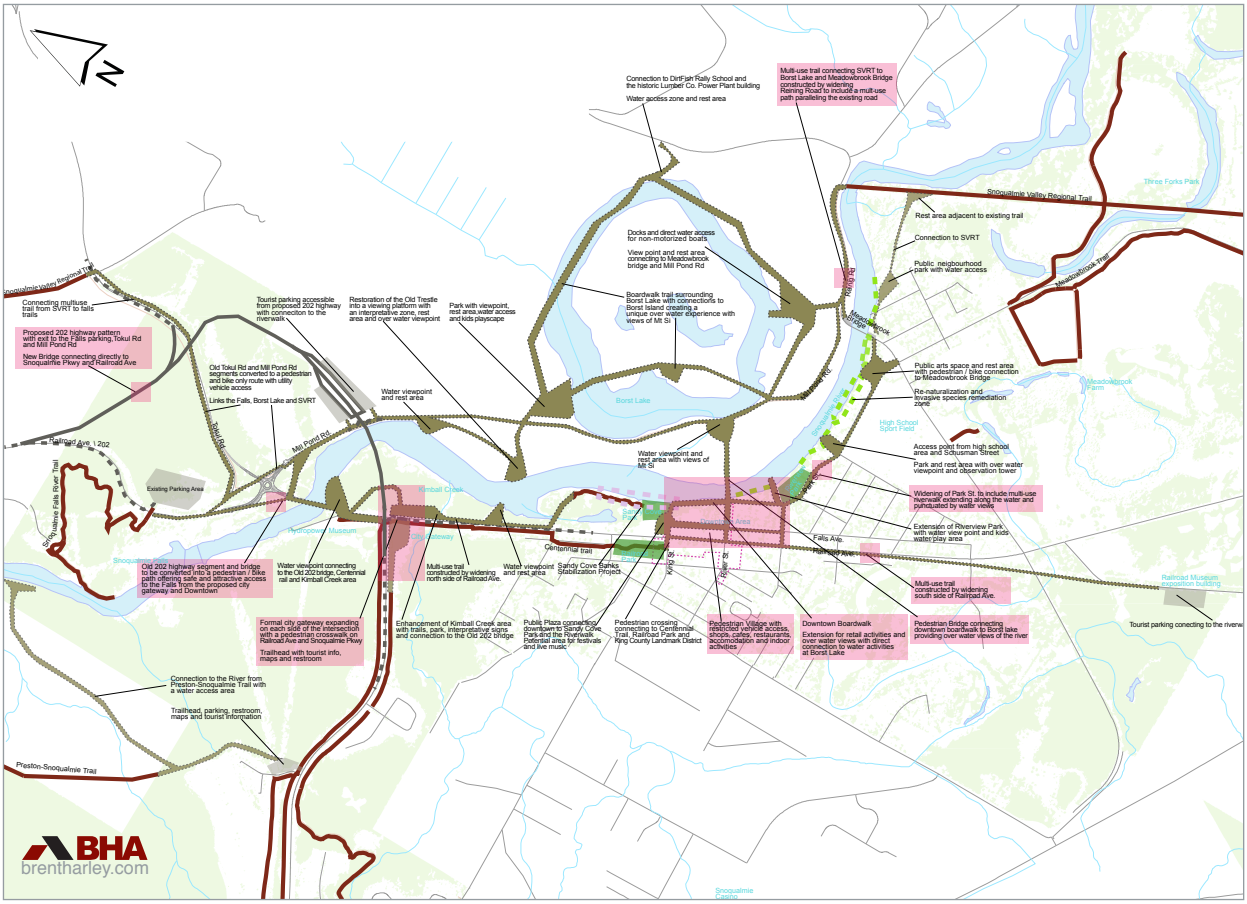


Concept 3: Pedestrian Village

Following an analysis of the street networks paralleling the community's water assets, it was discovered that some of Snoqualmie's most valuable tourist real estate is not being optimized. As such, this concept aimed to utilize the existing road networks to enhance the tourist experience without a significant infrastructure cost. Potential opportunities were explored to expand Railroad Avenue, Mill Pond Road and Park Street to include pedestrian/ cycling lanes connecting the community through a series of pathways. The Downtown would become a pedestrian only area acting as the primary focal point for tourists and residents to enjoy local amenities and begin their journey along the proposed Riverwalk. Additionally, a connection would be created, linking the Downtown to the north side of the river to draw tourists and residents to the Borst Lake area which has the potential to provide a safe direct water experience.

Key Features:

- Transforms downtown into pedestrian village;
- Creates a trail network around Borst Lake;
- Widens Railway Avenue to accommodate bike/ pedestrian walkways;
- Re-aligns the 202 Highway;
- Creates gateway at Kimball Creek.

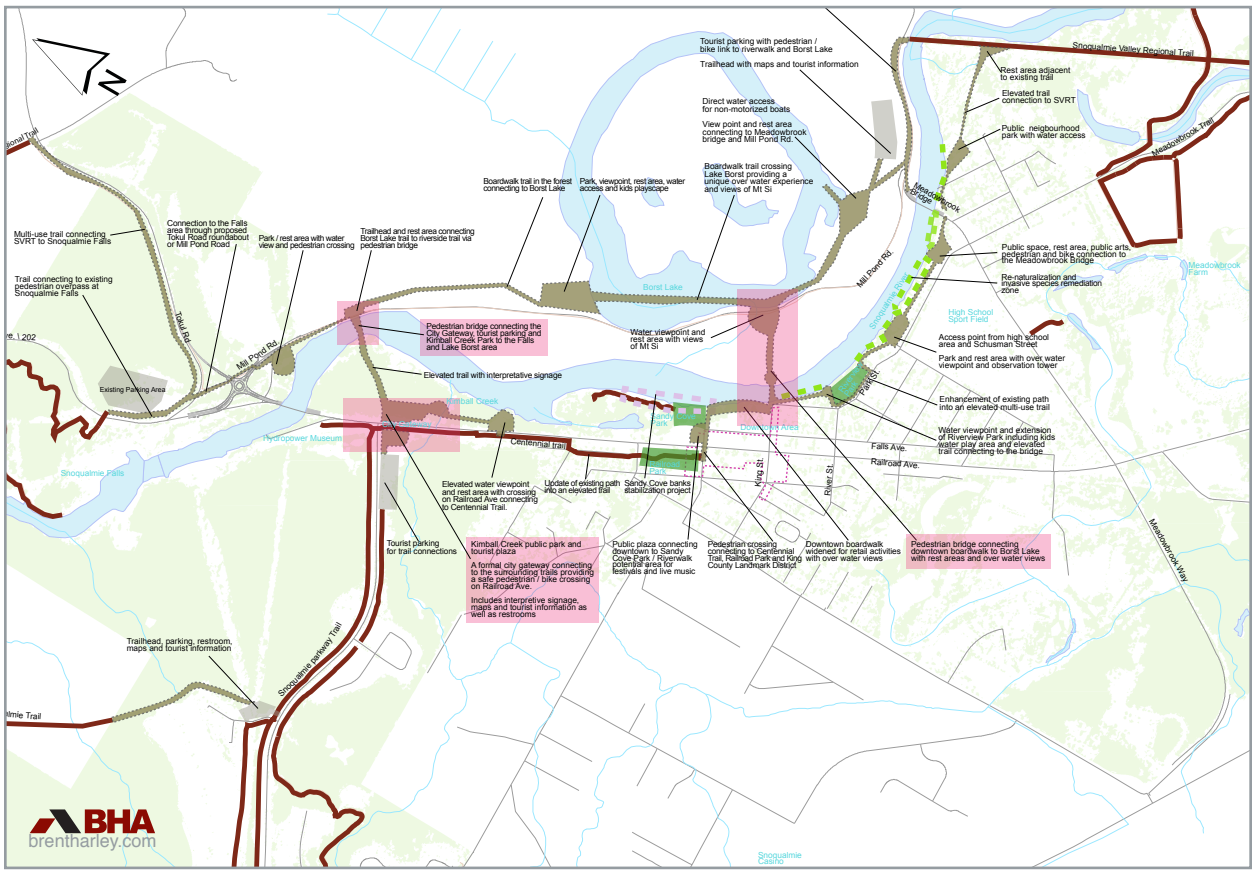


Concept 4: Boardwalk

Snoqualmie's Downtown area is a sensitive sector due to limited riverbank space, proximity to the river and vulnerability to floods and erosion. This concept aimed to create opportunities for a linked, elevated Riverwalk in addition to maximizing the land available for re-naturalization efforts and strategic, ecofriendly tourism development. Elevated walkways extending along the river banks, over the river and around Borst Lake would offer a safe and interesting way for the community to reconnect with the water. A reliable elevated trail system would not only be a cost effective solution in terms of post flood maintenance but could also become part of the flood evacuation plan by keeping the flood zone accessible during a flood event. The positioning of the walk embraces Snoqualmie's unique identity and is a proactive solution to the challenge of regular flooding. The proposed Riverwalk would have the potential to be a leading example of flood-friendly and ecofriendly urban development.

Key Features

- Elevated boardwalk creating flood friendly links;
- Central promenade from Downtown to Borst Lake;
- City Gateway and parking at Kimball Creek;
- Pedestrian bridge in the downtown area;
- Connection from the Falls with a Pedestrian Bridge close to the SR202 Bridge.

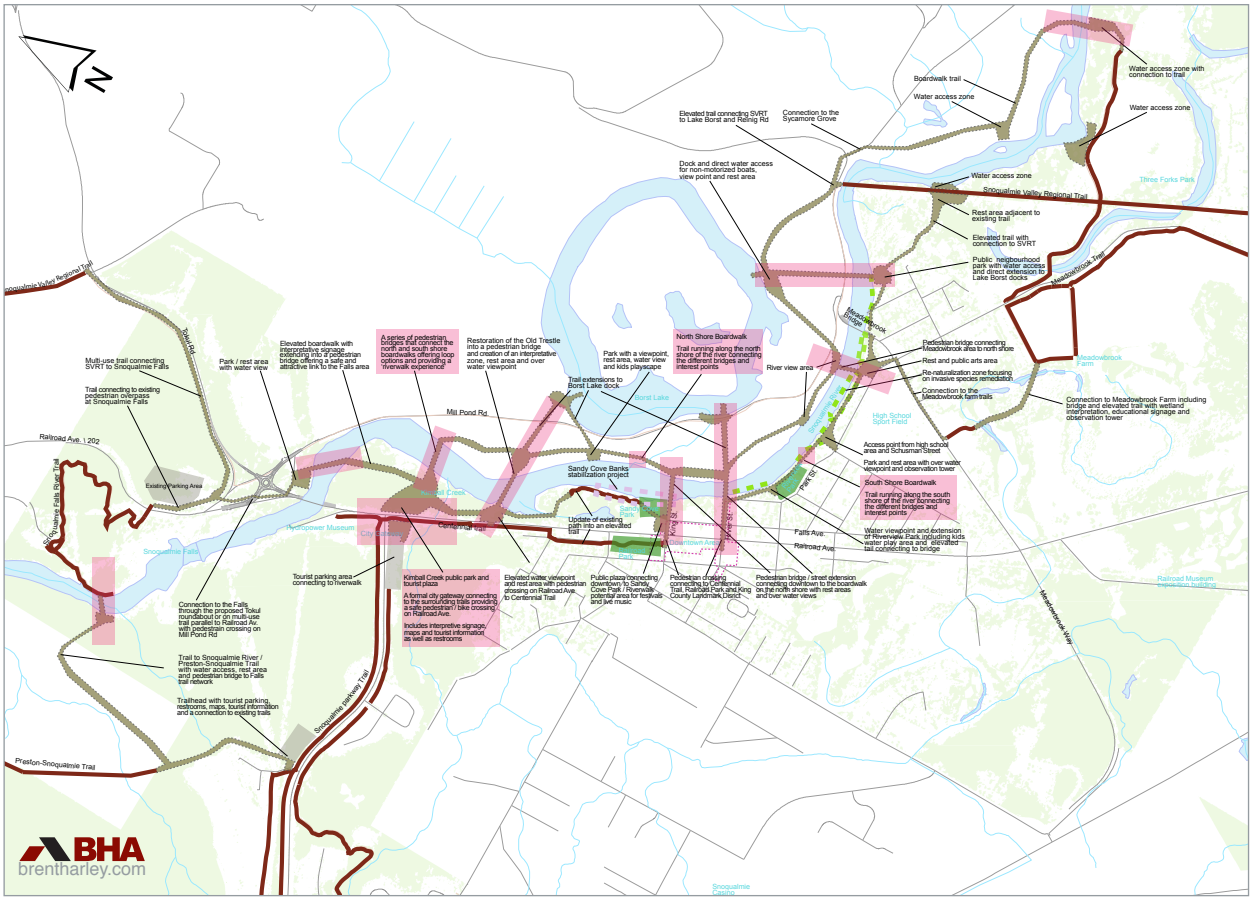


Concept 5: Bridges and Boardwalk

This concept aimed to reconnect the community with its 'riverside' identity while considering the erosion and flood sensitive shoreline ecosystem and limited riverbank space in the urban area. The creation of multiple small pedestrian bridges crisscrossing along the banks, over the river and to Borst Lake would offer a safe and unique way for the community to reconnect with the water and maximize land space for re-naturalization efforts and strategic ecofriendly tourism development. This series of bridges would become a landmark and attraction acting as the core of the tourist economy development.

Key Features:

- Creates complex network of boardwalks and bridges;
- Creates a distinctive tourist experience;
- Creates a city gateway and parking at Kimball Creek;
- Uses the banks of Park Street as an extension of the riverwalk.



Preferred Concept

These five concepts were evaluated by City planning personnel. Subsequent refinements were presented and workshopped with Stakeholders. Input and feedback lead to the choice of the primary features that were distilled into the first draft of a favored direction to pursue. This was presented to the Stakeholders for final input, effectively leading to a “design freeze” and ultimately the Preferred Concept was refined into the Riverwalk Master Plan.

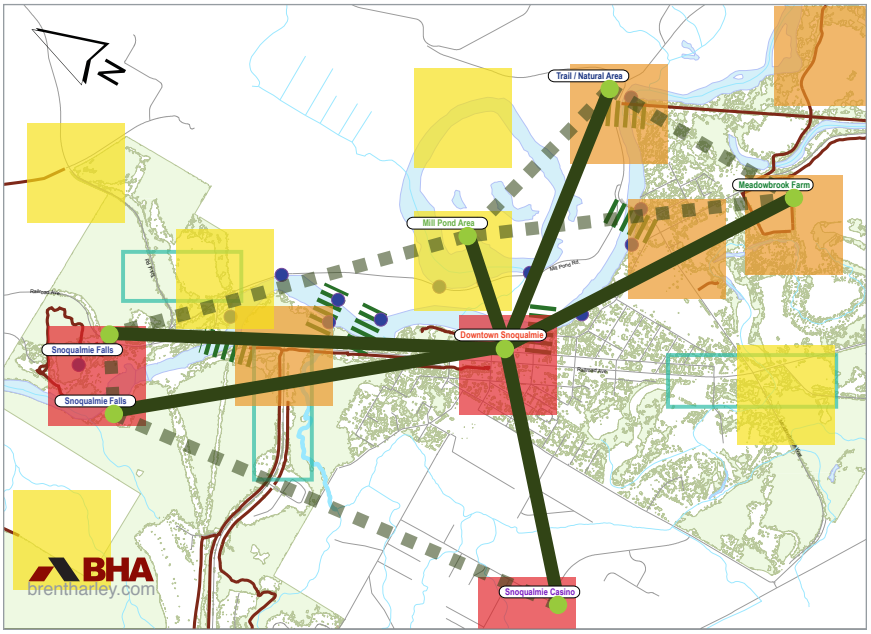
Transportation Concepts

At buildout, the Historic Downtown District and the Snoqualmie Riverwalk will, along with the Snoqualmie Casino and Snoqualmie Falls, create a series of prime tourist attractions. In order to accommodate an increase in visitors, car and bus parking capacity must be expanded. At present, the downtown area has only limited space to accommodate improvements to its parking and road capacity without negatively affecting the potential quality of the tourist and resident experience.

In response to this challenge, a series of potential transportation solutions were created. There appears to be very real physical opportunity to realize these options. They would be expensive to establish, and not without their approvals issues. However, increasingly there are examples of these types of transit developments being established in cities and resorts throughout the world, designed to resolve unique and special development and operational challenges. In order to fully understand the pros and cons of these preliminary, Snoqualmie-specific options, much more work would have to be done. Three alternative transit options were explored.

Option 1: Gondola

This Option is premised on the idea of linking key areas together via aerial gondolas.



Key Features:

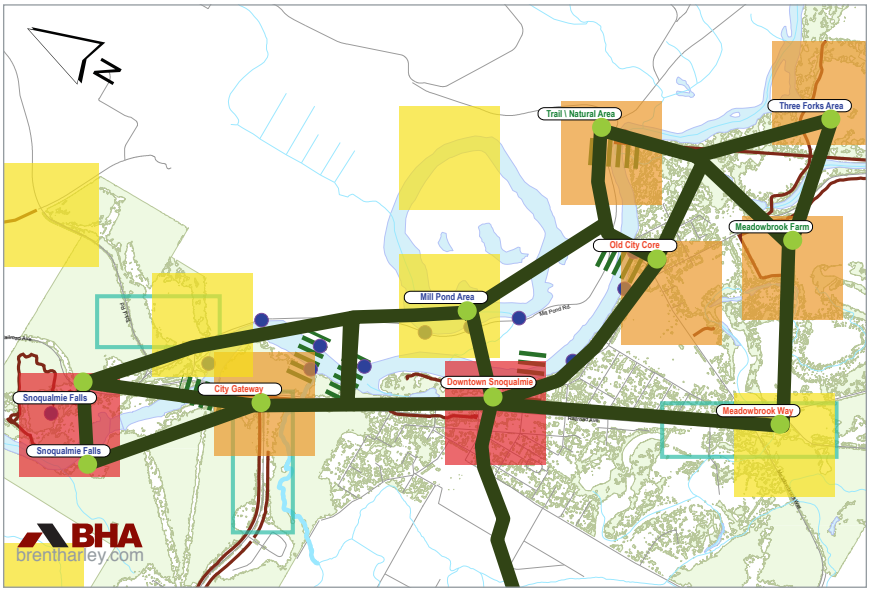
- Small footprint on the land;
- Offers unique views;
- Provides distinctive tourist experience; Attraction in its own right;
- Supports green transportation;
- Link between major attractions.

Option 2: Elevated Rail

This Option considers the development of an elevated rail system.

Key Features:

- All ages, family friendly;
- Attraction in its own right;
- Supports green transportation;
- Great addition to the existing transit system;
- Link between major and smaller attractions, with multiple access points;
- Flood friendly.

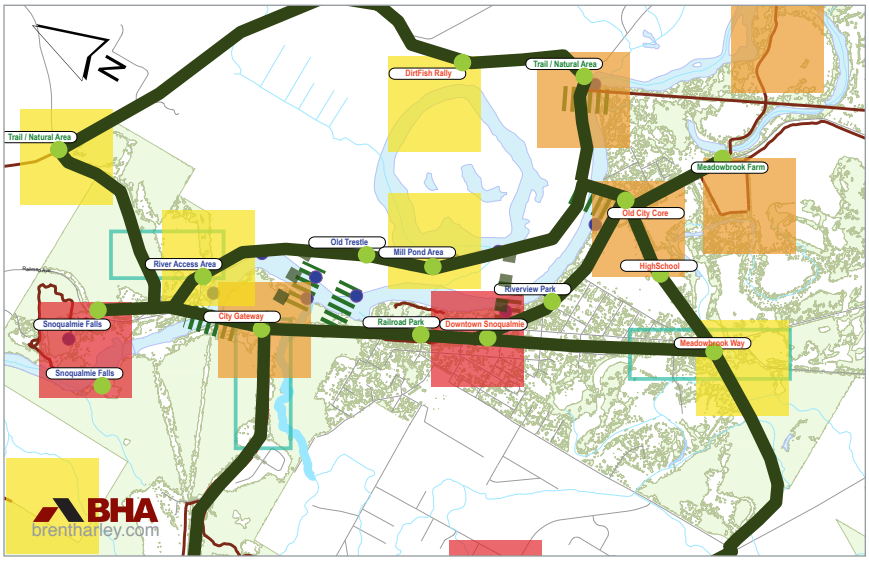


Option 3: Rail

This Option effectively is an expansion and refurbishment of the existing rail line.

Key Features:

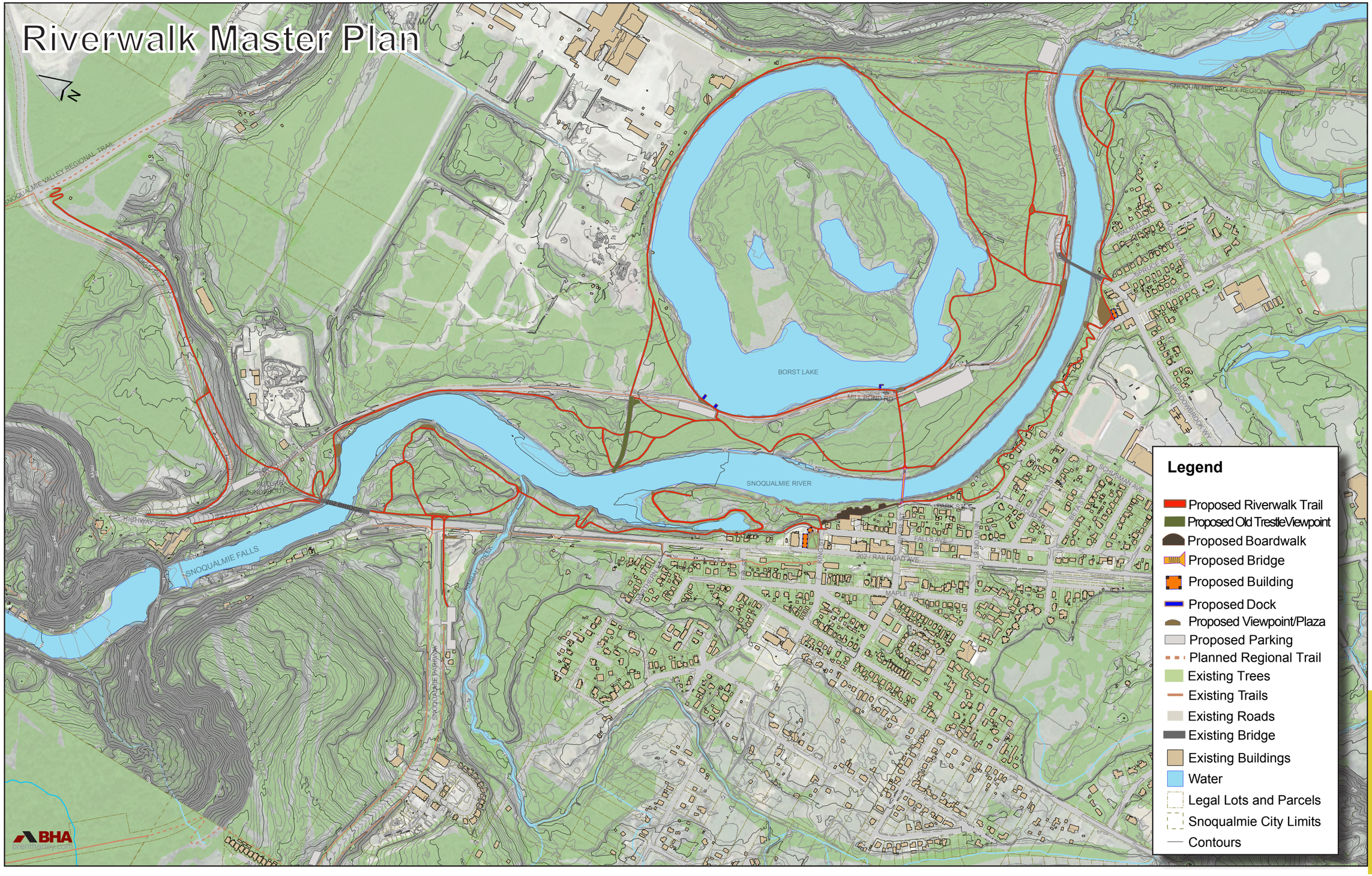
- Uses the current road right of way; low impact;
- Significant urban connection opportunities with multiple access points;
- Family friendly;
- Distinctive tourism experience;
- Supports green transportation;
- Great transit system addition;
- Reinforces the Railroad history of Snoqualmie.



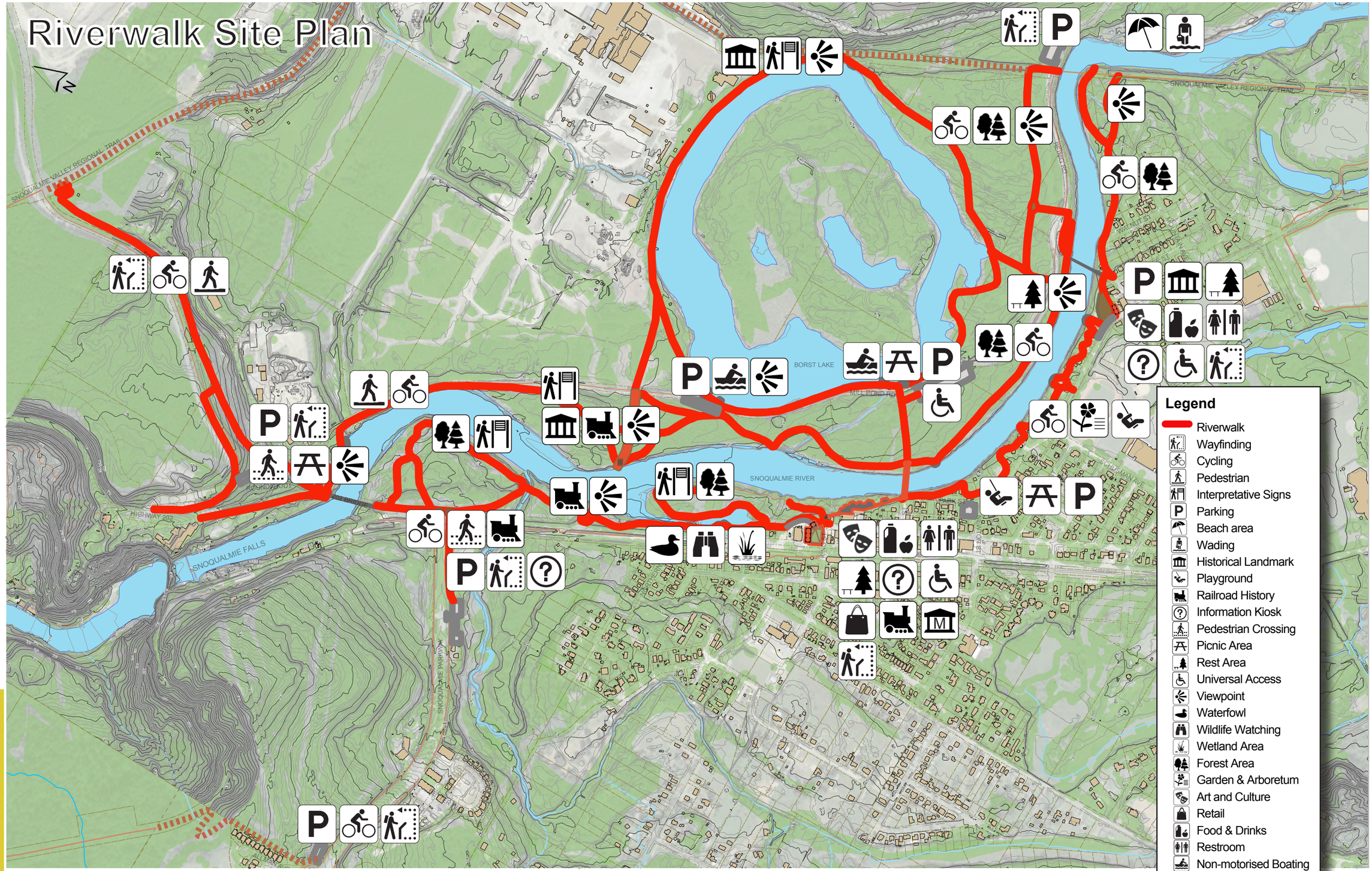
This page is intentionally left blank

RIVERWALK MASTER PLAN

Riverwalk Master Plan



Riverwalk Site Plan



Development Intent

The Riverwalk Master Plan has been designed to achieve the project's vision, goals and objectives, to the greatest degree possible. After careful and prioritized stakeholder input, specific attention has been paid to:

- Creating the Riverwalk as a significant, high quality Snoqualmie-centered facility for the residents of the area and as an amenity to help promote tourism as a cornerstone to the City of Snoqualmie's economic base;
- Developing river access and over water links (physical and visual) to reconnect with the Snoqualmie River.
- Creating a hierarchy of trails focused on the River that link and enhance the well established attractions of Snoqualmie (the Downtown historic district, the city Gateway, the Railroad Museum, the Old Trestle, the Meadowbrook District, the regional trail systems , the Kimball Creek area, the Borst Lake area, Park Street and Snoqualmie Falls);
- Creating an experience oriented trail network, separate from the car traffic;
- Connecting to lands beyond by establishing links to the existing regional trails (Snoqualmie Valley Regional Trail (SVRT) and Preston-Snoqualmie Trail);
- Capitalizing on the region's development potential (natural environment, social, economic, cultural, historic, recreation, tourism, etc.);
- Enhancing the existing character of South Shore of the Snoqualmie River with its vibrant historic urban setting and the natural wilderness environment of the North Shore;

Stakeholder consultation created the foundation upon which the Master Plan is formed

- Respecting the riparian qualities of the lands along the Snoqualmie River, minimizing the impacts on the natural topography, grades, elevation, hydrology and vegetation;
- Developing with an understanding of Snoqualmie's flood realities;
- Including direct recreational water access and beaches to the east of the Meadowbrook Bridge (avoiding the downriver Falls hazard);
- Incorporating recreational water access and views of Borst Lake;
- Utilizing and enhancing the Old Trestle site and structure on the North Shore;
- Accommodating demand for visitor parking in close proximity to Riverwalk staging areas;
- Developing the empty lot at the intersection of King St. and Sandy Cove Park as an important/iconic Plaza, anchoring the Riverwalk to Downtown, designed to stage and support tourism oriented activities with a public meeting space, a focal point landmark structure and a signature retail building;
- Incorporating environmentally sensitive design practices along the Riverwalk that encourage low-impact development and re-naturalization;
- Reorienting the Downtown area's focus towards the river through the creation of a Boardwalk connecting King Street and River Street along the River;
- Creating a pedestrian/cycling only bridge extending from the end of River Street (Downtown) across the river to the North Shore and Borst Lake area;
- Improving the approach and pedestrian/cyclist friendly accessibility of the existing SR202 Bridge and Meadowbrook Bridge;

- Developing the City Gateway at the Snoqualmie Parkway and Highway 202 intersection into an attractive, important, pedestrian friendly, wayfinding arrival point, designed to inform and invite visitors to consider the other Snoqualmie attributes before and after their visit to the Falls;
- Creating spaces, links and infrastructure that complement the economical, recreational, historical and natural assets of the Snoqualmie;
- Maximizing the integration of barrier free universal accessibility in the development (prioritizing ramps over stairs, paying attention to trail gradients, proximity to parking, walking distances, circulation patterns, etc);
- Maximizing the amenities located in close proximity to existing street networks (river views, commercial land use, tourism opportunities, etc.);
- Developing the City-acquired parcels on Park Street to support shoreline restoration, recreational use and interpretative role while preserving the character of the site;
- Enabling the conversion of Park Street between River St. and Newton St. into a segment of the Riverwalk, fronted by the existing residential development repurposed as retail and services;
- Developing riverfront public areas and enhancing the historic identity associated with the Riverwalk.

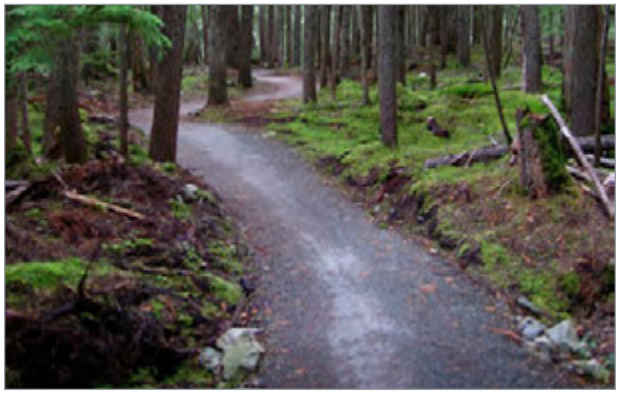
Site Plan

The Riverwalk Site Plan illustrates the proposed trail network linking key Snoqualmie focal points and attractions, with their various identities and character. The Riverwalk is made up of a hierarchy of trails and trail types that include:

- The "Prime Riverwalk Trail" (wide/double lane, paved and boardwalks), paralleling both sides of the Snoqualmie River act as the spine of the Riverwalk;
- The looping "Secondary Riverwalk Trails" (double lane, gravel), providing, multi-use connections to and from the "Prime Riverwalk Trail" accessing key focal points and leading to trails and lands beyond;
- The narrower "Nature Trails" (gravel and dirt surface, single track width) located closer to the water and in the natural areas, providing a sense of discovery, secondary connections and a more intimate journey;
- The "Riverwalk Signature Elements" (ie. the Boardwalk, the Canopy trails, the King St Plaza observation tower, etc.) designed to create unique experiences, specially constructed to complement the site specific goals and requirements of the Riverwalk.

The Riverwalk has a variety of staging points, the most important of which being the historic downtown core. The constructed trails run along the natural grade of the land, connecting to raised boardwalk sections and decks, elevated viewpoints and the bridges.

Throughout, the Riverwalk trails, elevated boardwalks and structures, the different viewpoints, and recreation areas, are laid out with the intent to provide access and enjoyment of the different attributes and character of the Snoqualmie River shoreline, while respecting the site's environmental, social, economical and cultural qualities.



Feature elements include the:

- City Gateway, at the Snoqualmie Pkwy / Kimball Creek / SR202 Bridge intersection creating a strong sense of arrival and optimizing wayfinding opportunities to invite and encourage visitation of other Snoqualmie attractions after a trip to the Falls;
- Kimball Creek Trail loop segment linking the Downtown to the Gateway as well as to the Falls;
- Sandy Cove Park and the South Shore Old Trestle site;
- The King St. Plaza;
- Downtown segment of the Riverwalk integrating a major raised boardwalk /deck between the River and the Falls Avenue tying together Sandy Cove Park and trail, the local business and retail/service areas, the Northwest Railway Museum and Railroad Park, the Riverview Park and the city acquired Park Street parcels;
- Downtown Boardwalk behind the Falls Avenue commercial buildings;
- Proposed Pedestrian Bridge in the Downtown Area;
- Park Street and the Meadowbrook Plaza;
- Meadowbrook Bridge with improvements and upgrades to make it pedestrian / bicycle friendly;
- Canopy Trail segment connecting the Meadowbrook Bridge area to the existing elevated trestle of the Snoqualmie Valley Regional Trail;
- Links to the trestle of the Snoqualmie Valley Regional Trail on Reinig Road and to the Meadowbrook district;
- Borst Lake loop around the Lake, connected to the riparian area between the Snoqualmie River and Borst Lake;
- North Shore Old Trestle;
- SR202 Bridge with improvements and upgrades to make it pedestrian / bicycle friendly;
- Southwest segment of the Riverwalk extending to the Snoqualmie Parkway Trail and on to the Preston-Snoqualmie trail;
- Northwest trail segment of the Riverwalk connecting to the Snoqualmie Valley Regional Trail adjacent to Tokul Road and on to Snoqualmie Falls.

Key development guidelines and considerations include:

- Application of best practices as they relate to any shoreline modifications and stabilization;
- Utilizing flood and erosion friendly construction using soft engineering[1] measures that focus on the preservation of the ecological functions and on minimizing the downstream impacts;
- Maintaining the ecological integrity of the watershed's hydrologic system;
- Managing the quantity and quality of surface and storm water runoff by selecting trail construction materials which respect sustainable development standards and by:
- Minimizing the use of impervious surface materials;
- The use of adjacent filter strips and bio-retention areas;
- Detailed bank stabilization design;
- Detailed restoration planning, grading plans and planting plan design
- Utilizing native plant material and working to remediate the impact of invasive plants;
- Development of barrier free access throughout the development;
- Optimizing the interpretive and educational opportunities of the Riverwalk through the enhancement of historical, natural or urban landmarks and use of interpretative signage, distinguishing different zones;
- Incorporating wayfinding signage and mapping at key decision points throughout the Riverwalk;
- Utilizing different trail types (paved, gravel, dirt, boardwalk, etc.) to vary the experiences for the users and to create identities for each of the Riverwalk Zones.

[1]Soft Engineering: Traditionally, shore stabilizations have been constructed using hard engineering methods with materials such as steel and concrete to protect developments from erosion due to flooding. Soft engineering is a natural form of flood mitigation that builds along shorelines to protect areas from flooding. Often referred to as riparian zones, this technique establishes local vegetation along water banks to create shore stabilization through complex root structures. Applied to water systems, soft engineering is proven to reduce erosion while at the same time protecting local habitats along river, lake and ocean shorelines Ref: http://albertawater.com/flood-mitigation/soft-engineering.

Sectors

The Master Plan is divided into two primary sectors, the South Shore and the North Shore. Internal to the sectors are nine zones (A to J). Each zone reflects a particular character or features that the Riverwalk is staging or enhancing in that area. The South Shore has an urban built environment character and ambiance that includes Snoqualmie's historic Downtown and the Meadowbrook District commercial and residential areas. The North Shore, although impacted by important historic industrial developments (the mill site, old rail trestle), has a natural and even wilderness ambiance with a fairly dense forest cover combined with the beauty of Borst Lake and Mount Si in the background.

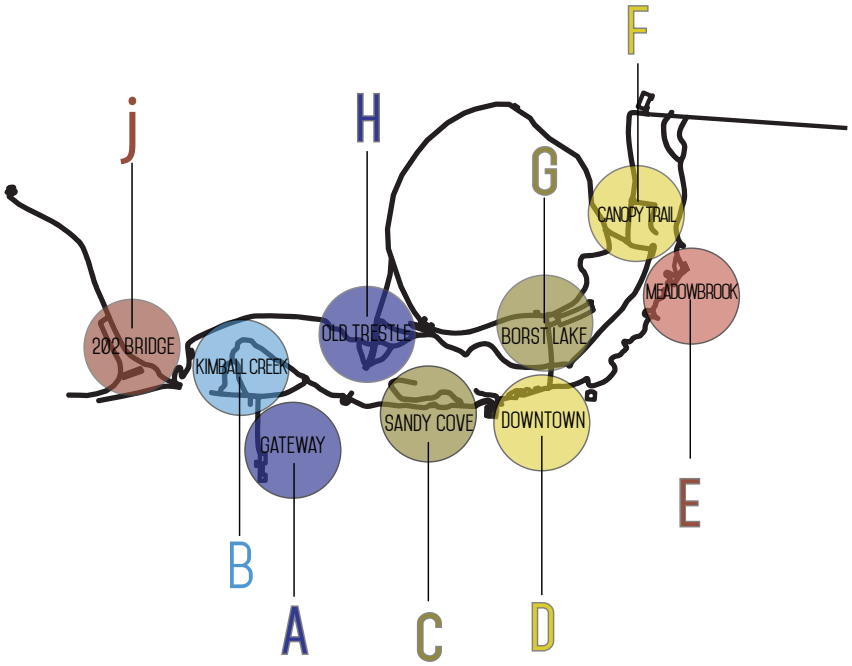
The South Shore is made up of the following five distinct zones:

- Zone 'A': City Gate and Wayfinding
- Zone 'B': Kimball Creek Loop
- Zone 'C': Sandy Cove Park and South Shore Old Trestle
- Zone 'D': Downtown
- Zone 'E': Meadowbrook Plaza and Park Street.

The North Shore is made up of the following four distinct zones:

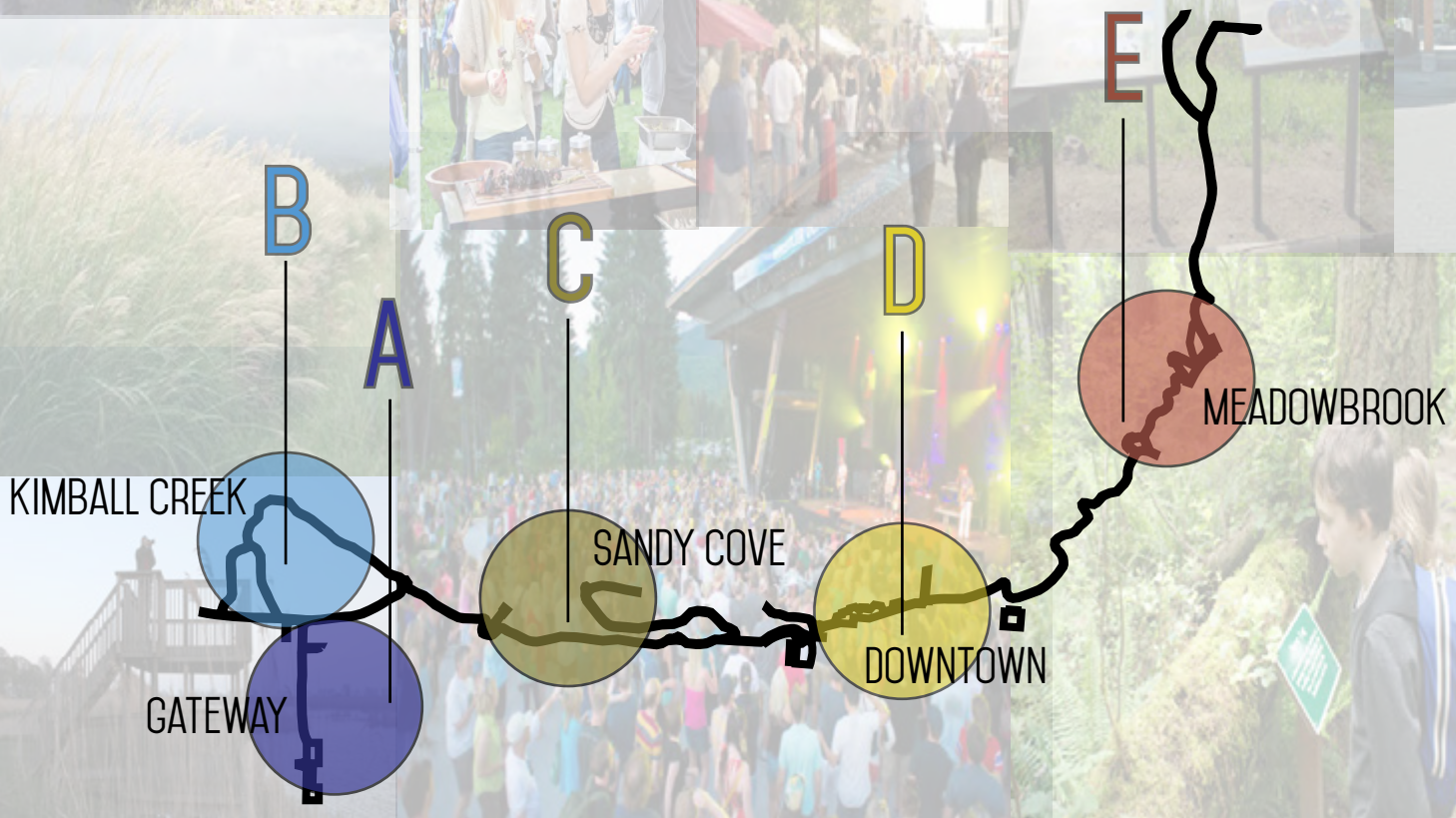
- Zone 'F': Canopy Trail and Meadowbrook Viewpoint
- Zone 'G': Borst Lake East and Pedestrian Bridge
- Zone 'H': Borst Lake West and North Shore Old Trestle
- Zone 'J': SR202 Bridge to Snoqualmie Falls and SVRT.

The following description of the Riverwalk Master Plan begins on the South Shore, with Zone 'A': City Gate and Wayfinder, moving east through to Zone 'E': Meadowbrook Plaza and Park Street. Then crossing the Snoqualmie River to the North Shore, the description follows the river back west from Zone 'F': Canopy Trail and Meadowbrook Viewpoint to Zone 'J': SR202 Bridge to Snoqualmie Falls and SVRT.

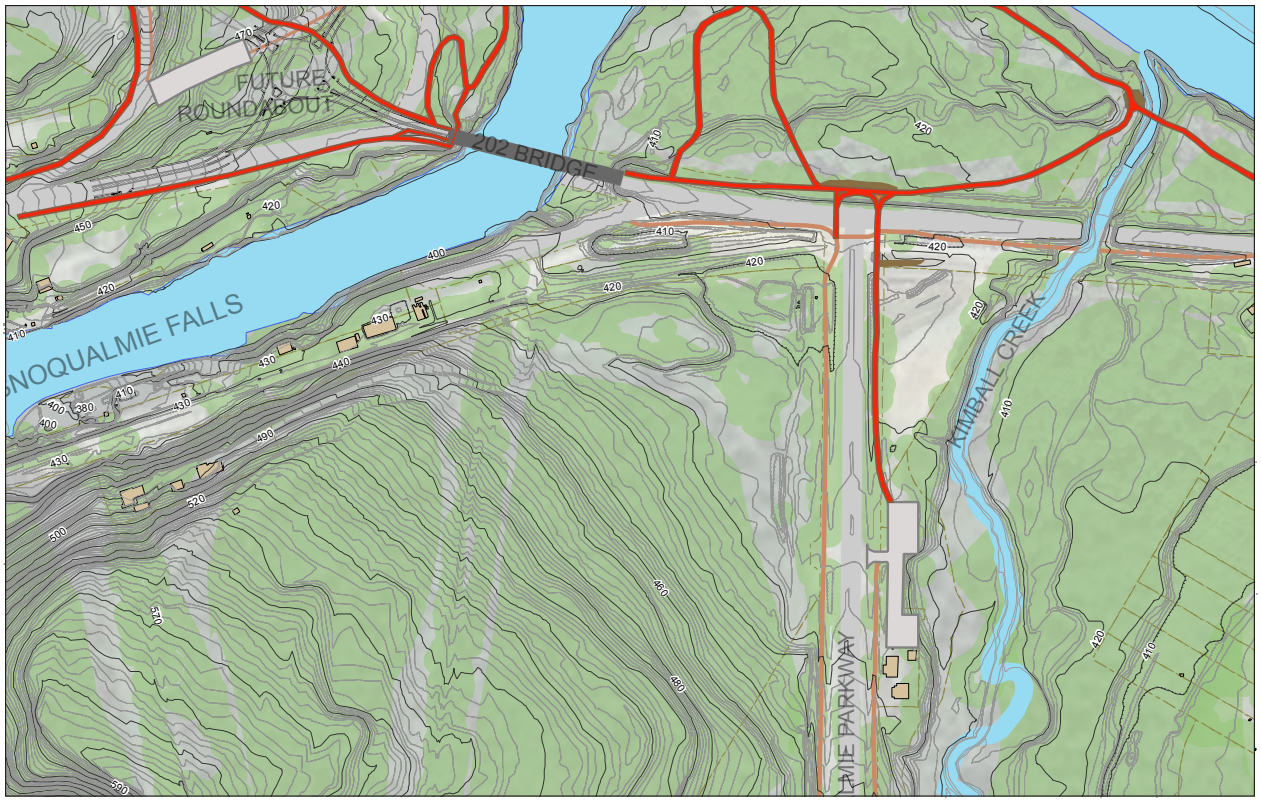


SOUTH SHORE

LANDING PLACE
TREES
EASY ACCESS
VIBRANT
KIDS
DIVERSITY
GRAVITATE TOWARDS THE WATER
QUALITY INFRASTRUCTURE
RESIDENT HAPPINESS
FAMILIES
BOARDWALK
FESTIVAL DESTINATION
EVENT SPACE
DESIGN AND MATERIAL DETAILS
GREEN
FRIENDLY
ARTS
HISTORIC LANDMARK
PART OF THE FABRIC
DOWNTOWN
WATER VIEWS
GREEN SPACE
WELL MANAGED PROGRAMMING
CONNECTED
TURN TO THE FUTURE
MOSAIC
BALANCE
TRENDY
PUBLIC PLACE
TOURISM
SMALL TOWN CHARACTER
DESTINATION
CREATIVE SPACE
AUTHENTIC



Zone ‘A’: City Gate and Wayfinding

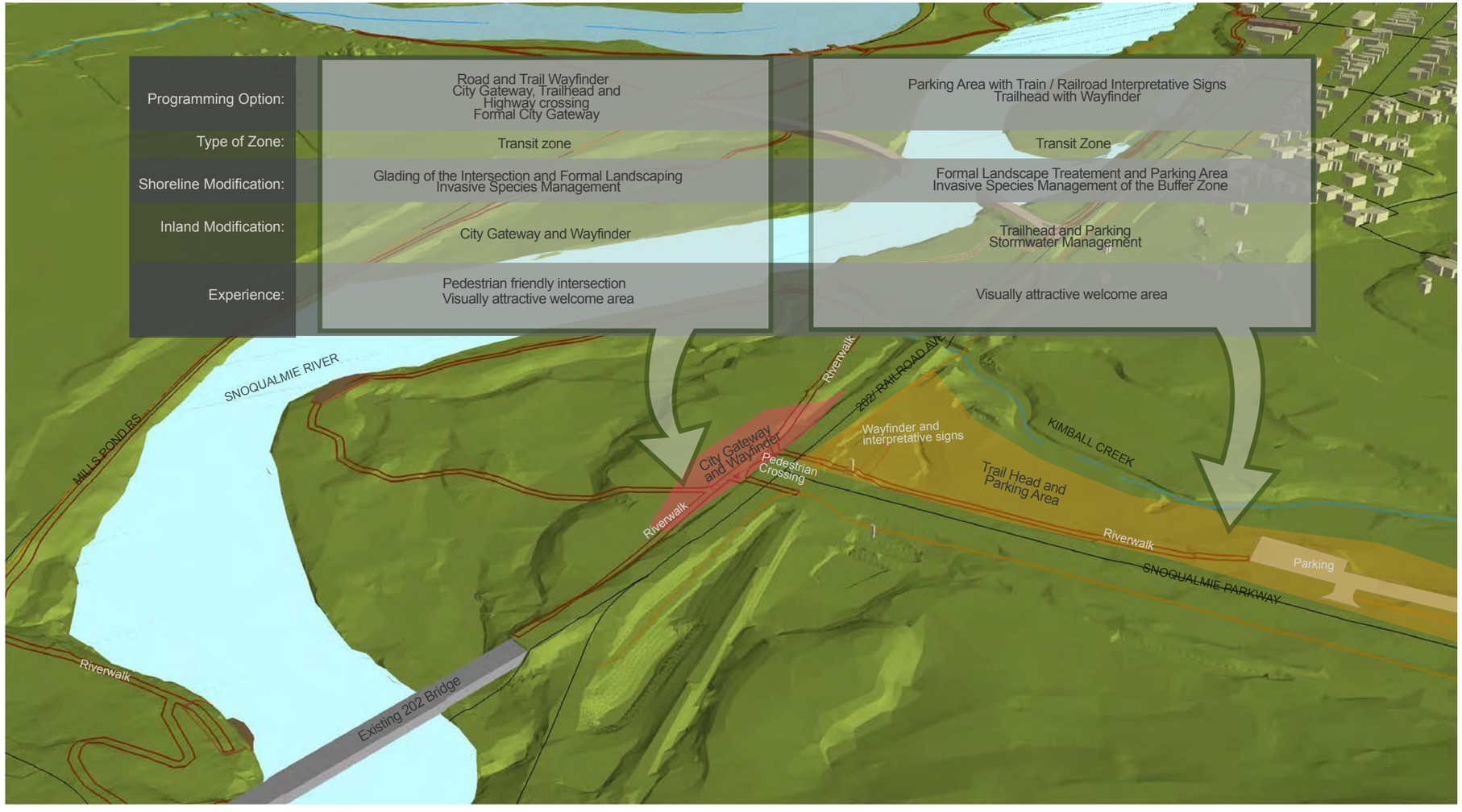


The primary role of the City Gate Zone is to provide an attractive statement of arrival and to inform visitors of what their options are (in addition to going to Snoqualmie Falls). Key to the Wayfinding is clear, concise and aesthetic signage, oriented to the details required to encourage drivers, pedestrians and cyclists to be fully aware of the attractions they should consider in their visit to Snoqualmie.

Key elements include:

- Formal Gateway to the City;
- High quality sense of arrival;
- Visually attractive welcome;
- Wayfinding signage;
- Parking;
- Trailhead access to the Riverwalk;
- Historic interpretive area with retired train engines and artifacts;
- Safe pedestrian crossing;
- The Prime Riverwalk Trail, Secondary Trails and Nature Trails.

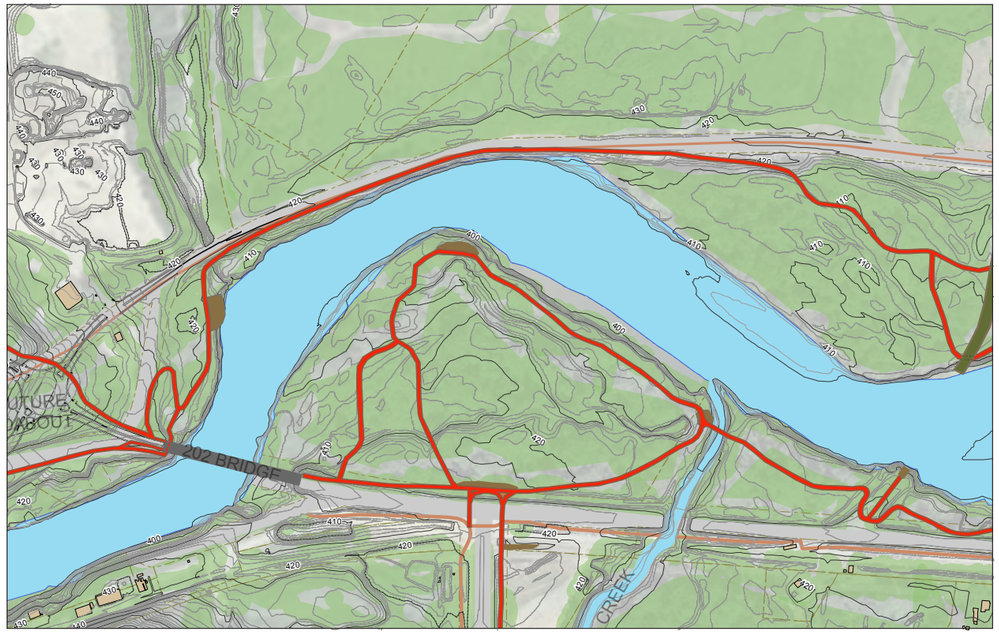
SOUTH SHORE ZONE A : CITY GATE AND WAYFINDING



Key considerations include:

- Attractive, safe and well built pedestrian amenities at the City's gateway will act as a strong visual description of the Riverwalk and the provided tourist amenities;
- Specific to the Riverwalk, this is a staging area;
- Wayfinding signage, including maps for pedestrians and cyclists, providing the visitors and residents with directions to Snoqualmie Falls and the Snoqualmie Historic Downtown, as well as all other attractions;
- The gateway structure, located at the Snoqualmie Parkway/Highway 202 intersection should be a distinctive "Welcome to Snoqualmie" statement of arrival, aligned with the active lifestyle of the City of Snoqualmie;
- The character of the gateway should be inspired by the railroad history as well as the water and natural identity of the City;
- The potential to incorporate a water feature as part of the gateway, reinforcing Snoqualmie's connection to the River, should be explored;
- The area should be attractively landscaped utilizing native plant material, well selected landscape features and wayfinding elements that contribute to the quality of the experience;
- On the east side of Snoqualmie Parkway intersection, the staging of the existing outdoor exhibit of old train locomotives owned by the Northwest Railroad Museum should be formally incorporated into the gateway experience;
- The Riverwalk trailhead, wayfinding and parking will need to be clearly visible and easily accessed from the Snoqualmie Parkway;
- The potential to glade the vegetation at the bottom of the Parkway should be explored with the goal of creating partial/filtered views of the Snoqualmie River;
- The pedestrian and cyclist connections to the Riverwalk will need to be well defined;
- The pedestrian and bike crossings over Highway 202, connecting the Snoqualmie Parkway trail and the Riverwalk at the intersection with the Parkway, will need to be well lit and highly visible.

Zone ‘B’: Kimball Creek Loop

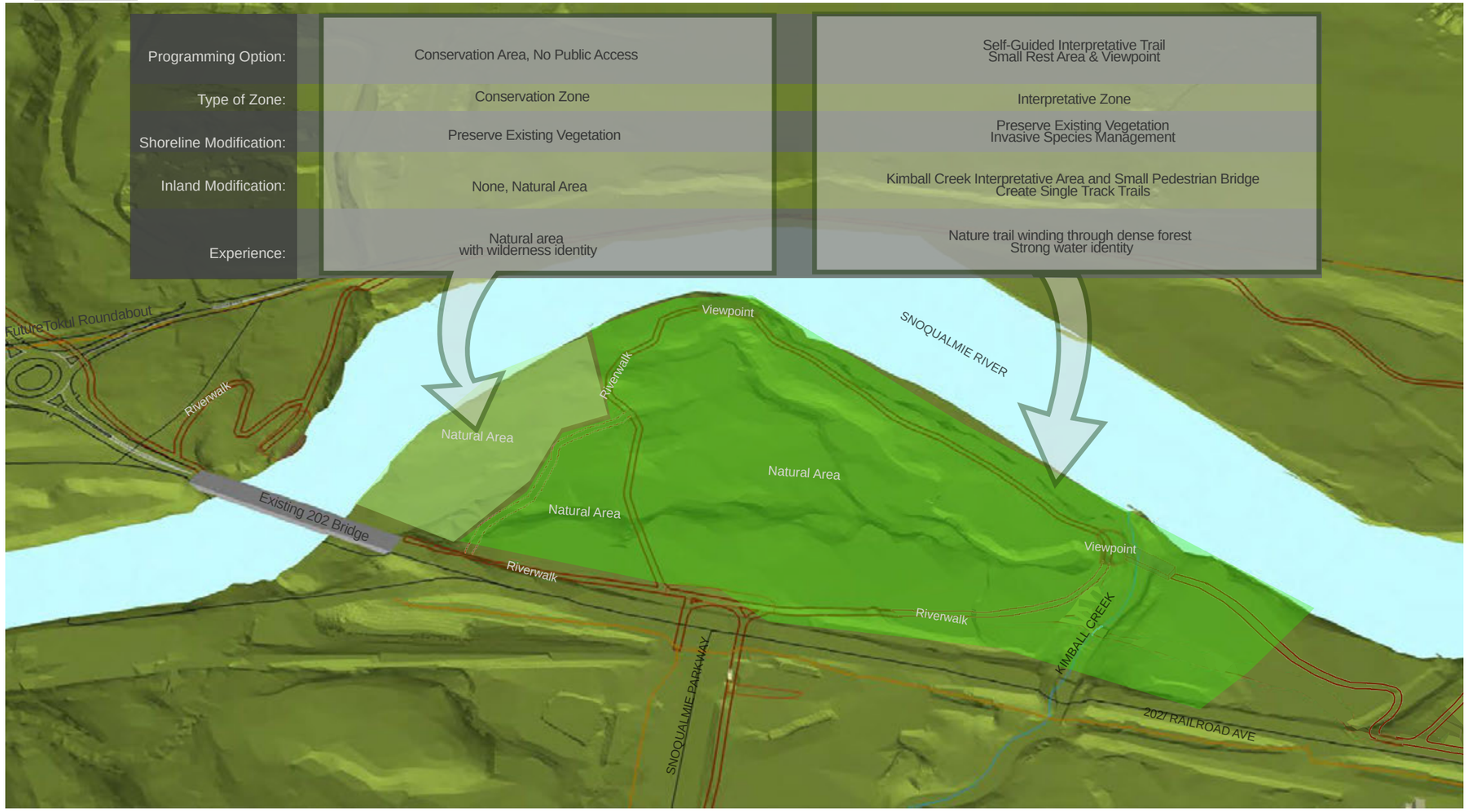


The Kimball Creek Loop Zone is located in close proximity to the City Gateway and is the first visible sign of the Riverwalk for visitors going toward Downtown. It is also the closest river access point for the residents of the Snoqualmie Ridge area. Totally separated from the Highway 202 traffic, it offers an easily accessible loop option from the Snoqualmie Parkway Trail and the City’s Gateway leading toward the Old Trestle and the Downtown Historic District. Attention given to the quality of the staging of the Kimball Creek trailhead, combined with the gateway area will have important impact on the image and perceptions of the Riverwalk by the visitors arriving into Snoqualmie.

Key elements include:

- Trail loop with strong natural character adjacent to the gateway and urban area;
- Close proximity to parking, Snoqualmie Parkway Trail and Snoqualmie Falls;
- Trailhead adjacent to high traffic area with high visibility/staging of the Riverwalk;
- “Nature Trail”, through the forest;
- Kimball Creek Pedestrian Bridge crosses the creek at its narrowest point;
- Viewpoint overlooking the River will allow the discovery of this unique environmental setting;
- Education/interpretative opportunities;
- Prime Riverwalk Trail, Secondary Trails and Nature Trails.

SOUTH SHORE ZONE B : KIMBALL CREEK LOOP

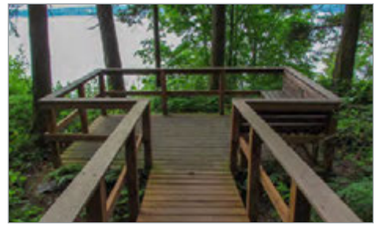


Key considerations include:

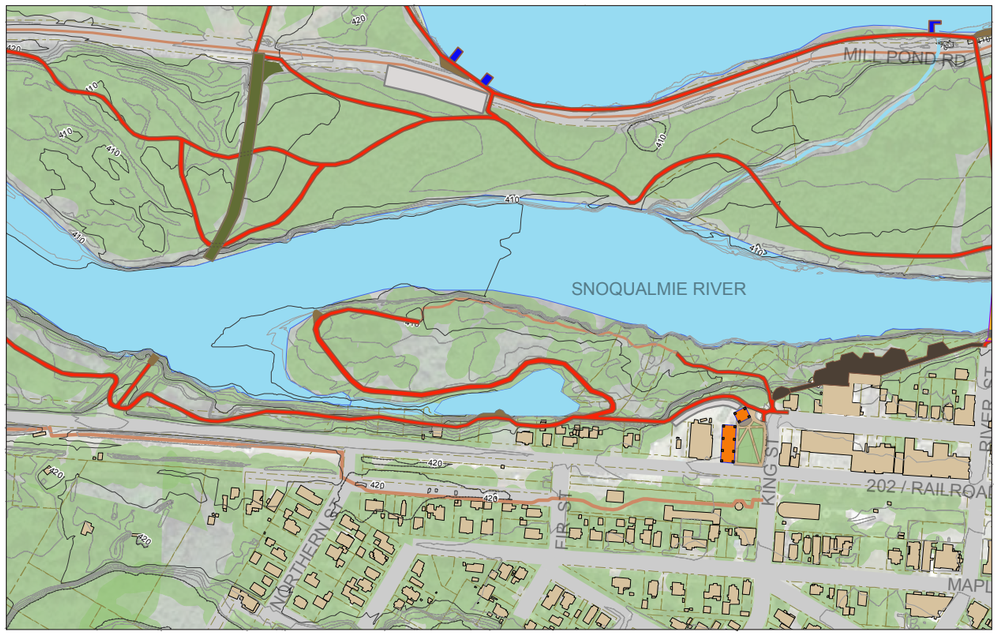
- Detailed final planning and design will need to be completed to minimize the impact on this important mature ecosystem;
- Interpretative signage describing the hydrology and the important role that Kimball Creek and its forested area plays during flood events;
- Preserve the large forested area adjacent to the SR202 Bridge, closed to public access and identified as preservation zone;
- Concentrate the trail development in the area adjacent to Kimball Creek;
- Capture the views of the confluence of Kimball Creek and the Snoqualmie River;
- The connection from the Gateway to the Downtown should avoid the need tovv cross the Highway or travelling along it;
- This segment of the Prime Riverwalk Trail, separated from the Highway traffic, is a key element of successful Falls-to-Downtown connection.
- Targeted conifer plantings, especially in the northern natural area, will help support long-term forest health and improve River shading.








Zone ‘C’: Sandy Cove Park and South Shore Old Trestle

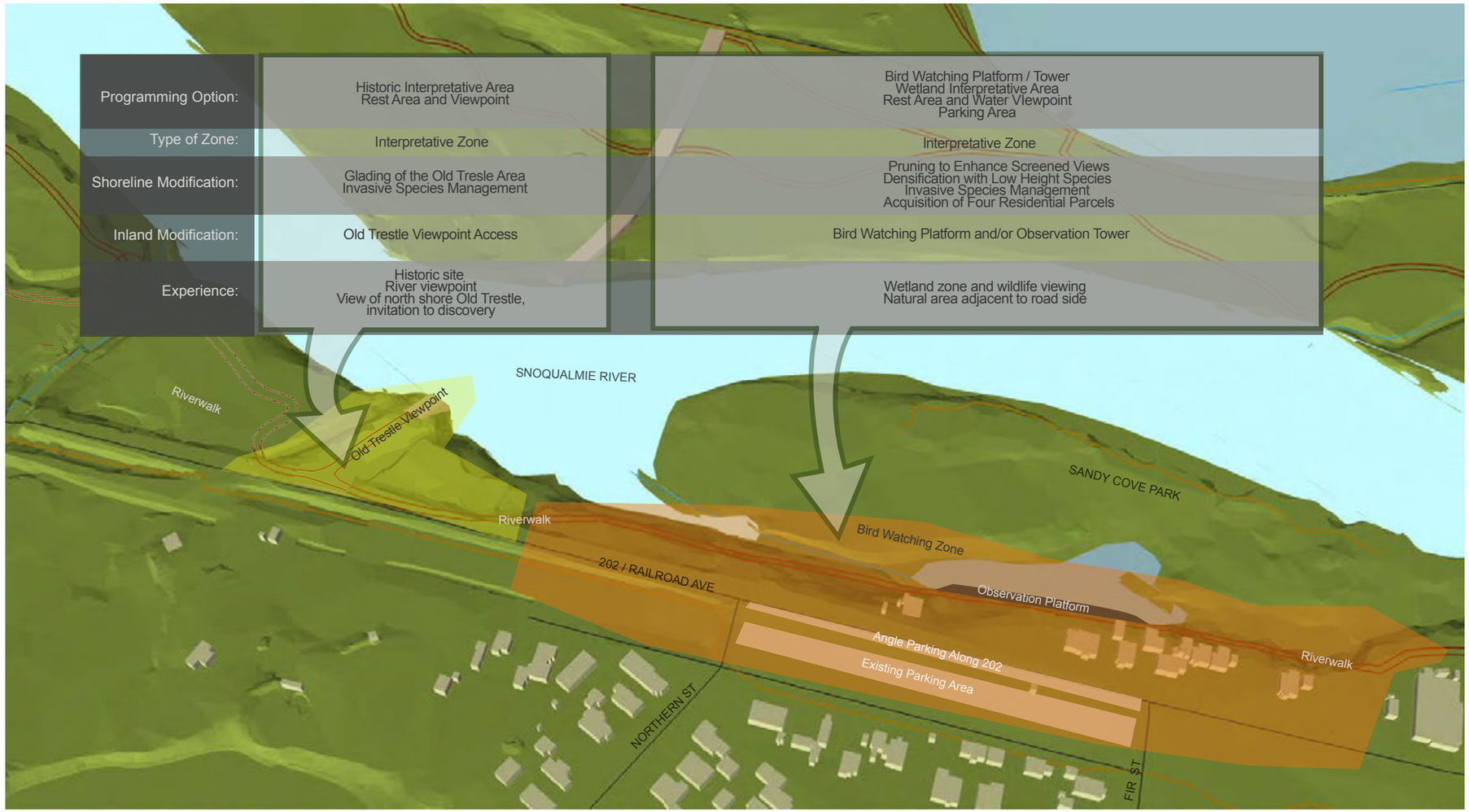


Sandy Cove Park is the Downtown’s prime natural riverfront area. It is the most important staging point to the Riverwalk, offering barrier free access and direct views of the river and the surrounding natural setting. The river inlet and environmental realities of the park peninsula offer great wildlife and bird watching opportunities a few steps away from the Downtown’s restaurants, commercial activity and the Railway Museum. Combined with the South Shore Old Trestle site, this segment of the Prime Riverwalk Trail is directly linked to the city’s Gateway, the Downtown Historic District and Sandy Cove Park Trail, totally separated from the Highway 202 car traffic. Compared to the North Shore Old Trestle where the structure is still in place, there is little structure remaining on the South Shore side.

Key elements include:

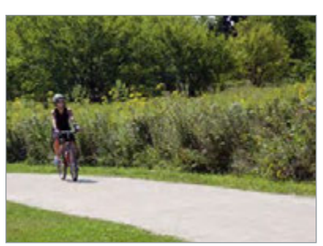
- Natural area adjacent to the Downtown Historic District;
- Historic and Natural identity reinforcement;
- Nature Trail segment circling the inlet, connecting to the Sandy Cove Park Trail;
- The site of the South Shore Old Trestle;
- River viewpoints;
- Historic interpretative program, educational interpretative signage and wayfinding elements;
- Formalized bird watching observation tower and viewing platforms on the inlet between the Railroad Avenue and Sandy Cove Park;
- Prime Riverwalk Trail and Nature Trails.

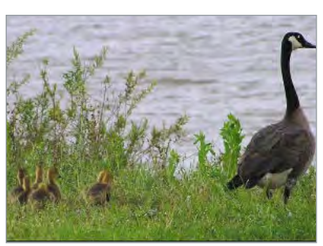
SOUTH SHORE ZONE C : SANDY COVE PARK AND SOUTH SHORE OLD TRESTLE

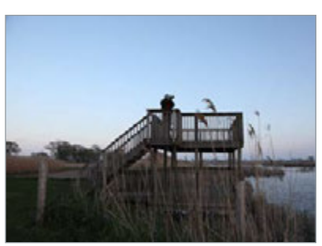


Key considerations include:

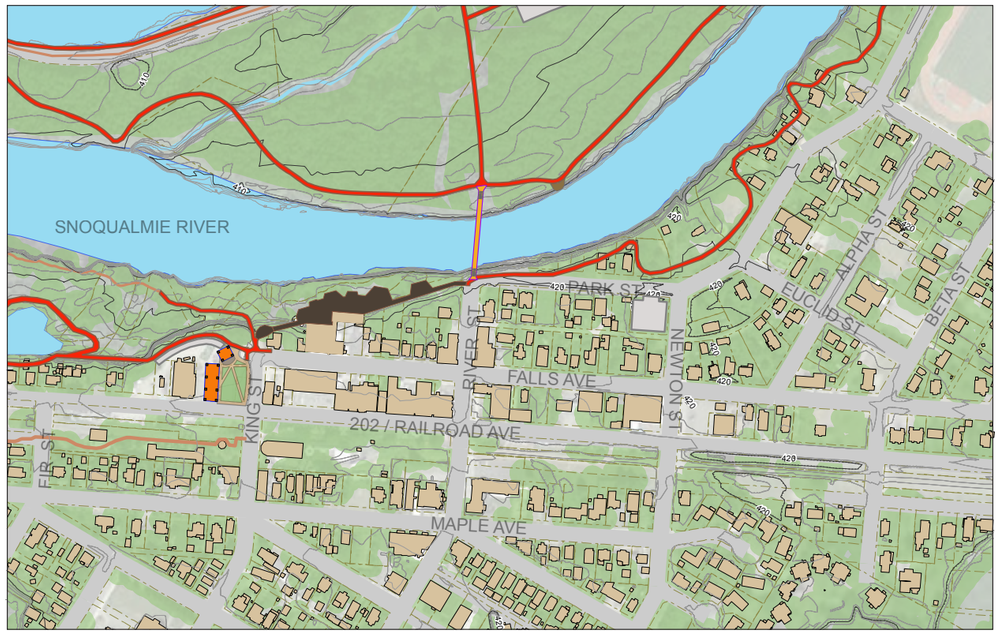
- The final design and development of the Riverwalk trails need to take into account that the Sandy Cove Park area is in a High-Medium Priority Restoration Area;
- The locations of the river viewpoints, wildlife viewing platforms and observation tower will need to be optimally placed and integrated into the flow and of the trails;
- The Old Trestle site should be enhanced, complemented by ground markings and interpretative signage to celebrate its the historic significance and connection to the North Shore, adding interest to the Riverwalk journey;
- Potential to incorporate an old train engine as part of the Old Trestle site, augmenting its value as a historic point of interest should be explored with the Northwest Railway Museum;
- Visual access of the trail staging points from the Highway 202 should be given careful consideration;
- The observation tower, identified as a “Riverwalk Signature Element” could also be designed to be as a landmark visible from the Gateway area.






Zone ‘D’: Downtown

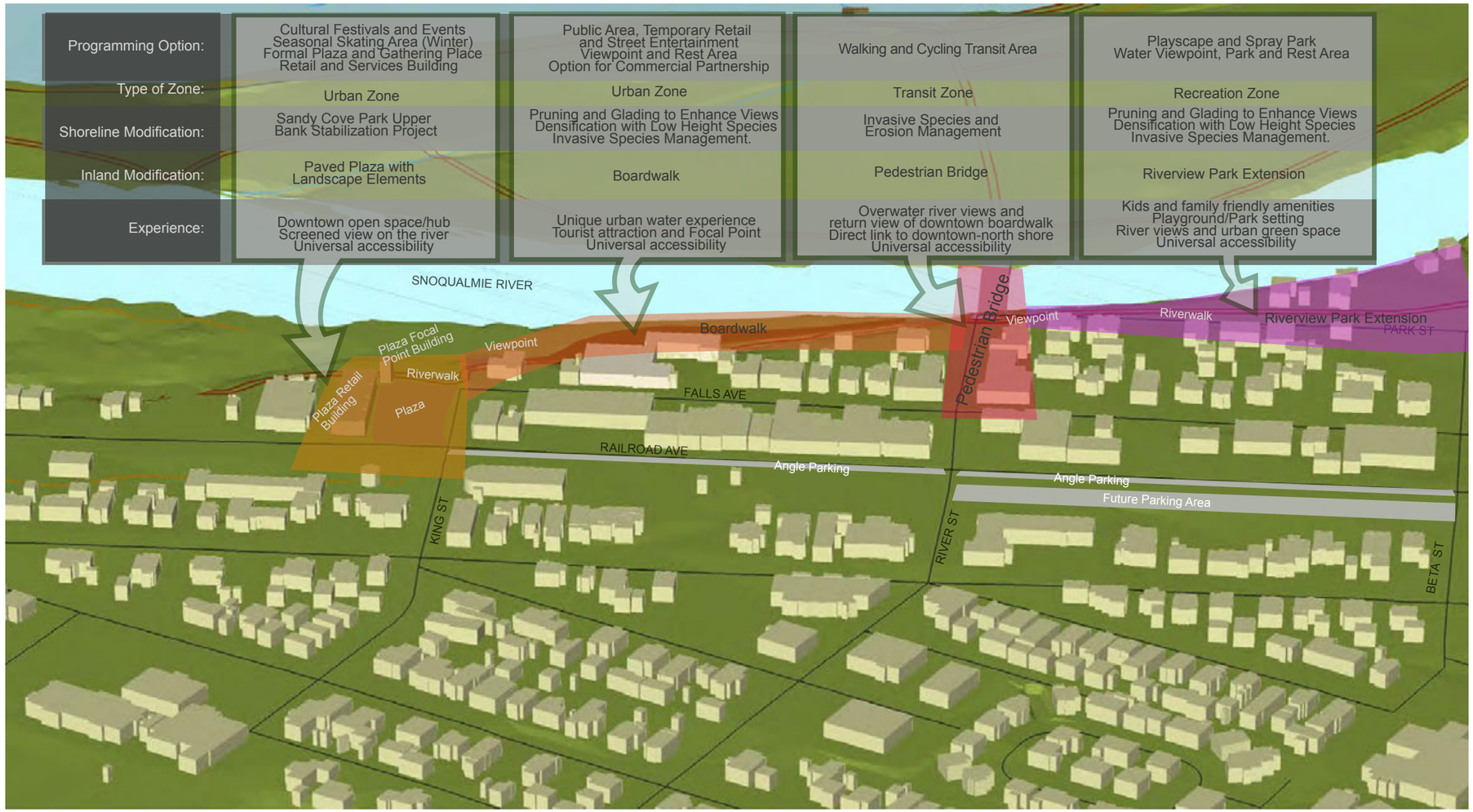


Characterized by its urban development, the Downtown Zone is the central hub and staging point of the Riverwalk. Once established, the Riverwalk in the Downtown core will become an important component, attraction and catalyst to the public-private partnership of building a tourist oriented economy, while contributing to the enhancement of the quality of life of the Snoqualmie residents. The development of the Riverwalk provides an opportunity to attend to the flood remediation issues of the sector while creating a visual and physical bond between the River and the Downtown core that currently does not exist. The relationship of the Riverwalk to the Downtown’s commercial area and the River are all critically important in terms of the:

- Types of businesses encouraged for development;
- Adjacent space use;
- Establishment and adherence to architectural design guidelines;
- Quality of development;
- Programming (festivals, concerts, events, celebrations).

These elements need to be coordinated and optimized to the greatest degree possible.

SOUTH SHORE ZONE D : DOWNTOWN

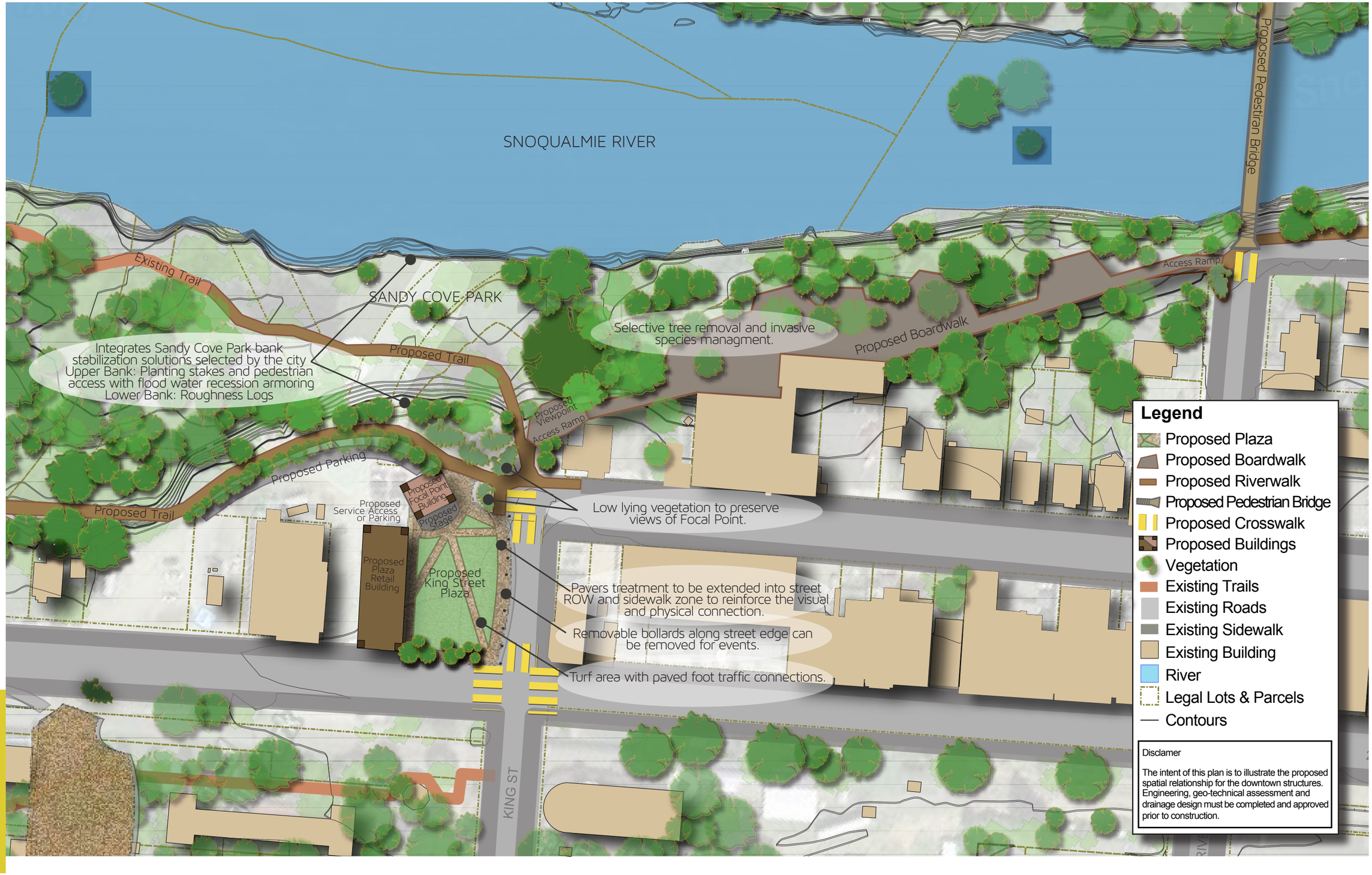


Key elements include:

- Core of the Riverwalk - Urban identity;
- Staging of feature landmark elements include the:
  - King Street Plaza;
  - Plaza Focal Point Building;
  - Plaza Retail Building;
  - Boardwalk;
  - Pedestrian Bridge;
- Primary Riverwalk Hub:
  - Wayfinding;
  - Gathering area;
  - Trailhead and parking;
- High quality tourist infrastructure:
  - Retail;
  - Restaurants;
  - Bars;
  - Specialty Shops;
- Prime Riverwalk Trail.







SNOQUALMIE RIVER
SANDY COVE PARK
Existing Trail
Proposed Trail
Proposed Parking
Proposed Service Access or Parking
Proposed Focal Point Building
Proposed Stage
Proposed Plaza Retail Building
Proposed King Street Plaza
Proposed Viewpoint
Access Ramp
Proposed Boardwalk
Access Ramp
Proposed Pedestrian Bridge
KING ST
Integrates Sandy Cove Park bank stabilization solutions selected by the city
Upper Bank: Planting stakes and pedestrian access with flood water recession armoring
Lower Bank: Roughness Logs
Selective tree removal and invasive species managment.
Low lying vegetation to preserve views of Focal Point.
Pavers treatment to be extended into street ROW and sidewalk zone to reinforce the visual and physical connection.
Removable bollards along street edge can be removed for events.
Turf area with paved foot traffic connections.
Legend
Proposed Plaza
Proposed Boardwalk
Proposed Riverwalk
Proposed Pedestrian Bridge
Proposed Crosswalk
Proposed Buildings
Vegetation
Existing Trails
Existing Roads
Existing Sidewalk
Existing Building
River
Legal Lots & Parcels
Contours
Disclamer
The intent of this plan is to illustrate the proposed spatial relationship for the downtown structures. Engineering, geo-technical assessment and drainage design must be completed and approved prior to construction.

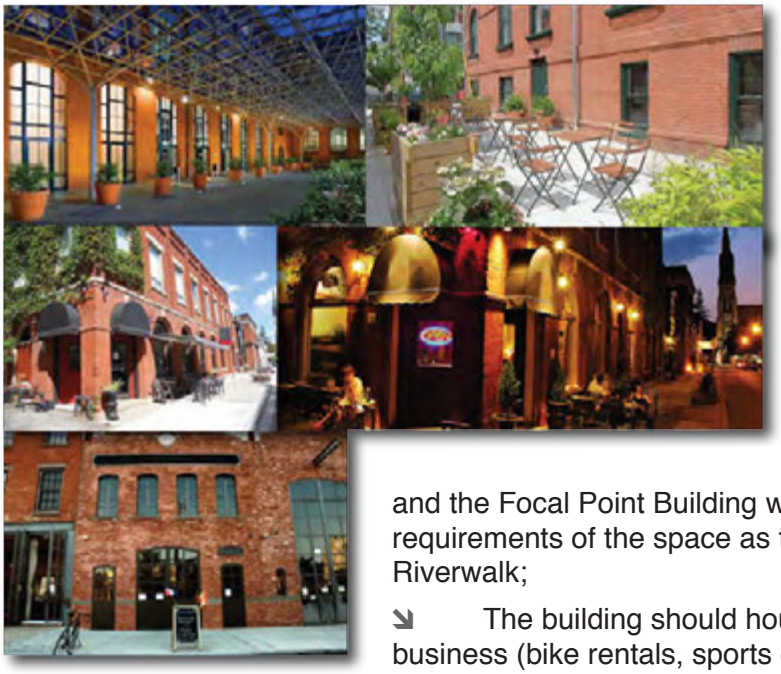
Downtown Feature Elements

King Street Plaza

The King Street Plaza is located at the intersection of Falls Avenue, Railway Avenue and King St. The Plaza is a relatively large open space, edged by the Focal Point Building and Signature Retail Building. The intent is to see the plaza space utilized as the primary staging point of the Riverwalk, while acting as the City's gathering area for casual use (play, picnics, rest area in the summer and possibly skating in the winter) and formalized festivals, concerts and public events.

Key considerations include:

- The biggest influence to final planning and design of the Riverwalk within the Downtown Zone is the need to adhere to its classification as a Medium Priority Restoration Area as well as the High-Medium Priority Restoration Area of the adjacent Sandy Cove Park;
- The City has already instigated some remediation measures for the bank stabilization of the highly eroded part of the shoreline;
- The Plaza development will need to support the implementation of these measures in an effective layout, respecting the urban character as well as the recreational and tourist oriented facility development requirements;
- Because of its close proximity of the River, planning for stormwater and flood management should consider the use of permeable pavement, vegetated strips and a bio retention zone;
- Urban furniture should be strategically located to allow flexible use of the area;
- Removable bollards along King Street should be utilized to enable the Plaza to be expanded into the street for bigger events;
- The pavement treatment should physically and visually connect the Plaza to the Riverwalk and aesthetically complement the established character of the street and the Downtown area;
- Enhanced pedestrian crossings, to and from the Railroad Park, the Northwest Railway Museum and Falls Avenue will strengthen the identity and visitor's connection to the Plaza and the Riverwalk;
- Wayfinding elements need to be carefully integrated into the Plaza's layout;
- Detailed design elements of the Plaza need to be coordinated with the established architecture and landscape architecture;
- Consideration should be given to the space use requirements to cater to the local arts, music and cultural scene;
- Options to convert part of the plaza into an ice skate rink during the winter should be considered.



Plaza Retail Building

On the west edge of the Plaza is the Plaza Retail Building. Its role is to support the new tourism based economy and to reinforce the quality and character of the King Street Plaza.

Key considerations include:

- The detailed design of the Retail Building needs to be planned and coordinated with the Plaza and the Focal Point Building while meeting the tourism and resident requirements of the space as they relate to the Downtown and the Riverwalk;
- The building should house recreation and tourism oriented business (bike rentals, sports equipment retail, café, bar, unique-to-Snoqualmie outlets, etc);
- The architecture of the building must respect the historic character of the Downtown.

Plaza Focal Point Building

The Plaza Focal Point Building is located on the backside of the King Street Plaza. It is envisioned to house a stage for the plaza events/concerts and public amenities such as an information kiosk and washrooms. Architecturally, the Focal Point Building, needs to act as a landmark and architectural statement as an Riverwalk observation tower, a clock tower and/or a carillon.

Key considerations include:

- The Building should be the visual terminus to site lines from the Riverwalk, from King St. and Falls Avenue, as well as being tall enough to be seen from the proposed pedestrian bridge;
- Its size and character needs to be designed to complement and reinforce the Downtown historic qualities;
- A stage area with lights and sound capabilities should be incorporated to enable the plaza to be programmed to host concerts, theatre, public lectures, movie presentations, etc.;
- The potential to create a nightly light show on the Focal Point Building should be considered using the latest technology and finding inspiration from the City's Riverwalk, the Falls, its history, natural beauty and/or artistic identity (see Beaune, France Light Show).

Downtown Boardwalk

The Boardwalk is the key and iconic element of the Riverwalk, linking Snoqulamie's identity and the Downtown core to the River (a "Riverwalk Signature Element"). Staged from the King Street Plaza, the Boardwalk gradually rises to a point above and overlooking the River. It continues past the Falls Ave. buildings and on to the Pedestrian Bridge, at the intersection of River St. and Park St. The Boardwalk provides the opportunity for the Falls Avenue businesses to open out and visually connect to the River. Instead of turning their back on it, they can now benefit from the Snoqualmie River as an attribute. The Riverwalk Boardwalk, augmented with decks for viewpoints and seating will create a public-private partnership area, acting as an amenity that the businesses and the City can parlay into a significant economic benefit, aligned with attracting visitors.

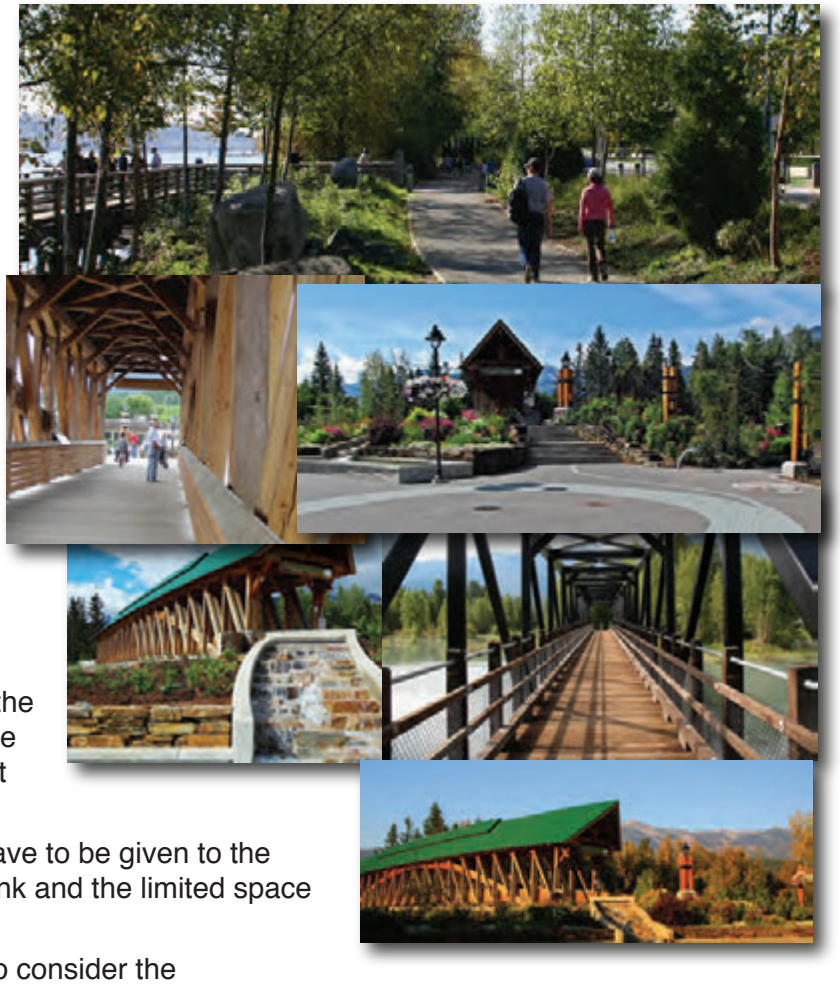
Key considerations include:

- The Boardwalk is located in a Medium Priority Restoration Area behind the buildings of Falls Avenue, between King Street and River Street;
- As Falls Avenue and its buildings are sitting on the edge of the high bank of the River, plans will have to be created for the Boardwalk to respect these realities, while considering and tying back into the existing and potential conditions of the building architecture;
- The access will have to be carefully considered and designed to enable the development of barrier free ramps at each end of the Boardwalk and through the buildings;
- Landscape elements need to be carefully incorporated around and under the Boardwalk to improve the stability of the river banks and to maintain the riparian ecological attributes;
- The detailed design will need to consider the best way to utilize a combination of decking surface materials to enable the filtered sunlight and stormwater necessary to maintain a healthy landscape under the Boardwalk;
- The Boardwalk will also need to consider how best to protect and preserve the mature trees on site;
- A combination of selective pruning, invasive species management and native plant material planting should be utilized to enhance views of the River and optimize solar access, while complementing the shoreline restoration goals;
- The relationship between the best views of the River, sense of the place of the Boardwalk and the functional use of the Riverwalk must be given careful consideration to create the best possible visitor experience.

Pedestrian Bridge

The proposed Pedestrian Bridge creates a direct link between amenities, services, parking, activities and experiences of the Downtown Historic District and those of the North Shore. It establishes a Riverwalk loop for pedestrians and cyclists to utilize while providing great views of the River. It also provides an easy, short distance connection between Downtown and the proposed parking lot adjacent to Mill Pond Road and Borst Lake. This will be a key point in supporting the tourism development Snoqualmie. The Pedestrian Bridge has the potential to be an iconic “Riverwalk Signature Element”.

Key considerations include:

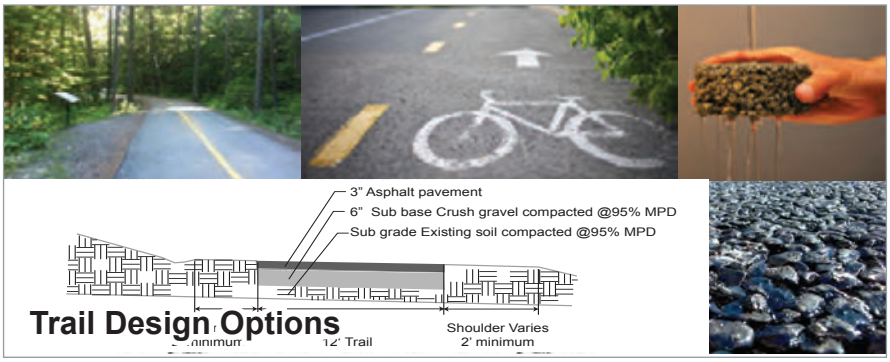


- The Pedestrian Bridge on the South Shore is a Medium Priority Restoration Area;
- The Bridge needs to be designed to offer universal accessibility for all potential users, while taking into account the experience being created in terms of space use, circulation and movement, viewpoints on the Bridge;
- The Bridge approach from the South Shore must take into account the planned extension of Riverview Park while effectively accommodating the pedestrian relationship of the River Street and Park Street intersection;
- Careful consideration will have to be given to the edge of an eroded River bank and the limited space for restoration;
- The detailed planning has to consider the implementation of the Boardwalk behind Falls Avenue and the transition of Park Street into a pedestrian/cyclist segment of the Riverwalk, with retail and service business facing the extension of Riverview Park;
- Detailed bridge design will require site specific study, engineering and geo-technical analysis to finalize the alignment tied to bank stabilization and restoration.


Boardwalk Design Options


Bridge Design Options


Plaza Design Options


3" Asphalt pavement
6" Sub base Crush gravel compacted @95% MPD
Sub grade Existing soil compacted @95% MPD
12' Trail
Shoulder Varies
2' minimum
Trail Design Options

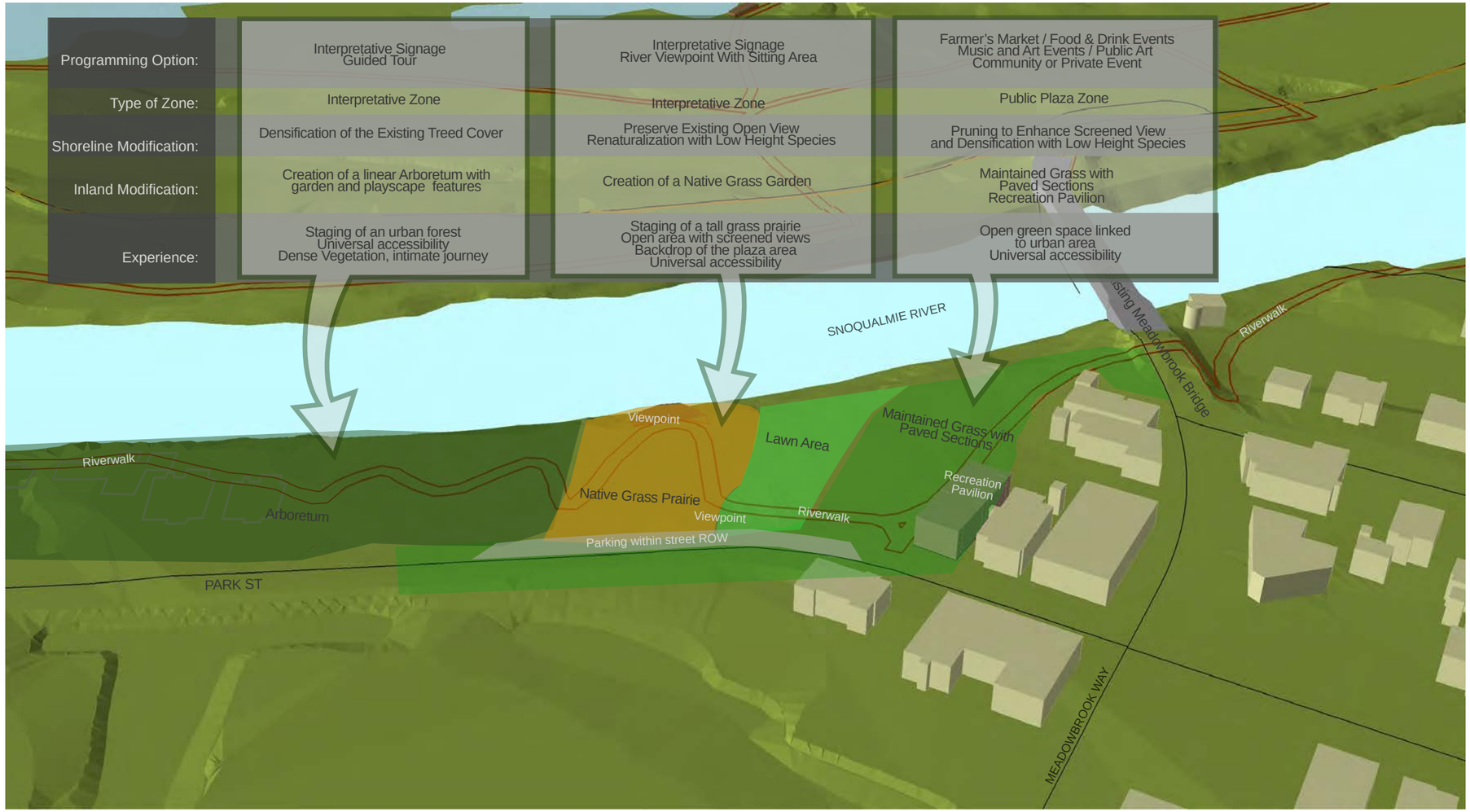
Zone ‘E’: Meadowbrook Plaza and Park Street

Adjacent to the Downtown Historic District, this Zone is located along Park Street between Riverview Park and the Meadowbrook Bridge, in a High Priority Restoration Area. The goal is to re-naturalize and stabilize the River bank while developing the Riverwalk, complemented by viewpoints and tourism oriented, informal public recreational open space and a linear arboretum. To facilitate this, the City has acquired the high flood risk residential houses. The intention is to remove the houses, remediate and repurpose the resultant open space, establish a segment of the Prime Riverwalk Trail through it, connecting the Downtown area with the Meadowbrook District. To facilitate this, a portion of the Park Street roadway will be decommissioned converting it into a segment of the Riverwalk. Vehicular traffic would be redirected one-way down the existing laneway. A recreation pavilion is envisioned to act as an activity anchor and visual terminus to the Riverwalk before it continues on to the Meadowbrook Bridge and across the Snoqualmie River. Secondary trail access continues to the south end of the Snoqualmie Valley Regional Trail south trestle and across the River.

Key elements include:

- Restored urban shoreline;
- Expanded Riverview Park;
- Interpretive program (historic, ecological, education);
- Public Art Walk opportunity;
- Programmable Open Space (concerts, recreation events, festivals);
- Remediation and naturalization of acquired houses and parcels of land;
- Shoreline restoration directed toward recreational and education use;
- Linear arboretum acting as a living memory of the area with ornamental plants, fruit trees and building footprint foundations;
- Meadowbrook Plaza acting as a gathering area and public space to stage events, farmer’s markets, art exhibits, private functions and festivals;
- Recreation Pavilion at the intersection of Park St and Meadowbrook Way, housing a stage, information kiosk, restrooms etc. with a gathering place/seating area in front of the new building;
- Parking for the Historic Meadowbrook District;
- Secondary Trail continuing on to the Snoqualmie Valley Regional Trail south trestle section;
- Refurbished trail access on to the SVRT trestle;
- Prime Riverwalk Trail connection to a refurbished pedestrian and cyclist friendly Meadowbrook Bridge;
- Prime Riverwalk Trail and Secondary Trails.

SOUTH SHORE ZONE E : MEADOWBROOK PLAZA AND PARK STREET



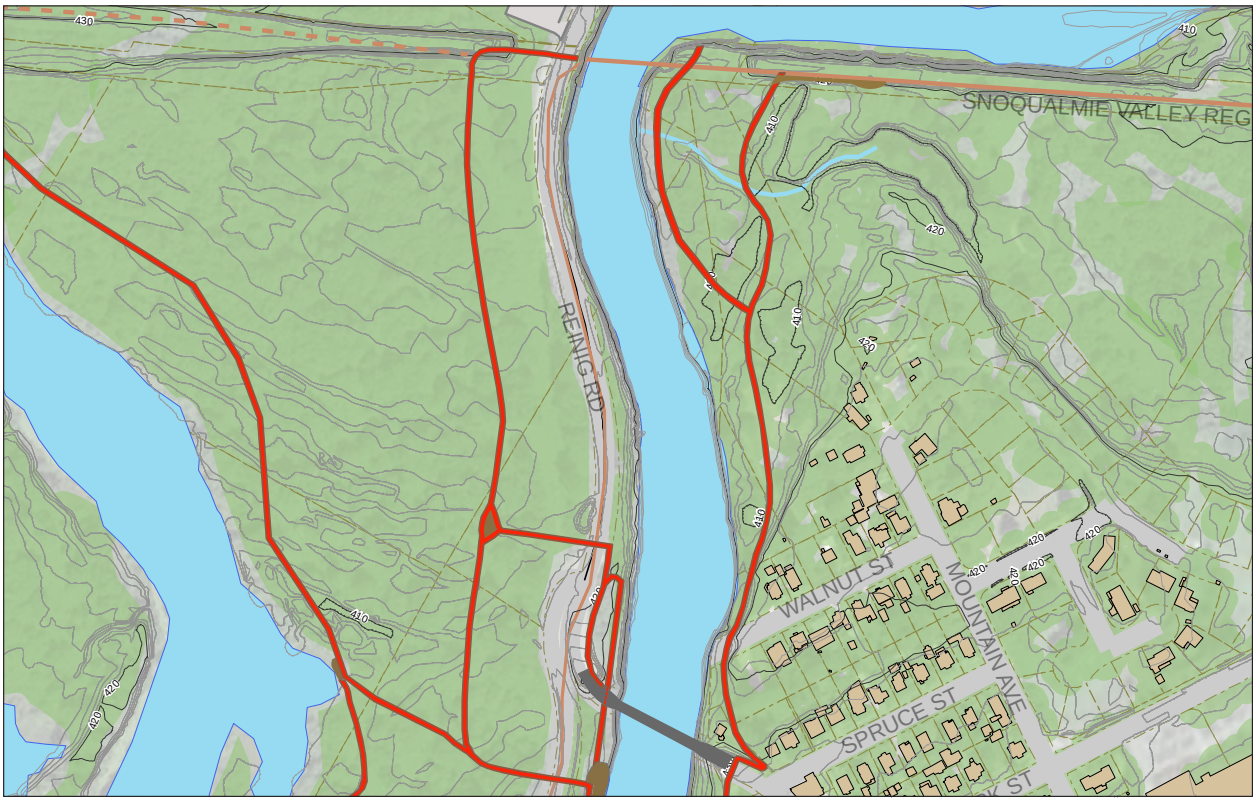
Key considerations include:

- The Meadowbrook Plaza and Park St. Zone is a High Priority Restoration Area , with an emphasis on conifer plantings along the River to improve shading from the South River bank;
- To minimize the impact on the site, the Riverwalk should be built on the disturbed land formerly occupied by the houses of these acquired parcels;
- The design of the Riverwalk should consider the integration and "site memory" of being a residential area: highlighting the house footprint possibly with pavement texture or foundation sections; utilizing staircases, doors and/or windows as art installations to frame views or stage interpretative signs; preserving the residential gardens (fruit trees and ornamental species); all contributing to the Zone's identity;
- A linear arboretum of high interest species as part of the restoration of the vegetation cover should be planted along the Riverwalk;
- The planned expansion of Riverview Park may include such elements as a spray park, a beach volley court and an upgraded playground with the Riverwalk tied into the design;
- The use of playscape elements should merge with the linear arboretum and former house sites, offering small playground pockets along the way from Riverview Park to the Meadowbrook Plaza;
- Meadowbrook Plaza should be composed of a native prairie grasses, an adjacent river viewpoint and interpretative signs about hop farming history, Tribal food gathering and the resident elk population; edged and accessed by the Riverwalk;
- Meadowbrook Plaza should be an open lawn area sized, structured and positioned to stage such events as farmer's markets, art exhibits, private functions and festivals;
- The development of the Meadowbrook Plaza should be designed to complement the image and character of the adjacent historic brick buildings, the scenic background of the Meadowbrook Bridge and the River; creating a neighborhood identity with an early industrial feel, possibly like a 'Little Soho', oriented to attract and establishing a artistic/trendy events ambiance;
- Adjacent parking area with Bio-retention zones will support the development of the Meadowbrook District as the eastern hub of the Riverwalk and accommodate the High School events parking overflow;
- A pedestrian road crossing of Meadowbrook Way at the foot of the bridge will lead the Riverwalk further east on the South Shore to reach a ramp that will access the existing Snoqualmie Valley Regional Trail trestle;
- The approach to the Meadowbrook Bridge will need to be enhanced for pedestrian and cyclists access to complement the Riverwalk improvements to the Bridge.

NORTH SHORE

NATURAL
GREEN
UNSPOILED
WATER CONTACT
BEAUTIFUL
BEST DESTINATION AROUND SEATTLE
OUTDOOR
TREE CLIMBING
REFRESHING
LOOP SYSTEM
VIEWS
RECREATION
CONFLUENCE
ACCESS TO THE RIVER
HOLISTIC
UNIQUE
RELAX
TRAILS
LIFESTYLE
SPECTACULAR
TREES
CONNECTION
TOURISM
DISCOVERY
QUALITY INFRASTRUCTURE
SAFE
WILDERNESS
water
RESIDENT HAPPINESS
ESCAPE
DESIGN AND MATERIAL DETAILS
REGIONAL TRAILS

Zone ‘F’: Canopy Trail and Meadowbrook Viewpoint



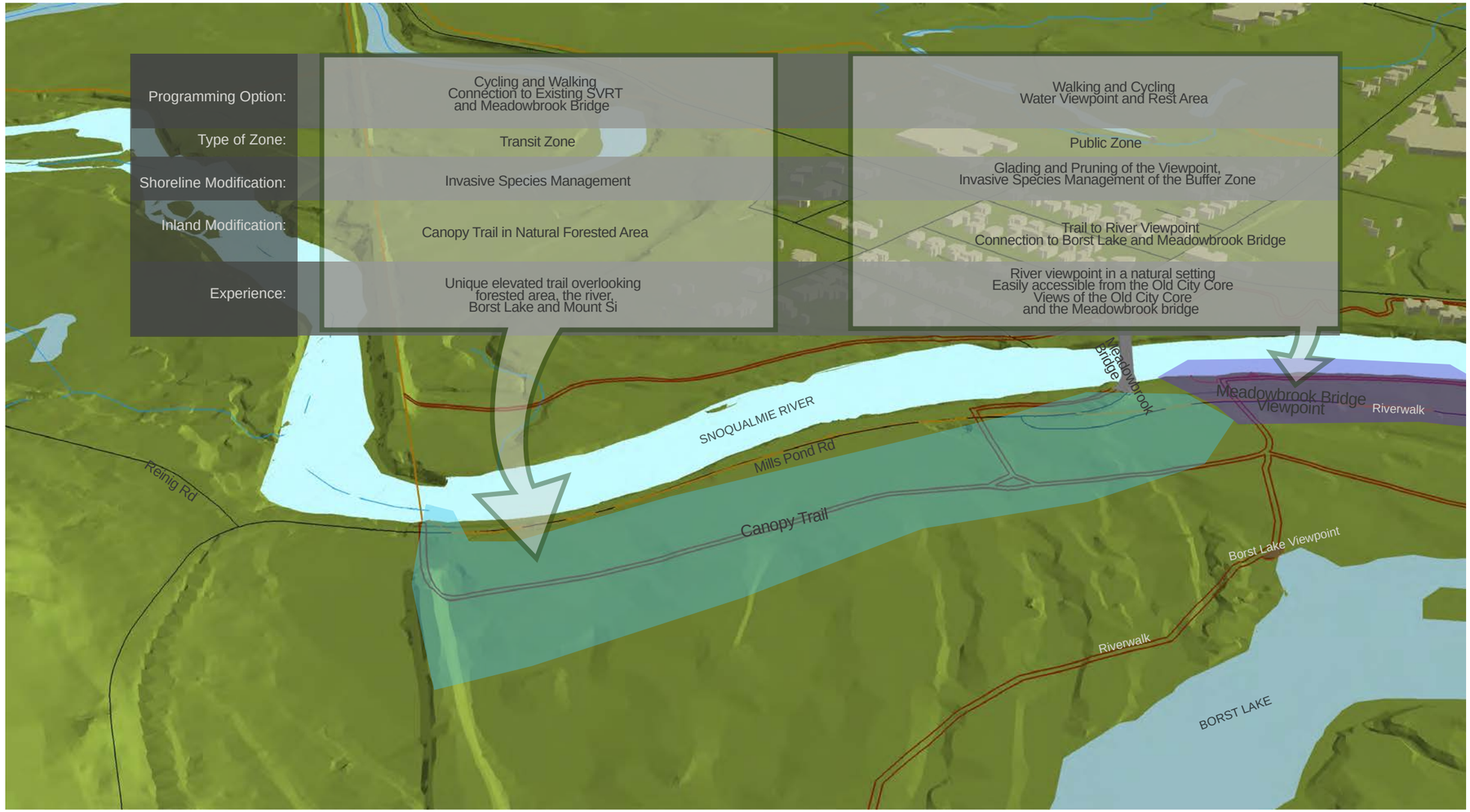
The upgraded Meadowbrook Bridge and the quality of pedestrian and cyclist river crossing experience sets the tone of this segment of the Riverwalk. Once across the River, moving from the South Shore to the North Shore, the Riverwalk offers three directional options:

- East toward the existing Snoqualmie Valley Regional Trail (SVRT) elevated trestle;
- North to connect to the Borst Lake area and the Canopy Trails;
- West along the river and follow the main North Shore Prime Riverwalk Trail, connecting to the Pedestrian Bridge, the North Shore Old Trestle, the SR202 Bridge and on to Snoqualmie Falls.

Key elements include:

- Enhanced pedestrian and bike access to the Meadowbrook Bridge;
- The highly elevated and unique user experience of the Canopy Trail;
- Connection to the Snoqualmie Valley Regional Trail trestle and to lands beyond;
- Forest and natural shoreline character and beauty of east side of Borst Lake and the Snoqualmie River;
- Riparian restoration targeting invasive ivy species, in collaboration with private landowners;
- Prime Riverwalk Trail and Secondary Trails.

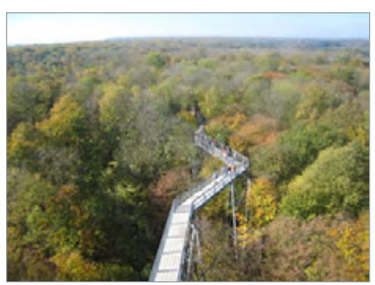
NORTH SHORE ZONE F : CANOPY TRAIL AND MEADOWBROOK VIEWPOINT



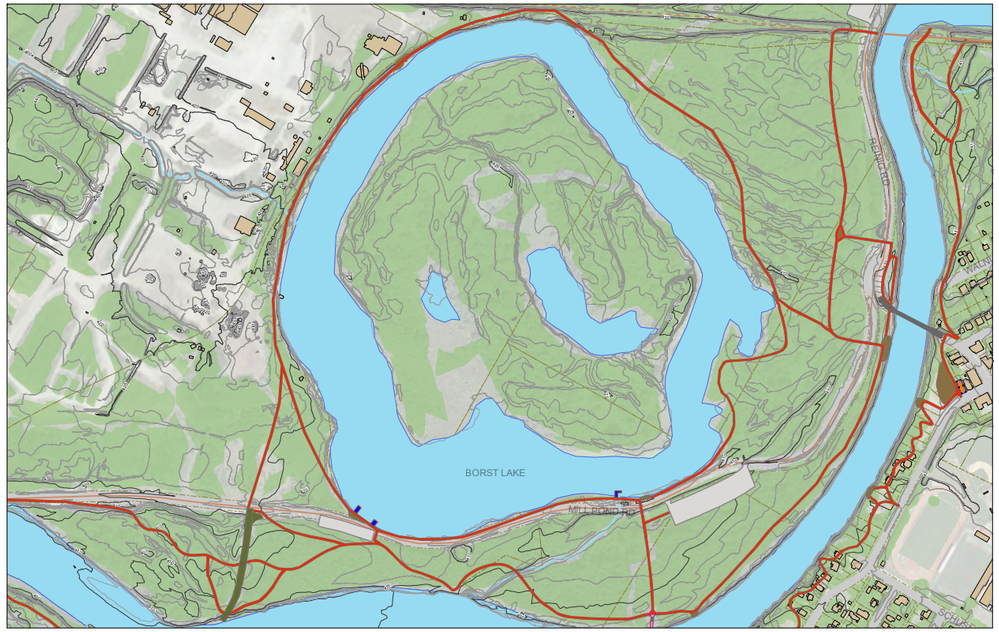
Key considerations include:

- The Canopy Trail and Meadowbrook Viewpoint Zone is a High Priority Restoration Area;
- The Prime Rivewalk Trail should be designed to circle under the Bridge and run parallel to the River toward the Pedestrian Bridge and looping back Downtown or continuing toward the Falls;
- A viewpoint west of the Meadowbrook Bridge should be developed as a small rest area offering views of the Bridge and the River with interpretative signage and wayfinding;
- Using an access ramp, the Riverwalk can be gradually raised to become an elevated Canopy Trail that runs through the forest creating a unique user experience, splitting with one section moving toward and ultimately connecting with the SVRT trestle, and the other section moving towards Borst Lake;
- A viewpoint at the intersection of the two elevated trails should act as a small rest area and wayfinding point;
- The Canopy Trail segment is identified as a "Riverwalk Signature Element" of the Riverwalk;
- The northern connection to Borst Lake is identified as a "Secondary Trail";
- The western connection along the Snoqualmie River to the Pedestrian Bridge and beyond toward the Falls is identified as a "Prime Riverwalk Trail".



Zone ‘G’: Borst Lake East and Pedestrian Bridge

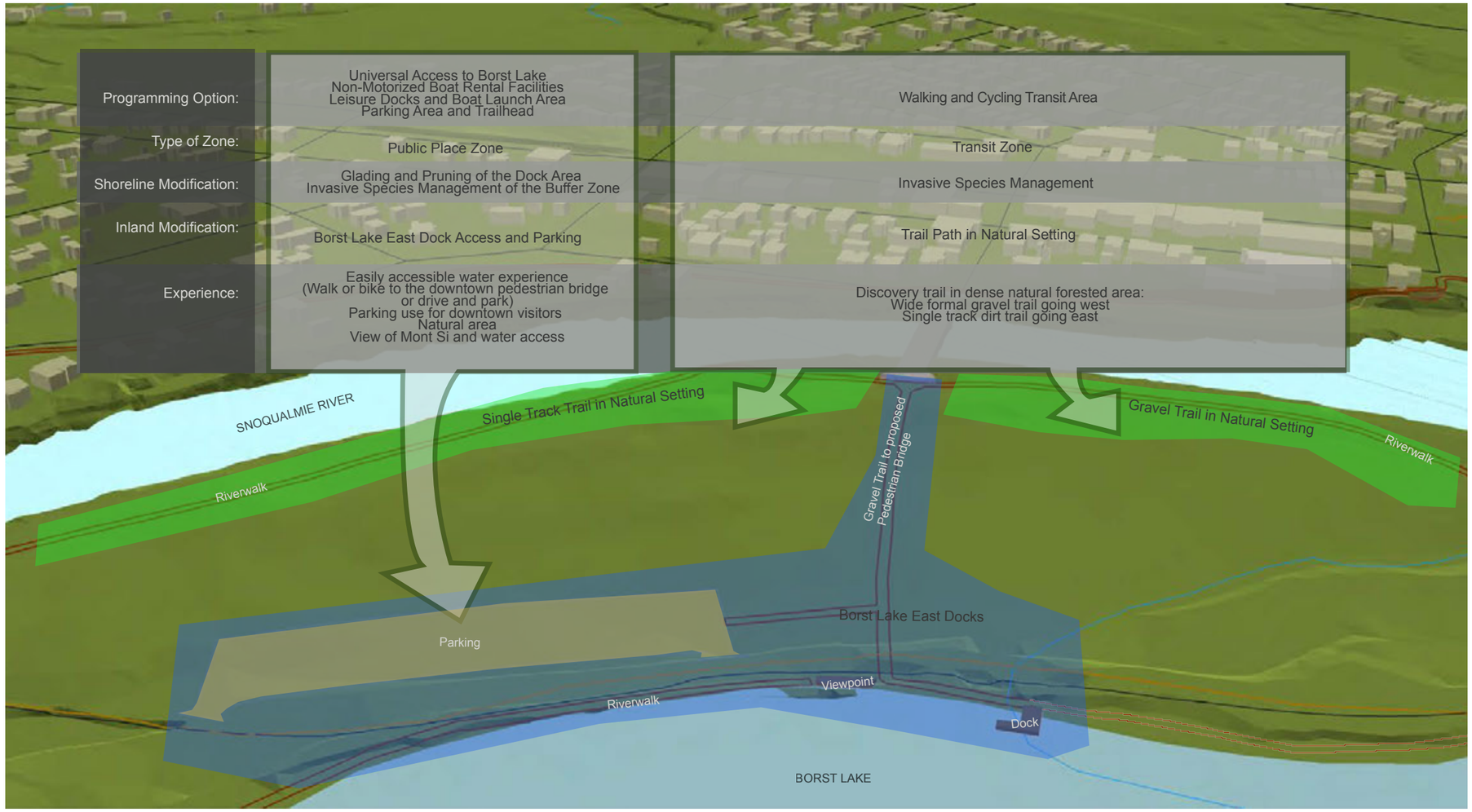


The Riverwalk connection to a Secondary Trail that loops around Borst Lake is a key development opportunity in terms of recreation, water access, natural setting and experience. The character and identity of the trails, facilities and interpretive program in this Zone will be influenced by the logging history of the Old Snoqualmie Mill, its impact on the ecosystem and the natural setting of the area. Centrally located, this Zone is accessible from the Downtown area via the proposed pedestrian bridge, from the east by the Reinig Rd, the SVRT trestle/ Canopy Trail and/or the Meadowbrook Bridge and from the west by the SR202 Bridge, the 202 Highway, the Tokul Road or the SVRT. Borst Lake East will skirt the east side of the Lake with opportunities for waterfront and nature trail connections, and potentially reconnecting to the proposed SVRT at the north end of the Lake. A relatively large parking lot (200 cars) adjacent to Mill Pond Road, within a relatively easy walking distance (600 feet) to the Pedestrian Bridge and across the River to Downtown, will partially address the lack of visitor parking.

Key elements include:

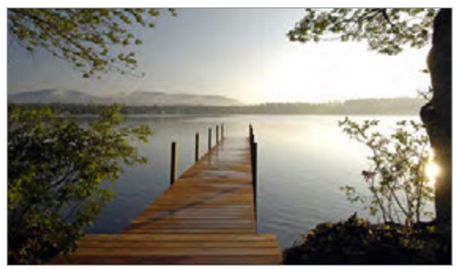
- Pedestrian Bridge North Shore connection;
- Hub of the North Shore with Riverwalk trailhead, parking, wayfinding, docks and viewpoints;
- Borst Lake Trail loop connecting with Prime Riverwalk Trail running along the river;
- Borst Lake recreational and passive programming;
- Strong water identity adjacent to the urban downtown core;
- Pedestrian Bridge;
- Prime Riverwalk Trail, Secondary Trails and Nature Trails.

NORTH SHORE ZONE G : BORST LAKE EAST AND PEDESTRIAN BRIDGE

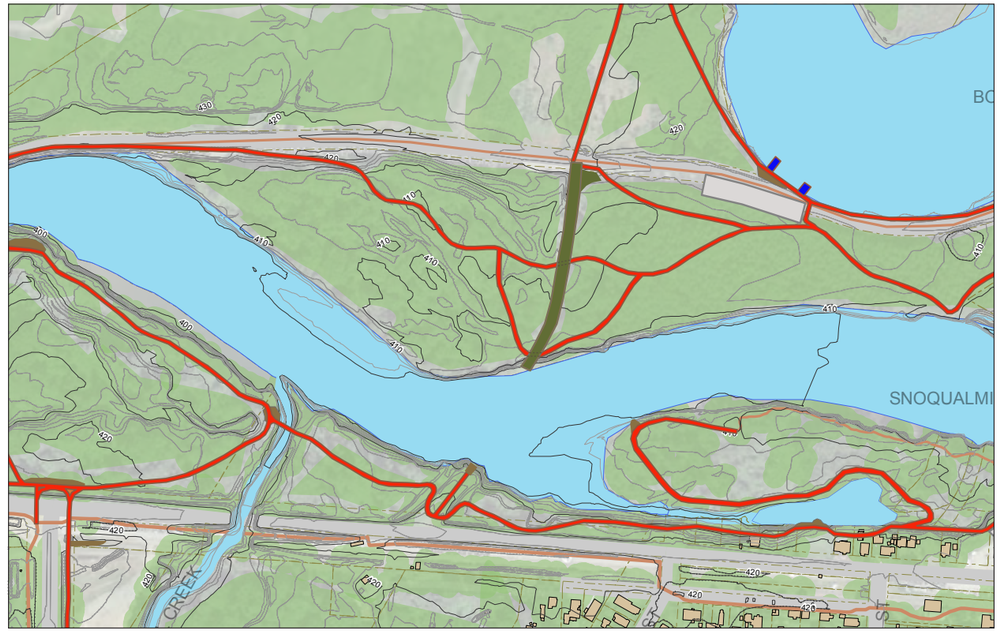


Key considerations include:

- Supported by a parking area, trailhead amenities and wayfinding;
- The Pedestrian Bridge, identified as a “Riverwalk Signature Element”, will connect Borst Lake to Downtown, offering important river views and become a strong element of the waterfront identity of the City;
- Programming should focus on the water and forested natural experience;.
- Because of the industrial history of the lands, water quality analysis and studies of Borst Lake should be completed to determine whether the Lake is safe to swim, boat and/or fish in;
- The potential to establish low key trail, destination facilities on the Lake (café, bike and boat rental) and associated recreational, educational (art and photography opportunities) and cultural programming should be considered, adding to and complementing the use of the Riverwalk;
- The lake access and enjoyment should be made possible by docks and viewpoints along the Secondary Trail that loops around the Lake;
- The docks , identified as “Riverwalk Signature Element” should be located close to Mill Pond Road and the parking in order to facilitate easy, barrier free access for pedestrians, cyclists and users with watercraft (canoe, paddle board, etc.);
- The Riverwalk in this Zone will be complemented with views and interpretive programming of the iconic Old Powerhouse and its Smoke Stack, the Borst Lake ecosystem and history, well designed water access, outstanding views of Mount Si and the natural beauty of the area;
- The development of the Riverwalk should be done in conjunction with invasive species management efforts;
- The Riverwalk could complement and possibly act as a catalyst to the potential restoration of the Old Powerhouse and Smoke Stack;
- Interpretative signage about the ecosystem and the history of the area should be incorporated along the Riverwalk;
- The potential for additional single track mountain bike trails accessed via the Prime Riverwalk Trail between Mill Pond Road and the River should be explored;
- When connected by the proposed pedestrian bridge, the Borst Lake zones and Downtown will be the heart of the Riverwalk experience.



Zone ‘H’: Borst Lake West and North Shore Old Trestle

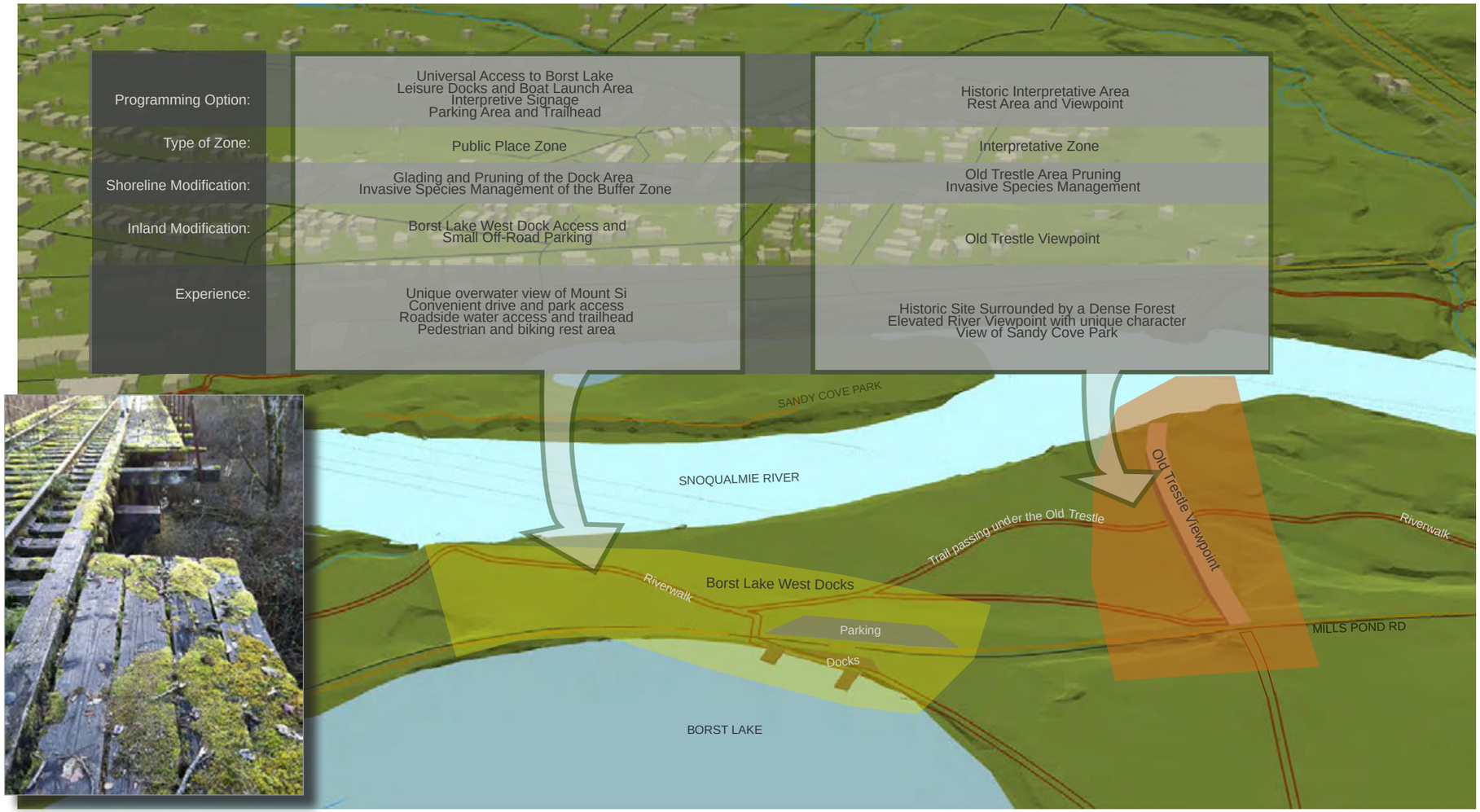


The North Shore Old Trestle is a historic icon from the Old Mill era. Accessible from the south side of Mill Pond Road, it is elevated and extends through the forest to the edge of the River. The Trestle offers beautiful views of the River and the South Shore. Once refurbished and augmented with a walkway, a viewing platform and interpretive signage, the Trestle will become a notable destination point along the Prime Riverwalk Trail. Located across the road from the Old Trestle is the Borst Lake West Secondary Trail, looping around Borst Lake, connecting to the Borst Lake East. Docks, accommodating water related activities access and viewpoints of the Lake in the foreground and Mount Si in the distance, will be an important destination point and feature of the North Shore Riverwalk.

Key elements include:

- Strong water identity in a historic natural setting;
- North Shore Old Trestle: Historic landmark, viewpoint, Riverwalk destination;
- Parking adjacent to the Mill Pond Road;
- Docks: road side water access;
- Borst Lake Trail loop connecting with Prime Riverwalk Trail running along the river;
- Recreation and passive programming, historic interpretation;
- The Prime Riverwalk Trail, Secondary Trails and Nature Trails.

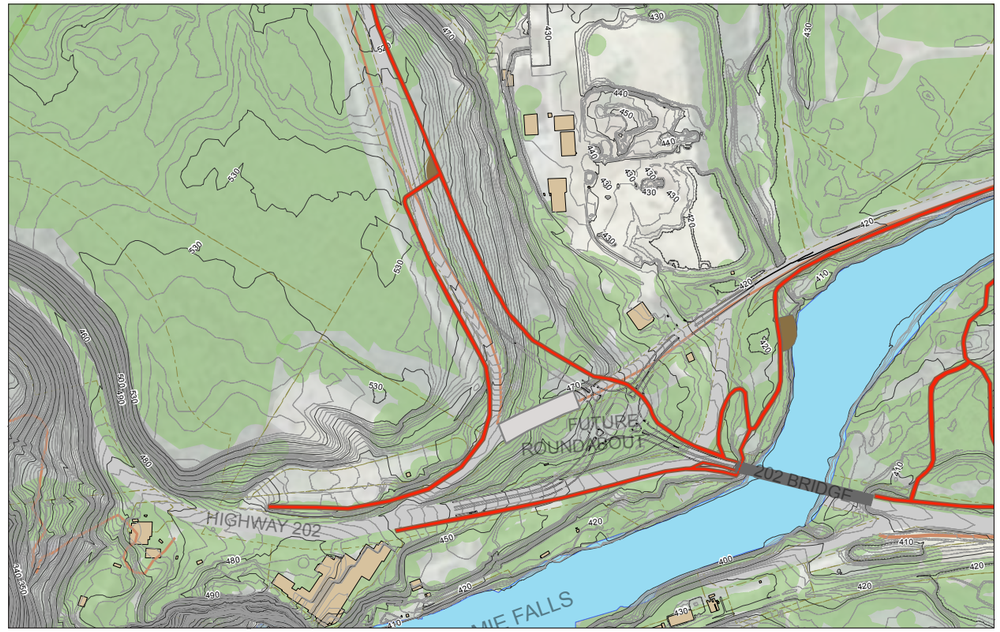
NORTH SHORE ZONE H : BORST LAKE WEST AND NORTH SHORE OLD TRESTLE



Key considerations include:

- The Borst Lake West Zone contains Medium and High Priority Restoration Areas, with both a deciduous forest section in need of invasive species management, and a Grand Fir stand left-over from historic logging days that is in relatively good condition;
- This zone is located along Mill Pond Road on the land section between Borst Lake and the Snoqualmie River;
- The potential to establish low key trail, destination facilities on the Lake (café, bike and boat rental) and associated recreational, educational (art and photography opportunities) and cultural programming should be considered, adding to and complementing the use of the Riverwalk;
- Supported by a parking, trailhead amenities and wayfinding;
- Programming is focusing on the water and nature experience;
- Lake access and enjoyment will be made possible by the docks located in close proximity to Mill Pond Road;
- The adjacent parking and road crossing will facilitate easy, barrier free access for pedestrians, cyclists and users with watercraft (canoe, paddle board, etc.);
- Because of the industrial history of the lands, water quality analysis and studies of Borst Lake should be completed to determine whether the Lake is safe to swim, boat and/or fish in;
- The Borst Lake Trail and associated viewpoints should be laid out to take advantage of outstanding views on Mount Si;
- The Old Trestle will need to be refurbished to preserve this historical landmark and establish it as an iconic component, water viewpoint and historic interpretive destination of the Mill area and the Riverwalk;
- The Old Trestle structure will need to undergo restoration to be safe for public use. An evaluation of the structural stability will be required; a restoration option that should be studied is to fully restore the right side of the trestle and install railings that should keep the visitors on the one side of the trestle with the other side being left “as is” for visual enjoyment;
- The restoration of the Old Trestle, currently covered in moss and ferns, should attempt to preserve some of this unique ‘returning-to-nature’ character;
- A formalized road crossing linking the Trestle and the Borst Lake West Trail needs to be established;
- The potential for additional single track mountain bike trails accessed via the Prime Riverwalk Trail between Mill Pond Road and the River should be explored;
- An enhanced entrance area on Mill Pond Road will need to be established to encourage drivers to access this segment of the Riverwalk;
- Potential to incorporate an old train engine as part of the Old Trestle site, augmenting its value as a historic point of interest should be explored with the Northwest Railway Museum.

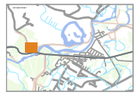
Zone ‘J’: SR202 Bridge to Snoqualmie Falls and SVRT



The role of this Zone of the Riverwalk is to connect the North Shore, Prime Riverwalk Trail and associated Borst Lake trail network, either to the west end of the Snoqualmie Valley Regional Trail (SVRT) and Snoqualmie Falls, or around to the South Shore via the SR202 Bridge. The Riverwalk Trail, coming from the Borst Lake / Old Trestle Zone, runs through the forest in between the river and Mill Pond Road. The Trail will have to use the south side of Mill Pond Road ROW to reach the SR202 Bridge area. At the SR202 Bridge, the Prime Riverwalk Trail splits. The south arm goes under the Bridge and on to the Snoqualmie Falls or across the Bridge. The north arm goes up Tokul Rd toward the SVRT, splitting again going on to the SVRT or crossing Tokul Rd and back to the Falls.

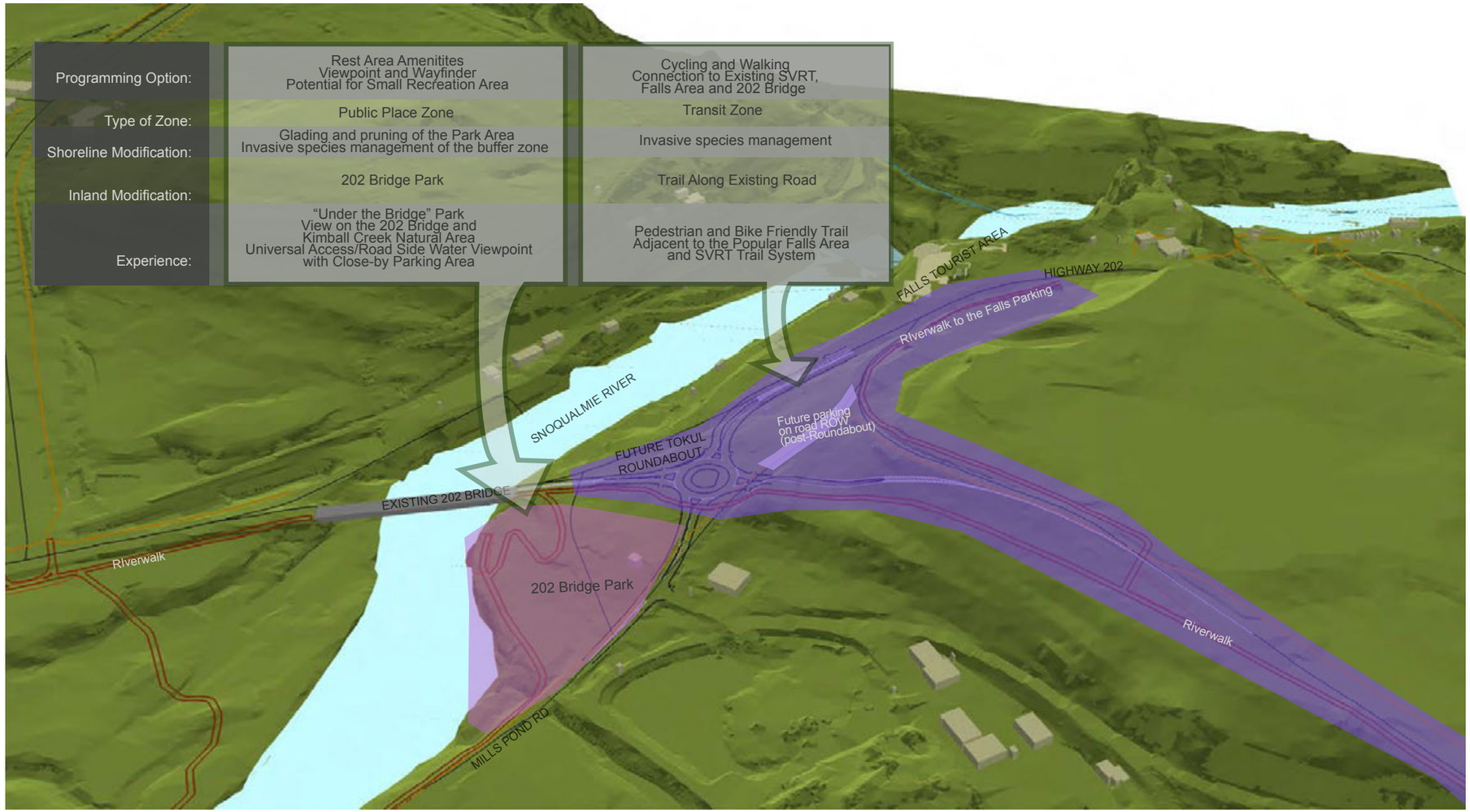
Key elements include:

- Link the Borst Lake West to Snoqualmie Falls via the Prime Riverwalk Trail;
- Roadside viewpoints of the River from the Riverwalk;
- Parking and adjacent to the Tokul Roundabout;
- Connections to the North Shore Riverwalk Trail system;
- Trailhead and wayfinding to the North and South Shore Riverwalk at the parking lot;
- Connection to the Snoqualmie Valley Regional Trail (west end);
- Connection to South Shore and Downtown via the SR202 Bridge;
- The Prime Riverwalk Trail and Secondary Trail.



NORTH SHORE ZONE j : SR202 BRIDGE TO SNOQUALMIE FALLS AND SVRT

Programming Option:	Rest Area Amenitites Viewpoint and Wayfinder Potential for Small Recreation Area	Cycling and Walking Connection to Existing SVRT, Falls Area and 202 Bridge
Type of Zone:	Public Place Zone	Transit Zone
Shoreline Modification:	Glading and pruning of the Park Area Invasive species management of the buffer zone	Invasive species management
Inland Modification:	202 Bridge Park	Trail Along Existing Road
Experience:	“Under the Bridge” Park View on the 202 Bridge and Kimball Creek Natural Area Universal Access/Road Side Water Viewpoint with Close-by Parking Area	Pedestrian and Bike Friendly Trail Adjacent to the Popular Falls Area and SVRT Trail System



Key considerations include:

- A viewpoint and rest area can be established under the SR202 Bridge with interpretative signage about Hydropower and Snoqualmie Falls;
- Upgrading the SR202 Bridge to be pedestrian/cyclist friendly will be critical the functioning success of the Riverwalk;
- Once the Tokul Roundabout is developed, this will leave the decommissioned portion of Mill Pond Road to be redeveloped into a parking lot, ideally positioned to complement and stage the Riverwalk for both access to the North and the South Shore.






This page is intentionally left blank

DEVELOPMENT OF THE RIVERWALK

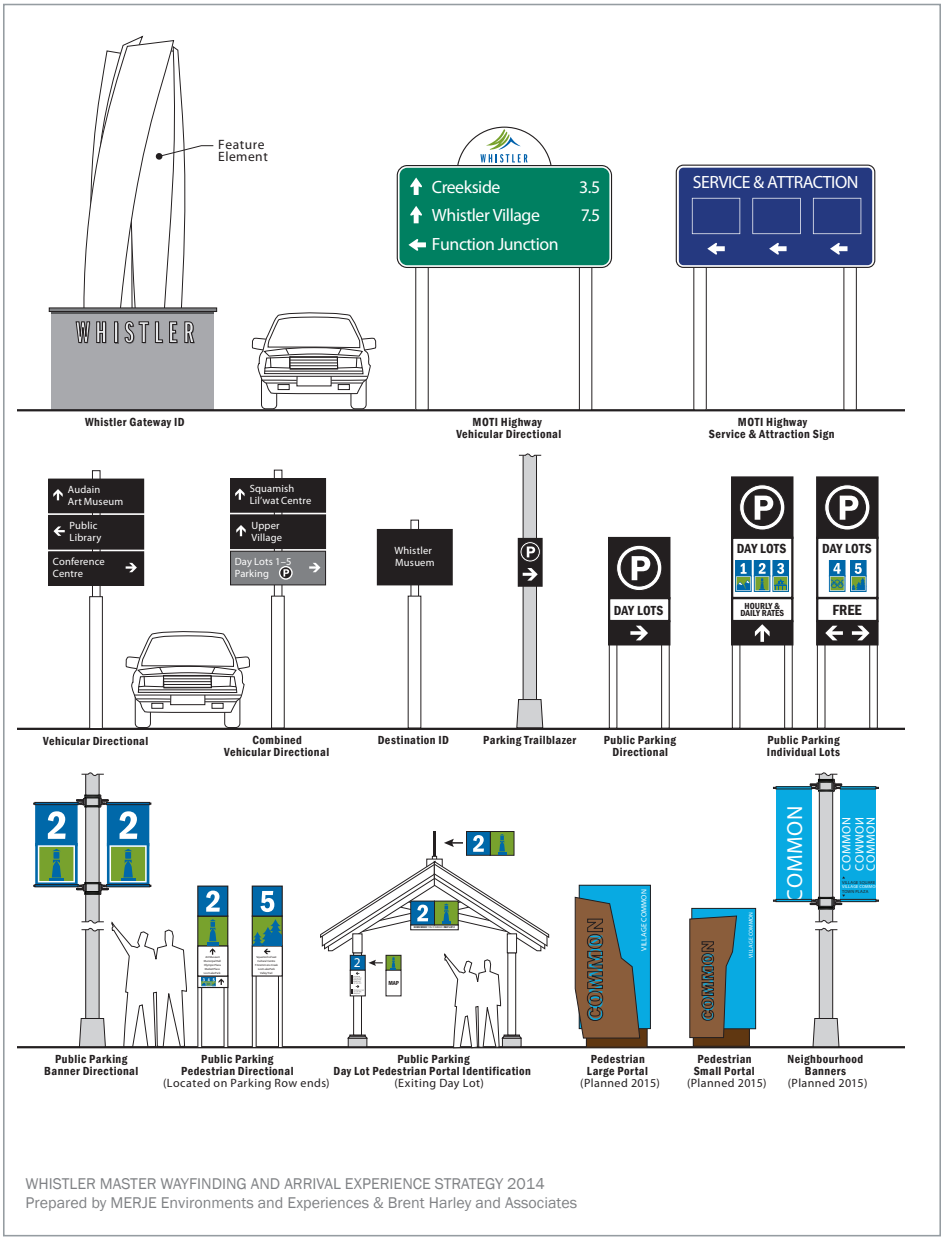
Complementing the Riverwalk Master Plan are the following Riverwalk Development Components, the Parking Plan, the Riverwalk Phased Development and the Next Steps.

Riverwalk Development Components

The successful development of the Riverwalk and the subsequent growth of the City's tourism economy the City depend upon all of Snoqualmie's stakeholders embracing a shared community vision and a well coordinated tourism development strategy. Specific to the Riverwalk, success will inevitably be tied to the quality of the trail development, the materials used, construction standards and design consistency. This includes the wayfinding and interpretative program, choice of urban furniture, trail types and the use of best construction and maintenance practices. Each of these components must be tied into the physical improvements proposed throughout the Riverwalk study area and in particular must complement the improvements and facilities being added to the Downtown core. The City will need to determine the best way to synchronize and oversee the detailed planning, design and implementation and development of the tourism amenities all linked together by the Riverwalk.

Wayfinding System

A wayfinding system should be established to highlight, in an efficient and cohesive manner, the landmarks, zones, views and circulation patterns proposed by the Snoqualmie Riverwalk Master Plan. Options to integrate the Riverwalk into the existing wayfinding strategy or alternatively, to use the development of the Riverwalk as a catalyst to overhaul the entire wayfinding system, should be explored. The development of the wayfinding language and destination identity, as well as the physical implementation of different elements such as signage, kiosks, information booths and digital interfaces will need to be closely evaluated. The system will have to effectively establish a hierarchy of information to produce an attractive and trust-worthy wayfinding experience. An effective wayfinding system will create a unified identity utilizing various mediums including: site maps, built structures, ground or street marking, banners, landmarks, lighting, pamphlets, guides, interactive maps, web sites, QR codes, digital apps and information kiosks. The successful marketing of the City as a tourism destination will rely upon an effective wayfinding strategy being in place as the development is built.



WHISTLER MASTER WAYFINDING AND ARRIVAL EXPERIENCE STRATEGY 2014
Prepared by MERJE Environments and Experiences & Brent Harley and Associates

Interpretative Program

The Riverwalk system is designed to acknowledge the various inherent shoreline identities, historic and/or natural landmarks. As such, the opportunities to integrate various interpretative systems exist. Directly informed by the wayfinding system, interpretative signage adds layers of information to the site and reinforces the identity of the area. The interpretive program signage content should include:

- Forest and wilderness attributes;
- History of local tribes;
- Heritage;
- Geology, hydrology, settlement and hydropower;
- Ecosystems and ecological restoration;
- Logging and railroad history.






An interpretive trail system informed by professional inputs and resources from a variety of fields (history, science, traditional ecological knowledge, etc) can attract users looking for an educational tourism experience. The appearance of the interpretive signage must be in line with the guidelines established within the wayfinding strategy. The interpretive signage system should also be accompanied by a form of digital media (gps linked audio, qr codes, stand-alone app, etc.) to enhance the experience as a visitor makes his or her way along the Riverwalk.


Urban Furniture

The opportunity to complement the characteristics of each zone exists with the careful selection of appropriate urban furniture. The goal is to create a pleasant user experience through the installation of convenient and functional site furnishings that blend into their locations. Universal access, durability, flood friendly, easy maintenance and quality should be the criteria that guide the selection of street furniture. Selection of the furniture should focus on enhancing the purposes of various areas (rest area, public gathering place, viewpoints, etc.) as defined by the Riverwalk Master Plan.

The Riverwalk being an extension of Downtown should augment the recognizable Snoqualmie identity throughout, while still expressing a character of its own. The Downtown area's street furniture should be characterized by a "historic look". The Riverwalk public amenities and material choice should maintain an authentic, historic feel.

Trail Types

The construction of the trail system should offer a range of experiences and respond to the needs and expectations of different user groups while respecting the specific realities of each site.

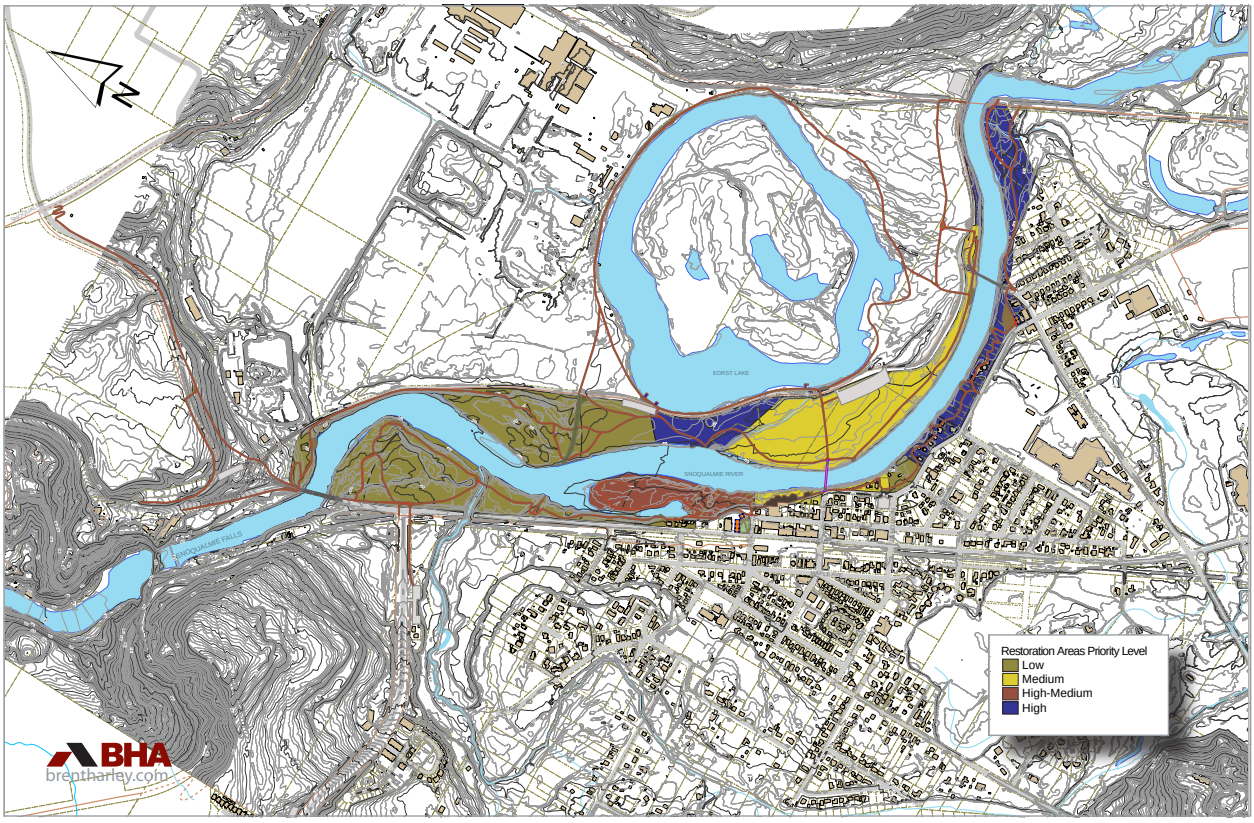
Riverwalk Trail system includes:

- The “Prime Riverwalk Trails” (paved, double-lane bicycle-path type trails) form the spine of the Riverwalk. As primary connections, their role is to connect each area of the project as well as the various landmarks. By creating the most direct routes between areas it will become the foundation of the active transportation system of the city. Built as a broad, multi-use connection, the “Prime Riverwalk Trails” are barrier free and the core of the trail network;
- The “Secondary Riverwalk Trails” (double lane, gravel), providing, multi-use connections to and from the “Prime Riverwalk Trails” accessing key focal points and leading to trails and lands beyond;
- The “Nature Trails” (dirt, narrow, single track type trail) connect to and are accessed by the Riverwalk trails. They are located closer to the water and in the natural areas. Specific attention will be required in the development of these trails in order to respect and preserve the existing grade, vegetation cover and hydrology. These secondary connections allow for a more intimate user experience, emphasizing a connection with the environment and enhancing the Riverwalk’s natural identity. These trails are designed to encourage discovery and offer a window into different ecosystems. Trail design and construction should be completed with the intent of minimal impact on the land. The use of boardwalk trail sections, when crossing sensitive areas, is recommended.

Future development should consider the incorporation of single track mountain biking trails.

Best Practices

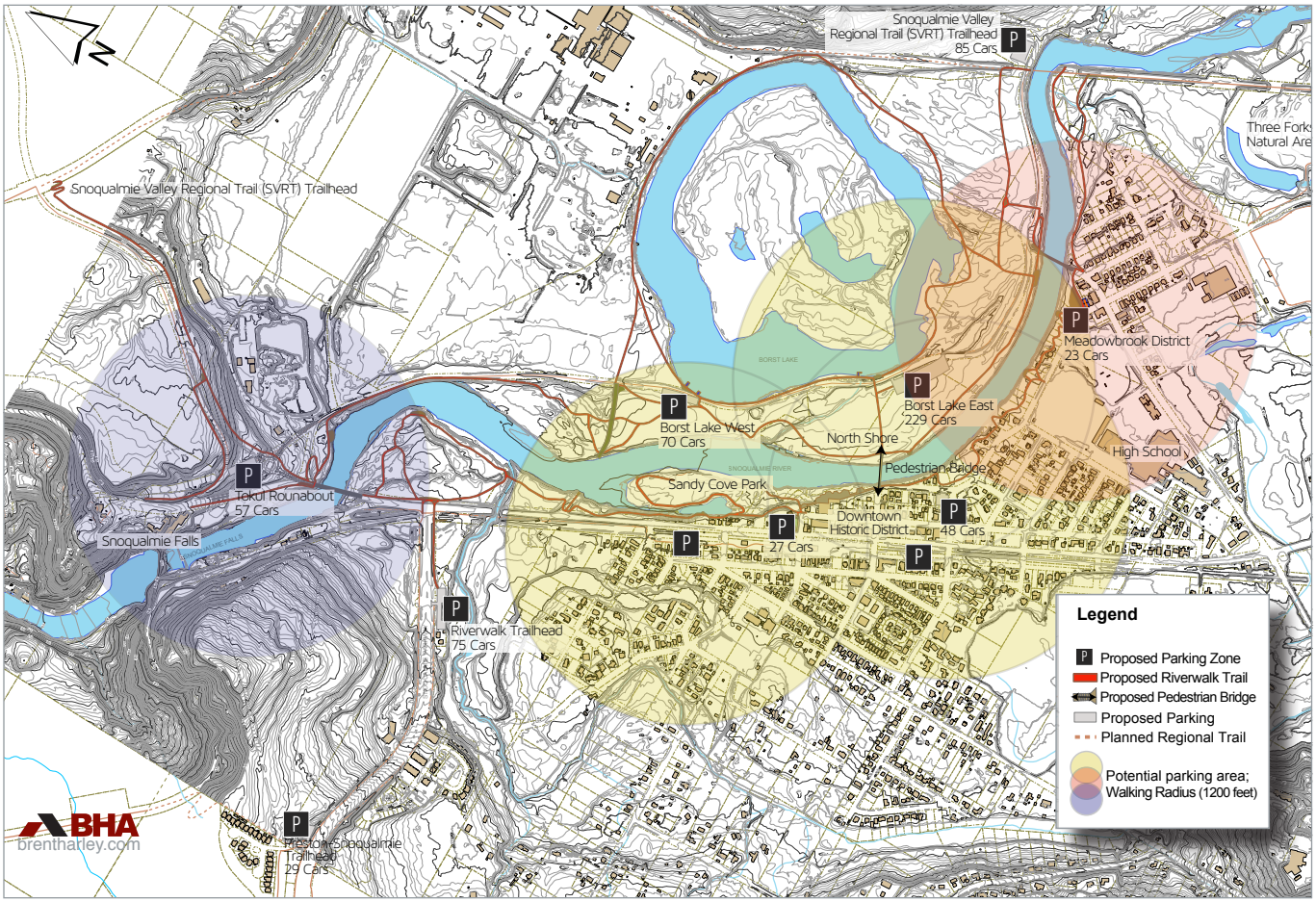
As the Riverwalk Master Plan moves into the detailed design phase, emphasis must be placed on limiting negative impacts to the shoreline ecosystem. In order to mitigate potential negative impacts of the Snoqualmie Riverwalk, an emphasis will need to be placed on limiting the amount of impervious surfaces in the proposed design. The construction and material choices should respect or exceed the best sustainable and environmental practices. The Riverwalk will take a number of years to reach buildout, best practices and techniques should be updated annually as new knowledge and techniques are developed.



This plan illustrates the Riverwalk alignment in relation to the restoration area priority levels.

Parking Plan

The Parking Plan outlines the proposed development of satellite parking areas, designed to provide visitors and residents parking in close proximity to the key Snoqualmie attractions, as accessed via the Riverwalk trails. In addition to the parking capacity at Snoqualmie Falls (approximately 300 cars plus stalls for buses), it appears that Riverwalk associated parking could add room to park at least 600 more cars. Of this, at least 300 cars can be parked with 1,200 feet of the Downtown (a distance most visitors are willing walk to a tourism destination). Cumulatively, this will help to address the shortfall of parking, the identified as barrier to tourism.



Descriptions of the Parking Plan are as follows:

- At the approach of the City Gate on Snoqualmie Parkway, a small parking lot (30 cars) on the west side of the road will serve as a Riverwalk trailhead connection to the Preston-Snoqualmie Trail;
- Prior to the City Gate, moving toward the River, a medium sized parking lot (75 cars) on the east side of Snoqualmie Parkway will offer access to the Riverwalk loop system. Beyond the 1,200 foot comfortable walking distance to a primary focal point, this parking is for the more physically active visitors of the Riverwalk;

- Moving toward Downtown, along Railroad Avenue from the Snoqualmie Parkway, a series of small parking lots will be developed to relieve the pressure of parking in the Downtown;
- The Downtown King Street Plaza will include some prime location parking stalls right in the core of the City;
- Parking on a southern parcel of Park Street will support the phased development of Park Street as a retail extension of the Downtown core;
- The parking area adjacent to Meadowbrook Plaza will support the development of the Old City Core and accommodate some capacity for High School events;
- A parking lot (85 cars) adjacent to the existing trestle on the east end of Snoqualmie Valley Regional Trail will complement the trailhead to the canopy trails;
- The proposed pedestrian bridge connecting the Downtown Historic District to the North Shore will play a major role in expanding the Downtown parking options by providing access to a large parking opportunity (230 cars) on the North Shore well within the 1,200 foot walking distance criteria. The same parking lot will service the Borst Lake East area, waterfront amenities and trails;
- A parking lot (70 cars) adjacent to the Borst Lake West area will service the waterfront amenities and trails and the North Shore Old Trestle. A drop off area should be tied into this parking lot to facilitate water sports equipment (canoes, paddle boards, etc);
- With the planned construction of the new Tokul Roundabout, the decommission portion of the existing Tokul Road and Mill Pond Road ROW will enable the development of a parking area (60 cars) adjacent to the Riverwalk North Shore Trails, the Snoqualmie Falls and the SR202 Bridge.

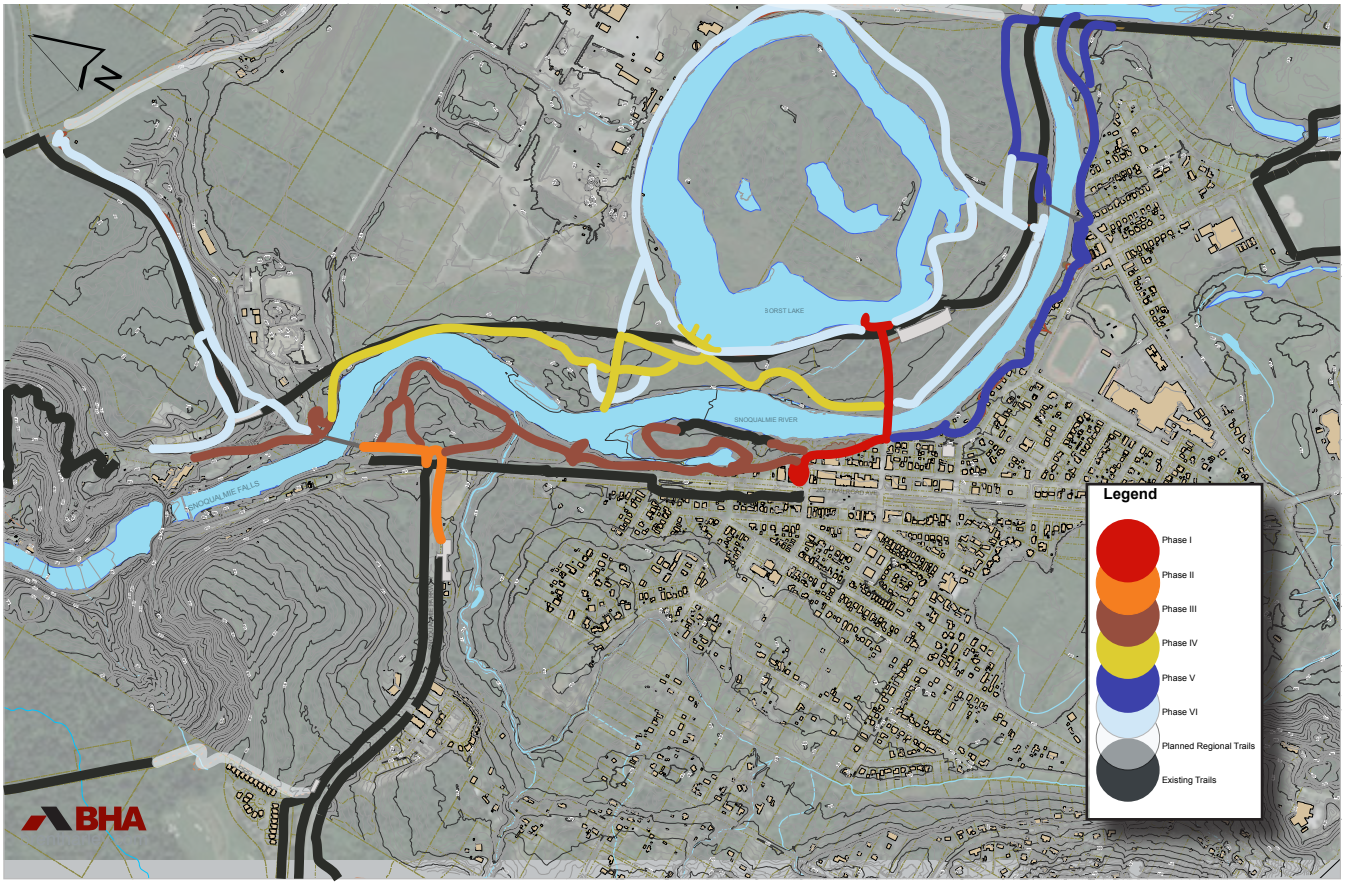
Parking lots often accumulate a variety of contaminants from the motorized vehicles. This combined with the impervious surfaces of paved lots contribute to sediment transport and pollution. As such, the creation of parking areas in the Snoqualmie riparian area and flood plain need to address storm water management issues to minimize the risk of contamination of the adjacent water bodies. The design and construction of these satellite parking lots should utilize permeable surface material combined with vegetated filter strips and bio-retention areas.





Riverwalk Phased Development

The Riverwalk should be developed over a series of sequential and economically viable phases. To accomplish this, the implementation program for the Riverwalk should be strategically established in a prioritized and incremental fashion, linking the key attractions and offering as complete a trail experience as possible on a phase by phase basis. Initially, the development of the Riverwalk trail network should utilize existing trails connections complemented by new development. This could include using road right of ways and existing sidewalks as transitional options. Alternative routes need to be planned during the detailed design of each phase (ie: Mill Pond Road can continue to serve as a trail while the North Shore network is being developed). Generally, the Prime Riverwalk Trail system should be developed first, followed by the Secondary Riverwalk Trail with the Nature Trail segments being added as budget allows.



Conceptually, the development of the Riverwalk is divided into six phases. The following lists the phases, their key components and associated benefits:

Phase One: Downtown Core

- The Boardwalk;
- King Street Plaza;
- The Pedestrian Bridge;
- Borst Lake East water front amenities and parking lot.

Benefits:

- Improves the tourist experience;
- Reinforces the Downtown, its amenities and character as a primary focal point;
- Improves the pedestrian/cycling connection between the South Shore with the North Shore;
- Expands the parking capacity within a comfortable walking distance of the core;
- Initiates the development of the Borst Lake area as an attraction;
- Initiates a loop between the Downtown and the Falls.

Phase Two: City Gateway

- Gateway feature;
- Wayfinding signage;
- Gateway parking.

Benefits:

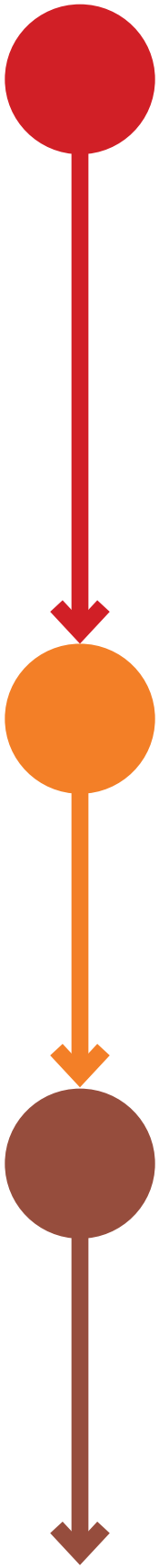
- Improves the tourist experience;
- Establishes a strong sense of arrival;
- Establishes an information and directional hub, directing visitors to the Downtown, the Boardwalk, the Pedestrian Bridge, and the Northwest Railway Museum in addition to Snoqualmie Falls;

Phase Three: Connect Downtown to Falls

- Prime Riverwalk Trail from the Downtown to Snoqualmie Falls;
- SR 202 Bridge Upgrade;
- Kimball Creek Nature Trails;
- South Shore Old Trestle site;
- Sandy Cove Park Nature Trails, bird viewing platforms.

Benefits:

- Improves the tourist experience;
- Establishes the first major section of the Prime Riverwalk Trail, formally linking Downtown to the Falls;
- Strengthens the loop between Downtown, the Falls and Borst Lake.



Phase Four: North Shore Featured Amenities

- North Shore Prime Riverwalk Trail connecting the Pedestrian Bridge to the SR 202 Bridge and the Falls;
- Borst Lake West Docks;
- North Shore Trestle.

Benefits:

- Improves the tourist experience;
- Completes the Prime Riverwalk Trail loop;
- Incorporates new trails;
- Improves the tourism amenities and destination/focal points.

Phase Five: Meadowbrook District

- Prime Riverwalk Trail section from the Pedestrian Bridge along Park Street to the Meadowbrook District;
- Park Street conversion and restoration;
- Riverview Park extension;
- Meadowbrook Plaza;
- Meadowbrook Bridge upgrade;
- Connection to the SVRT east;
- Canopy trails to SVRT;
- SVRT Trestle upgrade;

Benefits:

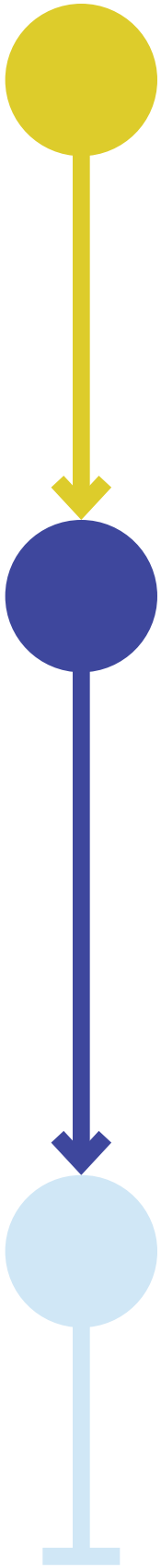
- Improves the tourist experience;
- Adds another loop to the Riverwalk;
- Creates a second urban anchor to the Snoqualmie core area with the Meadowbrook Plaza;

Phase Six: North Shore Trail Network

- Borst Lake loop trail (Old Powerhouse and its Smoke Stack)
- Infill trails throughout;

Benefits:

- Improves the tourist experience;
- Creates a wide variety of trail options and experience combinations;
- Adds to the nature based experience, building on the wilderness and water based identity of the North Shore;
- Completes the Riverwalk.



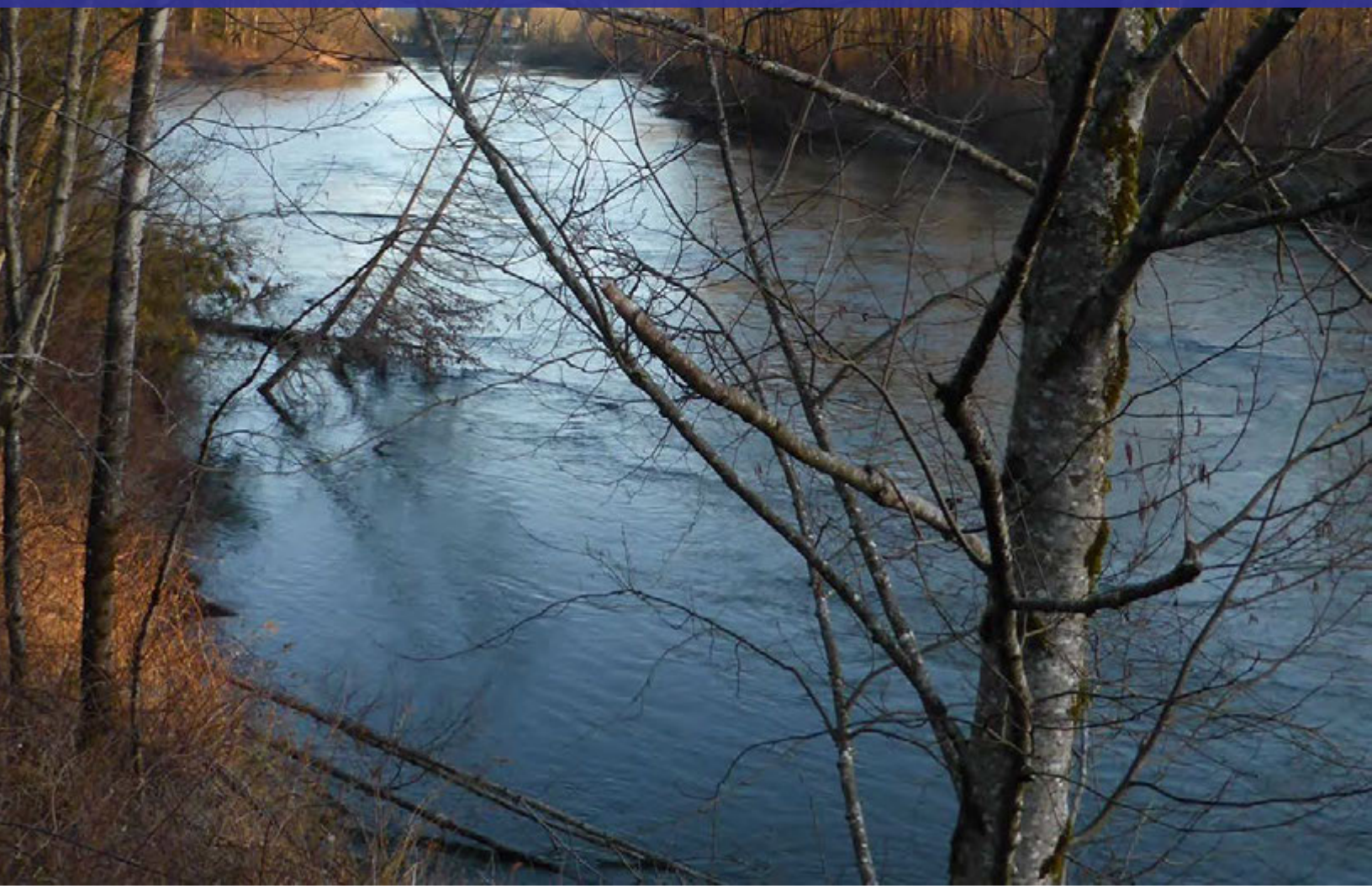
Next Steps

The following lists the strategic Next Steps necessary to initiate the development of the Riverwalk and to begin to realize the significant potential of developing and incorporating the Riverwalk into Snoqualmie's future:

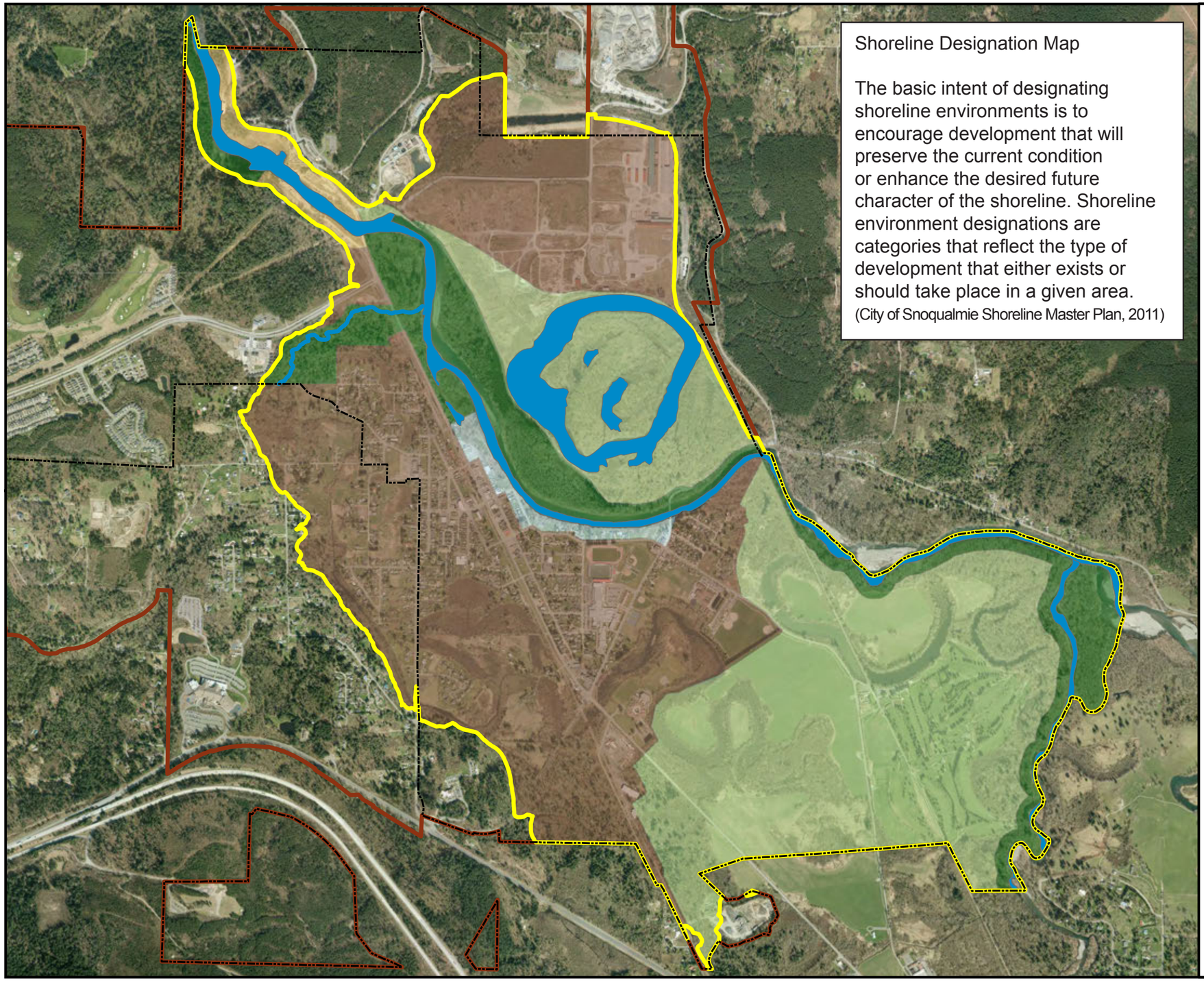
- Initiate Phase One Design of the Downtown Core:
  - Detailed Trail Design;
  - King Street Plaza Master Plan;
  - Boardwalk Design and Engineering;
  - Park Street Master Plan;
  - Pedestrian Bridge Design and Engineering;
  - Borst Lake Dock and Parking Design;
- Secure Development Rights:
  - Riverwalk Trail Right-of-Way;
  - Parking Lots;
- Create and Formalize the Snoqualmie Tourism Strategy;
- Develop the Wayfinding Master Plan.

This page is intentionally left blank.

APPENDIX 1: SNOQUALMIE SHORELINE STUDY & RESTORATION PROGRAM



This page is intentionally left blank



CITY OF SNOQUALMIE SHORELINE DESIGNATION MAP WITH UGA AREAS

N

NOT TO SCALE

- City Limits
- Shoreline Jurisdiction*
- UGA

Designations

- Hydropower
- Natural Environment
- Urban Conservancy
- Urban Floodplain
- Urban Riverfront
- Aquatic Environment

*This map is not an official representation of the 100-year floodplain extent. Please refer to the following FIRM panels for actual floodplain boundary delineation:

53033C0737 F
53033C0739 G
53033C0741 F
53033C0743 H

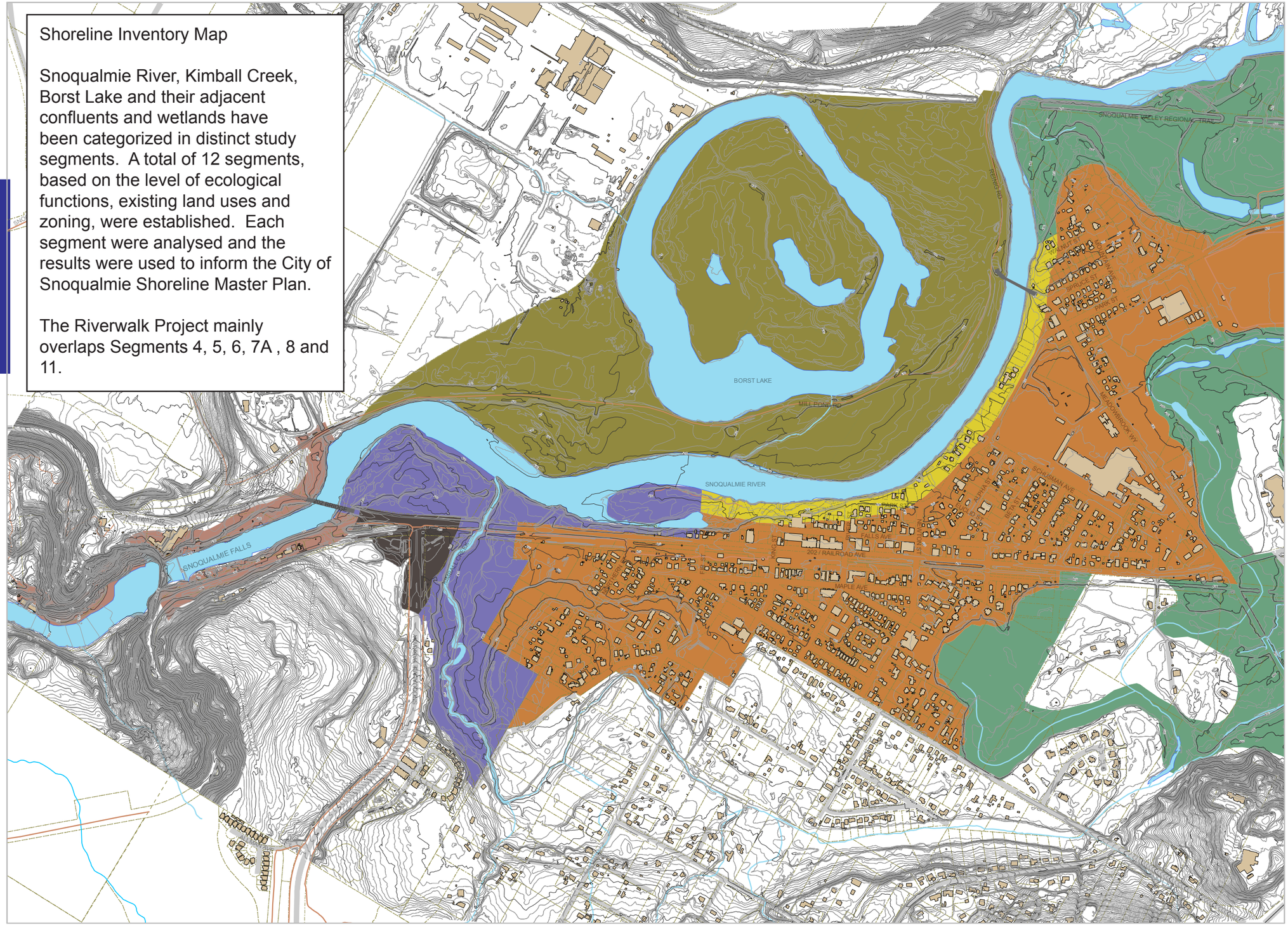
Data Sources:
City of Snoqualmie
King County GIS

Febuary 25, 2013

Shoreline Inventory Map

Snoqualmie River, Kimball Creek, Borst Lake and their adjacent confluents and wetlands have been categorized in distinct study segments. A total of 12 segments, based on the level of ecological functions, existing land uses and zoning, were established. Each segment were analysed and the results were used to inform the City of Snoqualmie Shoreline Master Plan.

The Riverwalk Project mainly overlaps Segments 4, 5, 6, 7A , 8 and 11.



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan and Shoreline Inventory

December 2014

Legend

Shoreline Inventory Segments

- Segment 2
- Segment 4
- Segment 5
- Segment 6
- Segment 7A
- Segment 8
- Segment 11

Planning for:

City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

1 inch = 300 feet

0 225 450 675 900 Feet

Water body	Performance of Function by Segment	Score
Segment 4—SR 202 bridge to a point approximately 2,640 feet south of Snoqualmie Parkway/SR 202 intersection.		
Hydrologic:		
Segment 4	**Summary:** The Segment is in the floodplain however it does not appear to have any other hydrologic influences; it has been graded and logged in the recent past meaning the soils are altered in their ability to provide infiltration.	
	Storing water and sediment: the Segment doesn't have the topographic conditions to hold and store precipitation or flood waters.	2
	Attenuation of flow energy: the lack of vegetation and young vegetation in this Segment does little to help attenuate flood flows.	1
	Recruitment of LWD and other organic material: the forests on this Segment are predominantly sapling stage, some trees are present but most are not the size to constitute LWD. Flood waters would have to transport the LWD quite a distance to the river.	2
Vegetation:		
Segment 4	**Summary:** the Segment is characterized by removal of vegetation from grading in the last 10 years or less; weeds, blackberries, Scott's broom and sapling red alder and cottonwood are common. Soils have been cleared and graded so all native duff is gone from the soil profile and the soil is compacted.	
	Maintaining temperature: this area would have no influence on water temperature.	2
	Removing excess nutrients and toxic compounds: the limited extent and condition of the vegetation would limit the function to remove sediment or uptake nutrients.	2
	Removing and stabilizing sediment: as noted above, the immature vegetation significantly reduces the opportunity for influence on sediment and water quality.	2
	Provision of LWD and organic matter: this Segment would not be considered a significant source of LWD; perhaps of some limited organics.	1
Hyporheic:		
Segment 4	**Summary:** the extensive grading of this Segment and the lack of intact parent soils and vegetation limits the function relative to hyporheic zones.	
	Removing excess nutrients and toxic compounds: infiltration is likely extremely limited so this function is likely quite reduced.	2
	Storing water and maintaining base flows: The topography of the Segment severely limits the ability to store water or promote groundwater infiltration.	2
	Support of vegetation: the Segment has been completely graded and there is a recovering vegetation community present of sapling stage trees and many non-native invasives.	2
	Sediment storage: some sediment filtration may occur; but the lack of complex soils and vegetation communities limits that function.	2
Habitat:		
Segment 4	**Summary:** this Segment has a young vegetation community; however it is surrounded by more mature upland forest so wildlife use likely passes 'through' the site occasionally.	
	Physical space and conditions for life history: the Segment is small and the soil and vegetation communities have been impacted. These changes make it likely that this segment provides limited habitat to most native wildlife species. The Segment also has two major roads that bisect it.	2
	Food production and delivery: there is little vegetation in this Segment to provide food or export.	1

Water body	Performance of Function by Segment	Score
Segment 5—Snoqualmie River left bank south of SR 202 bridge upstream to Northern Street. Kimball Creek right and left banks extending from its confluence with Coal Creek downstream to its confluence with the Snoqualmie River. The two portions of the Segment (west and east of SR 202) have very different potential for performing some of the functions described below; those differences, when present, will be described.		
Hydrologic:		
Segment 5	**Summary:** the eastern portion of Segment 5 is within the Channel Migration Zone (CMZ) of the river and therefore has greater potential to influence hydrologic functions of the Snoqualmie. The western portion of the Segment includes the riparian zones and floodplain of Kimball Creek; a smaller order stream. This portion of the Segment is assumed to have more influence on Kimball Creek (KC) than on the river, given the size of the area relative to the river's floodplain within the City (or within this Segment).	
	Transport of water and sediment: the east side of the Segment is on a lower bench in the river's CMZ therefore it has the opportunity to transport flood waters. The forested condition of this lower bench means it has some potential for entrapping sediment. The western portion of the Segment is in the floodplain of the river so it has the potential to trap and store sediment. This portion of the Segment also transports the waters of Kimball Creek down to the confluence with the River.	4
	Attenuation of flow energy: the lower bench on the east portion of the Segment is part of the CMZ, and it's forested, so when flood waters reach it, there is the potential for ameliorating some flood flows. The area of the Segment on the lower bench is small compared to the entire floodplain in the City. The western portion of the Segment has the potential to attenuate the flows from Kimball Creek; and also in high flood conditions of the Snoqualmie, the river can back into this forested 'corner' of the floodplain and the flows could be modestly moderated.	3
	Developing pools, riffles, gravel bars: the river in the reach at the eastern edge of this Segment has flanking gravel bars in late summer low flows; the condition of the meander channel of the river allows those to form and move over time. Kimball Creek is more channel contained than the River, however this dense forested riparian portion of the Segment does function to protect the physical conditions within the channel.	3
	Recruitment and transport of LWD and other organic material: the eastern portion of the Segment has the potential to provide LWD to the mainstem; the western portion of the Segment has active recruitment of LWD into the riparian zone and creek channel through natural causes.	3
Hyporheic:		
Segment 5	**Summary:** the riparian forests along Kimball Creek and the floodplain soils in the lower portion of the Segment near the river provide the opportunity for storage of shallow groundwater and movement of hyporheic flows.	
	Removing excess nutrients and toxic compounds: as noted above, the western portion of the Segment may have more potential for the long-term removal of nutrients and toxics from flood waters based on the further distance from the active floodway of the river. Material deposited in this portion of the segment is expected to have a greater opportunity for uptake and breakdown. On the eastern bench of the Segment the lower landscape position puts this area in more frequent contact with flood waters in the floodway. Thus material which is deposited here has less potential to remain long enough to be taken up by plants or broken down by biological processes.	4
	Water storage: the potential for the lower bench in the CMZ to store water is limited due to its landscape position. There is likely connectivity between this lower bench and the river through the hyporheic zone. The riparian zone along Kimball creek is assumed to not store much surface water due to its topography. The Kimball Creek forest would expected to be linked to the hyporheic zone from the upland forests up-basin, and thus to contribute to steam recharge.	4
	Support of vegetation: this Segment supports mature second and third growth forests throughout the Segment.	4
	Sediment storage and maintenance of base flows: as described above the Kimball Creek reach of the Segment has a greater opportunity to store sediments for a longer period of time than the lower floodplain bench. All areas within the Segment have the opportunity to contribute to base flows of the river.	4

Vegetation:		
Segment 5	**Summary:** all of Segment 5 is densely forested with a native mixed coniferous/deciduous canopy forest. The forest is assumed to be second or third growth, closed canopy with the complement of native species in the sub-canopy and herbaceous layers.	
	Maintaining temperature: the dense closed canopy forest over the Kimball Creek portion of the segment would allow the maintenance of temperatures within the stream. The eastern portion of the Segment is also fully forested, however the size and landscape position of this forest relative to the entire length of the river in the City is very modest and therefore it is not attributed to providing a significant function to water temperature maintenance.	3
	Removing excess nutrients and toxic compounds: the lower bench in the eastern Segment has the opportunity to remove nutrients and toxics associated with sediment because of its landscape position in the CMZ. However, this same position means that those nutrients and toxics may be transported back into the flood waters in the next flood event if they are not broken down or taken up through biological processes between flood events. In the Kimball Creek water shed the landscape position is on the outer fringe of the floodplain, it is therefore assumed the flood frequency is less and the ability to effectively entrap and utilize nutrients may be higher in this portion of the segment.	3
	Sediment removal and bank stabilization: as noted above the entire Segment has the potential to entrap sediment based on the landscape position and the dense forested habitats. The forested condition on the lower bench on the east side of the Segment assists with flood attenuation and flow rate reduction therefore it does function to improve bank stability.	4
	Attenuation of flow energy: the eastern portion of the Segment will help attenuate flow energies due to its landscape position in the CMZ, however it may be modest in comparison to the rest of the floodplain. The Kimball creek riparian zone on the west side of the Segment would attenuate flood flows due to the dense forested condition of the area and especially compared to the adjacent residential zone.	4
	Provision of LWD and organic matter: this Segment (both portions) has the potential to contribute LWD and organic matter into Kimball Creek and the Snoqualmie. The dense forests provide a range of organic debris and the potential for LWD to be exported into the river system.	4
Habitat:		
Segment 5	**Summary:** this Segment is a mixed coniferous/hardwood forest linking the margins of the river with the upland habitats to the west of the floodplain. Therefore it provides good habitat and critical terrestrial linkages between riverine and expansive upland habitats (noting that SR 202 bisects the Segment which may adversely affect some terrestrial species susceptible to road traffic).	
	Physical space and conditions for life history: the upland forests along Kimball Creek are contiguous with the riparian forests of the creek and down to the river (with SR 202 bisecting the Segment). The structurally diverse forest and floodplain habitats provide multiple opportunities for nesting, feeding, and refuge for a range of wildlife species.	4
	Food production and delivery: it is assumed that the native vegetation communities are an excellent source of food and primary productivity to Kimball creek, the river, and the associated wildlife in the corridor.	4

Water body	Performance of Function by Segment	Score
Segment 6—Snoqualmie River left bank from Northern Street to a point approx. 375 feet upstream of the Meadowbrook bridge. This Segment is generally older housing 'backing up' to the river bank; on a relatively high bank (approximately 10 ft). The bank is undergoing scour and failure, causing the bank to move closer to the older housing. Engineered Log Jams have been installed in an effort to deflect high flows and decrease erosion.		
Hydrologic:		
Segment 6	**Summary:** This narrow band along the River contains many built houses and commercial structures and their associated infrastructure. Physical buildings, parking lots, roads, and sidewalks all combine to create a relatively high percent (for the City) of imperviousness which strongly influences some of the hydrologic functions.	
	Transport of water and sediment: the built environment, by definition generally imposes restrictions on the free movement of floodwaters. The built environment can have both a detrimental and a beneficial influence on sediment: the roughness and complexity of some built physical conditions will allow sediment to be entrapped and settle out of the flow path (e.g., homes and other structures where flood waters enter and deposit large quantities of sediment in the 'stillness' of the structure). Buildings and infrastructure within the floodplain can of course, also exacerbate flooding, water patterns, flood elevations and flow rates. Along this Segment, bank erosion has been caused by high flows; Engineered Log Jams (ELJ) have been installed as one method to reduce erosive forces on the banks.	3
	Attenuation of flow energy: blockages within the floodplain can attenuate flow energies, however the consequence to the infrastructure may outweigh the benefits of reduced flow rates. There is installed ELJ in the river channel along this segment. The intent is to deflect river flows away from the bank where high-flow scour is causing erosion of the bank.	2
	Developing pools, riffles, gravel bars: The river in this Segment is active and the channel moves within the limited channel migration zone; lately towards the houses on the left bank. Scour and bank failure has caused fines to be released to the channel; there are no gravel bars within Segment 6, though aerial photographs indicates they are present upstream and downstream of the Segment.	3
	Recruitment and transport of LWD and other organic material: the built environment can be the source of complex nutrients and organic debris during flood events. Nutrient and organic debris loading can come from beneficial sources as landscaping, small garden/vegetable plots, and trees/shrubs that are present on private and public lands within the built environment. Excess nutrients can be introduced to the river when floodwaters sweep up canine waste, septic drain fields, lawn fertilizers and other treatments, storage sheds with stockpiled fertilizers, herbicides, insecticides, and toxics associated with pollution generating surfaces (e.g., parking lots, roads, driveways, car storage yards, bus facilities, etc.). In addition, the failure of the left bank in places along this reach may make LWD available for the channel downstream of the Segment.	2
Habitat:		
Segment 6	**Summary:** There is a substantial lack of native vegetation communities in this Segment along the river. Vegetation is predominantly lawn grass, residential landscaping, gardens and orchards. The plants are quite mature as this portion of the City has been populated for many decades. This segment is the zone between the river proper and the rest of the town; it does not have a great deal of inherent habitat value.	
	Physical space and conditions for life history: the diversity of landscaping species, the varied food sources (feeders, compost, gardens, orchards) and the high vegetation species richness in the built environment results in a high habitat value for some species (e.g., Norway rats, raccoons, coyotes, some song birds, deer). Although the habitats may not be natural, they can and do provide a range of nesting, refuge, and food sources for wildlife adapted to those sources. However the small size of this Segment limits the potential for such habitat use, except as a passage to/from the river.	3
	Food production and delivery: The influence of this Segment on providing nutrients or food sources to the river and its food web is somewhat limited due to the condition of the bank (unvegetated generally) and the limited size of the area within the Segment. The built environment limits the source of appropriate materials for food web support.	2

Vegetation:		
Segment 6	**Summary:** This Segment includes some of the oldest settled portions of the City; most natural vegetation has been removed and replaced with landscape species, much of which is quite mature. Residential gardens, orchards, and lawn grass comprise most of the vegetated portions of this Segment; the rest of the area is either impervious surfaces or the river bank itself.	
	Maintaining temperature: the built environment does not benefit the temperature of the river in flooding or non-flooding conditions. The built environment (e.g., streets, parking lots, buildings) are islands of solar gain which radiate heat back to the ground and air at night. In relation to floodwaters which occur in the winter months, the built environment may not represent a high degree of solar gain, however it does not provide any cooling or ameliorating influence on river temperatures. This Segment contains landscaping (some of it quite mature), characterized as lawns and ornamental plantings/vegetable gardens with the dominant forest canopy removed and the soils in an altered state. Insufficient mature trees are present to shade the river; and the length of the Segment is short relative to the length of the river through the City and the shading or lack thereof has a negligible influence on river temperature.	1
	Removing excess nutrients and toxic compounds: the landscaping present as the dominant condition in this Segment would have little potential to remove some sediments and nutrients from floodwaters. The close proximity of the river and the relatively small size of the Segment means that high rates of flow would move through this narrow band with little opportunity to be filtered.	1
	Sediment removal and bank stabilization: ELJs have been placed along the left bank of the Segment as a means to address bank erosion and to deflect erosive flows. Erosion rates have been lowered but cannot be eliminated from this high steep bank. Without extensive armoring or more engineered river features, erosion will continue along the Segment.	2
	Attenuation of flow energy: structures have been placed on the left bank of the Segment within the floodway to deflect flood flow and reduce scour and erosion. It is unknown if there is any monitoring of the effectiveness of the ELJ to stabilize the slopes in this reach.	3
	Provision of LWD and organic matter: the remnant forest patches and landscaping may be a source for LWD, however the quantity is limited (relative to a forested condition). Some organic matter may be contributed to the river from riparian vegetation; but not significant quantities given the condition of the river banks (left bank in the City).	2
Hyporheic:		
Segment 6	**Summary:** The Segment has a high degree of imperviousness, therefore it is inhibited regarding the opportunity for groundwater recharge or hyporheic interactions with the river.	
	Removing excess nutrients and toxic compounds: as has been noted for this Segment, the built environment would be assumed to function more as a source for excess nutrients and toxics rather than a sink. These materials (nutrients and toxics) could enter both surface waters during flood events and the groundwater by leaching into soils (or by direct application by property owners). The groundwater is assumed to be directly linked to the river.	2
	Water storage: little opportunity for storage of flood waters is present in the built environment. The presence of the imperviousness limits the opportunity for groundwater recharge and precludes storage of floodwaters.	2
	Support of vegetation: as noted, the built environment may have a wide range of landscaping species (herbaceous, shrubs, and trees) that provide some food support, and benefit to wildlife. The overall density of landscaping tends to be substantially less than natural forested conditions.	2
	Sediment storage and maintenance of base flows: as noted, it is assumed that the built environment functions as a source for nutrients and toxics both into floodwaters but also potentially into the shallow groundwater. The narrow aspect of this Segment limits its ability to provide measurably to base flow support, as the area is just too narrow along the river. Nutrients from the built environment should be expected to be associated with flood flows through this Segment.	2

Water body	Performance of Function by Segment	Score
Segments 7 and 10—Combined Segments 7A through 7D and Segment 10. Includes the downtown area, the middle school, the farm, and the housing development island. These combined Segments includes nearly all of the "built" portions of the City, except that in Segment 2 and near Segment 3. Segment 10 is defined as a separate Segment because it is in the City's UGA.		
Hydrologic:		
Segments 7 & 10	**Summary:** The presence of high concentrations of imperviousness influences the hydrologic processes in this Segment.	
	Transport of water and sediment: the built environment, by definition generally imposes restrictions on the free movement of floodwaters. Physical barriers in the flood path can compound the effects of flooding on adjacent structures and infrastructures. The built environment can have both a detrimental and a beneficial influence on sediment: the roughness and complexity of some built physical conditions will allow sediment to be entrapped and settle out of the flow path (e.g., homes and other structures where flood waters enter and deposit large quantities of sediment in the 'stillness' of the structure). Buildings and infrastructure within the floodplain can of course, also exacerbate flooding, water patterns, flood elevations and flow rates.	2
	Attenuation of flow energy: blockages within the floodplain can attenuate flow energies, however the consequence to the infrastructure may outweigh the benefits of reduced flow rates.	2
	Developing pools, riffles, gravel bars: the built environment within the floodplain has little to no beneficial value to the development of pools and riffles as habitat elements in the river or its floodplain.	2
	Recruitment and transport of LWD and other organic material: the built environment can be the source of complex nutrients and organic debris during flood events. Nutrient and organic debris loading can come from beneficial sources as landscaping, small garden/vegetable plots, and trees/shrubs that are present on private and public lands within the built environment. Excess nutrients can be introduced to the river when floodwaters sweep up canine waste, septic drain fields, lawn fertilizers and other treatments, storage sheds with stockpiled fertilizers, herbicides, insecticides, and toxics associated with pollution generating surfaces (e.g., parking lots, roads, driveways, car storage yards, bus facilities, etc.).	2
Hyporheic:		
Segments 7 & 10	**Summary:** The extend of imperviousness in this Segment limits the ability to allow recharge to the shallow groundwater. Section 7A has the potential to have a linkage to the river through the hyporheic zone because of its relative proximity to the river.	
	Removing excess nutrients and toxic compounds: as has been noted for this Segment, the built environment would be assumed to function more as a source for excess nutrients and toxics rather than a sink. These materials (nutrients and toxics) could enter both surface waters during flood events and the groundwater by leaching into soils (or by direct application by property owners). The groundwater is assumed to be directly linked to the river.	2
	Water storage: some opportunity for storage of flood waters is present in the micro-topography of the built environment. However, by definition, the built environment can be up to 85% imperviousness in the most dense locations and often 40-50% impervious as a general condition. The presence of the imperviousness limits the opportunity for groundwater recharge and precludes storage of floodwaters.	2
	Support of vegetation: as noted, the built environment may have a wide range of landscaping species (herbaceous, shrubs, and trees) that provide some food support, and benefit to wildlife. The overall density of landscaping tends to be less than natural forested conditions.	2
	Sediment storage and maintenance of base flows: as noted, it is assumed that the built environment functions as a source for nutrients and toxics both into floodwaters but also potentially into the shallow groundwater as well.	2

Vegetation:		
Segments 7 & 10	**Summary:** As noted for Segment 6, this Segment is dominated by non-native landscaping communities, not by native forest habitats; therefore there may be food sources for a variety of wildlife life but breeding, refuge and reading habitats are severely limited for a broad range of expected species.	
	Maintaining temperature: the built environment does not benefit the temperature of the river in flooding or non-flooding conditions. The built environment (e.g., streets, parking lots, buildings) are islands of solar gain which radiate heat back to the ground and air at night. In relation to floodwaters which occur in the winter months, the built environment may not represent a high degree of solar gain, however it does not provide any cooling or ameliorating influence on river temperatures. Although this Segment may contain substantial vegetation from landscaping (some of it quite mature), in general it would be characterized as lawns and ornamental plantings/vegetable gardens with the dominant forest canopy removed and the soils in an altered state.	2
	Removing excess nutrients and toxic compounds: the landscaping present as the dominant condition in this Segment could have the potential to remove some sediments and nutrients from floodwaters. However it is far more likely that residential use of lawn and garden products (e.g., fertilizers, moss-removers, insecticides, herbicides) will have a deleterious influence on water quality in both the flood condition, but also influencing the shallow groundwater which is likely directly connected to the river.	2
	Sediment removal and bank stabilization: as noted previously, the built environment can function to entrap sediments during flood events, however the presence of the built environment and pollution generating surfaces can also be a source of sediment and toxics into floodwaters. No empirical data was identified relative to this question, but it may be assumed that the built environment within the floodplain will function more as a source of sediment, nutrients, and toxics than a sink (i.e., a point of accumulation of sediment).	2
	Attenuation of flow energy: structures within the floodplain can reduce flood flow rates in some instances; functioning like complex structural debris in the flood path to reduce flow rates, allow sediment deposition and attenuation.	3
	Provision of LWD and organic matter: mature landscaping within the built environment can be a source for LWD, however the quantity is limited (relative to a forested condition). Recruitment of LWD and movement of it into the river (or nearby floodplain) is inhibited by the physical blockages within the built environment, so although some potential LWD may be present in this Segment, the potential for it providing habitat value or functions is rather limited.	2

Habitat:		
Segments 7 & 10	**Summary:** Habitat value in the residential/commercial portion of the City is limited due to the lack of extensive native habitat communities. This Segment does contain mature residential landscaping which can provide a range of food sources for a variety of wildlife; however refuge, breeding and rearing habitats are often lacking.	
	Physical space and conditions for life history: the diversity of landscaping species, the varied food sources (feeders, compost, gardens, orchards) and the high vegetation species richness in the built environment results in a high habitat value for some species (e.g., Norway rats, raccoons, coyotes, some song birds, deer). Although the habitats may not be natural, they can and do provide a range of nesting, refuge, and food sources for wildlife adapted to those sources.	3
	Food production and delivery: the proximity of this Segment (including all the 'islands') is relatively distant from the river. Floodwaters may move through this Segment, however the frequency of that occurrence is minimal from the perspective of the Segments influence on providing nutrients or food sources to the river and its food web.	2

Water body	Performance of Function by Segment	Score
Segment 8—Includes the wetlands and floodplains associated with Three Forks Park, Meadowbrook Farm, "frog" wetland, and left bank of South Fork Snoqualmie River. The Segment is the largest in the City's Shoreline jurisdiction (at 758 acres); and it generally is unbuilt, excepting the roads that cross it. The far eastern and south-western portion of the area is forested; the majority of the Segment is a mosaic of agricultural fields (some actively pastured, some hayed and some still tilled it appears in aerials) interspersed with primarily deciduous canopy forest with some mixed conifer/deciduous canopy present in the mosaic.		
Hydrologic:		
Segment 8	**Summary:** the large Segment is inundated by large volumes of floodwaters which have the opportunity to infiltrate into the groundwater or be stored temporarily in wetlands and other depressions on the landscape.	
	Transport of water and sediment: portions of the Segment are adjacent to the river and the majority of the Segment is hundreds and hundreds of feet away from the active channel. Floodwaters can readily inundate the entire Segment in extreme events. Sediment can be transported over a large area with deposition rates dependent upon flows and conditions on the surface. The Segment has the capacity to hold and store large volumes of flood waters; and to allow the filtration of sediment.	4
	Attenuation of flow energy: the large area of this Segment provides significant opportunity for flood flows to be attenuated and rates decreased to limit physical damage from high flow rates. Physical complexity within the Segment further reduces the flow rates of waters out in the floodplain.	5
	Developing pools, riffles, gravel bars: this Segment is nearly all large vegetated floodplain, therefore it has little to no influence on the development of pools/riffles.	2
	Recruitment and transport of LWD and other organic material: this segment has the opportunity to provide LWD and organics into the river for food web support. Trees along the river in the riparian zone can fall directly in the channel; wood can be recruited by floodwaters moving through the floodplain and bringing the debris back to the channel. Particulate and small organics can be picked up an transported by the floodwaters across the floodplain and back into the river.	4
Vegetation:		
Segment 8	**Summary:** the large Segment has a variety of vegetation communities present from mature second growth forests, riparian floodplain forests, wetland complexes and fallow and active agricultural fields.	
	Maintaining temperature: temperature in the river is more strongly influenced by hyporheic flow (cold groundwater) and long continuous stretches of vegetation over the channel. The left bank of the river is forested in this Segment, providing substantial length of trees shading the channel from the south and west sun.	3
	Removing excess nutrients and toxic compounds: floodwaters moving through the large expanse of this Segment have the opportunity to be filtered by standing vegetation, deposited with sediment, and removed from the water column. As most floods occur during the dormant season, the uptake of excess nutrients is possibly limited, though residuals in the soils and on the surface can be "used" by vegetation the following spring. Toxics associated with sediments may be dropped out of the water column and deposited on the soil; subsequent uptake is not guaranteed.	4
	Sediment removal and bank stabilization: the expansive area of the floodplain allows sediment to be dropped out of the water column when flow rates slow, away from the river.	4
	Attenuation of flow energy: the sheer expanse of the area allows flood waters to slow down as they move further from the channel. Interactions between the vegetation and microtopography would facilitate the removal of sediment and associated toxins.	5
	Provision of LWD and organic matter: the large area has the potential to contribute large woody debris and organic matter and move it within the floodplain and back into the river. The floodwaters disperse nutrient-laden water and sediment, and they transport woody debris of all sizes across the floodplain and in some instances, back into the river.	4

Hyporheic:		
Segment 8	**Summary:** the large area of this Segment likely contains areas of pervious soils where floodwaters can infiltrate into the shallow groundwater and where the hyporheic zone of the river and the old channel migration zone is present across a wide area.	
	Removing excess nutrients and toxic compounds: the large floodplain has the potential to allow floodwaters to infiltrate shallow and deeper groundwater tables as the waters move across permeable soil lenses. If there are dissolved nutrients in the water column they may also infiltrate into the shallow groundwater as well. Toxics are often assimilated (adhered) to sediment particles, therefore that type are less likely to infiltrate the deep groundwater table.	4
	Water storage: zones in the floodplain which have highly permeable soils will allow the infiltration of water from flood flows; water that stays in the shallow hyporheic zone can be available for later recharge into the river, when floods have receded. In some locations deeper permeable soils may be zones for deep groundwater recharge within the floodplain.	4
	Support of vegetation: lands within Segment 8 have been subject to a variety of land uses over time; primarily agricultural and forestry. Some second/third growth mixed canopy forests are present immediately along the south shore of the river and more extensively on the eastern portion of the Segment, and in the southwest portion of the Segment. Much of the central portion of the Segment is characterized by fallow fields (some still used for pasture or hay production). Also present across the Segment are remnant oxbows of old river channels, now filled with diverse wetland plant species. The Segment, as a whole, has a large diversity of plant species.	4
	Sediment storage and maintenance of base flows: as noted above, waters which infiltrate the shallow groundwater or hyporheic zone have the opportunity to move laterally through the porous sediments, back towards the river and to be discharged over time, as groundwater recharge to the river. Water, moving slowly through sands and other soil compositions has the opportunity to filter out some of the particulates adhered to sediment particles, and therefore cleaner.	4
Habitat:		
Segment 8	**Summary:** the large area with a diversity of habitat types dominated by native species provides an excellent array of niches for wildlife. The active and fallow agricultural lands provide for less habitat complexity and less opportunity for wildlife, but in conjunction with the more intact habitats they provide an element of 'edge' and diversity that is beneficial to some species (e.g., native rodents).	
	Physical space and conditions for life history: the large size of this Segment and the diversity of habitat types and vegetation richness provides for a broad range of life history needs for many species of wildlife. The forested woodlands and the vegetated wetlands (old oxbows) are excellent examples of upland and wetland habitats. There is opportunity within this Segment for habitat improvement on those lands which are currently fallow or used for hay/pasture rotations. Portions of this Segment that should be considered for restoration to more natural conditions are discussed more fully in the Three Forks Master Plan and the Meadowbrook Farm Master Plan, both adopted by the City.	5
	Food production and delivery: export of organics from this land-base of this Segment, back into the river is mostly likely driven by flood frequency. If the agricultural fields are plowed in the late fall or floods occur in the early spring after the first spring plowing, the agricultural lands pose a significant impact on sediment transport through the floodplain and back into the river.	5

Waterbody	Performance of Function by Segment	Score
Segment 11—Borst Lake and right bank of Snoqualmie River. There are numerous wetlands along the right bank of the river.		
Hydrologic:		
Segment 11	**Summary:** the large Segment is inundated by large volumes of floodwaters which have the opportunity to infiltrate into the groundwater or be stored temporarily in Borst Lake, riparian wetlands, and other depressions on the landscape.	
	Transport of water and sediment: Floodwaters can readily inundate the entire Segment in extreme events. Sediment can be transported over a large area with deposition rates dependent upon flows and conditions on the surface. The Segment has the capacity to hold and store large volumes of flood waters; and to allow the filtration of sediment.	4
	Attenuation of flow energy: the large area of this Segment provides significant opportunity for flood flows to be attenuated and rates decreased to limit physical damage from high flow rates. Physical complexity, particularly the forested area along the river bank, within the Segment further reduces the flow rates of waters out in the floodplain.	5
	Developing pools, riffles, gravel bars: the majority of this Segment is nearly all large vegetated floodplain, which has little to no influence on the development of pools/riffles. Over 7,000 linear feet of forested area is adjacent to the river which can help in the development of pools and riffles when large woody debris is recruited into the river.	4
	Recruitment and transport of LWD and other organic material: this segment has the opportunity to provide LWD and organics into the river for food web support. Trees along the river in the riparian zone can fall directly in the channel; wood can be recruited by floodwaters moving through the floodplain and bringing the debris back to the channel. Particulate and small organics can be picked up an transported by the floodwaters across the floodplain and back into the river.	4
Vegetation:		
Segment 11	**Summary:** the right bank of the Snoqualmie River, some areas surrounding Borst Lake, as well as the center island of Borst Lake are densely vegetated. Much of the area is dominated by native vegetation, however the area south and southeast of Borst Lake is heavily dominated by Japanese knotweed, English ivy, and Himalayan blackberry.	
	Maintaining temperature: While the portion of the Segment adjacent to the river is fully forested, the size and landscape position of this forest relative to the entire length of the river in the City is very modest and therefore it is not attributed to providing a significant function to water temperature maintenance. The southern and eastern portions of Borst Lake likely benefit from reduced temperatures due to the angle of the sun and dense vegetation.	3
	Removing excess nutrients and toxic compounds: the lower bench in the eastern Segment has the opportunity to remove nutrients and toxics associated with sediment because of its landscape position in the CMZ. However, this same position means that those nutrients and toxics may be transported back into the flood waters in the next flood event if they are not broken down or taken up through biological processes between flood events. Borst Lake has no outlet and likely provides good storage for excess nutrients and toxic compounds that arrive through runoff or flood events.	4
	Sediment removal and bank stabilization: as noted above the entire Segment has the potential to entrap sediment based on the landscape position and the dense forested habitats. The forested condition on the right bank of the river assists with flood attenuation and flow rate reduction therefore it does function to improve bank stability.	4
	Attenuation of flow energy: Segment 11 will help attenuate flow energies due to its landscape position and dense vegetation along the shoreline, wetlands situated above the bank, and Borst Lake.	5
	Provision of LWD and organic matter: the forested portion of Segment 11 along the right bank of the river has the potential to contribute LWD and organic matter into the Snoqualmie. The dense forests provide a range of organic debris and the potential for LWD to be exported into the river system.	4

Hyporheic:		
Segment 11	**Summary:** the soils on the right bank of the river have not been disturbed other than for a few road crossings. The forested area between the right bank and the road is dominated by wetlands. Slightly inland from the forested right bank is a two-lane road. Borst Lake was likely modified many decades ago for logging use.	
	Removing excess nutrients and toxic compounds: the wetlands near the right bank are in more frequent contact with flood waters in the floodway. Thus material which is deposited here has less potential to remain long enough to be taken up by plants or broken down by biological processes. Borst Lake likely acts as a sink for storing nutrients and toxic compounds.	4
	Water storage: the wetlands near the right bank of the river and Borst Lake provide some flood storage. The forested area along the right bank is expected to be linked to the hyporheic zone from the upland forests up-basin, and thus to contribute to steam recharge.	4
	Support of vegetation: this Segment supports mature second and third growth forests throughout the majority of the Segment.	4
	Sediment storage and maintenance of base flows: the Borst Lake area of the Segment has a greater opportunity to store sediments for a longer period of time than the right bank of the river. Both sections of the Segment may contribute to base flows, particularly the riparian wetlands adjacent to the river.	4
Habitat:		
Segment 11	**Summary:** this Segment has a mixed coniferous/hardwood forest and wetland habitats adjacent to the river as well as Borst Lake and the surround uplands. It provides good habitat and critical terrestrial linkages between riverine, the lake, and expansive upland habitats. however, the forested wetlands along the right bank of the river and Borst Lake are separated by a road, which may adversely affect some terrestrial species susceptible to road traffic. The Borst Lake area is a known elk migration corridor.	
	Physical space and conditions for life history: The structurally diverse forest, lake, and floodplain habitats provide multiple opportunities for nesting, feeding, and refuge for a range of wildlife species.	5
	Food production and delivery: it is assumed that the native vegetation communities are an excellent source of food and primary productivity to Borst Lake, the river, and the associated wildlife in the corridor.	5

In July 2014, staff from the City of Snoqualmie and the Mountains to Sound Greenway hiked along the Snoqualmie River to gather field notes and recommend restoration priority levels for different sections of the proposed Snoqualmie Riverwalk, as shown on the next page.

Summary of Findings

In general, it is optimal to work on the South side of the River when there is ownership and opportunity – trees on this bank provide more shade on the River, due to the southern angle of the sun. In addition, conifer tree plantings are recommended when conditions are suitable; not only are they a more natural variety for this area but they retain foliage year-round, increasing the shade benefits of restoration.

When South bank plantings are not an option, a second priority is to remove invasive species. Invasive species are spreading, non-native plants that damage local ecosystems by both smothering young native plant growth, and potentially killing adult native plants by competing for light and soil.

In terms of invasive species management, the order of operations is generally:

1. Remove Ivy: Winter removal before summer seeding; only seeds when vertical in the canopy.

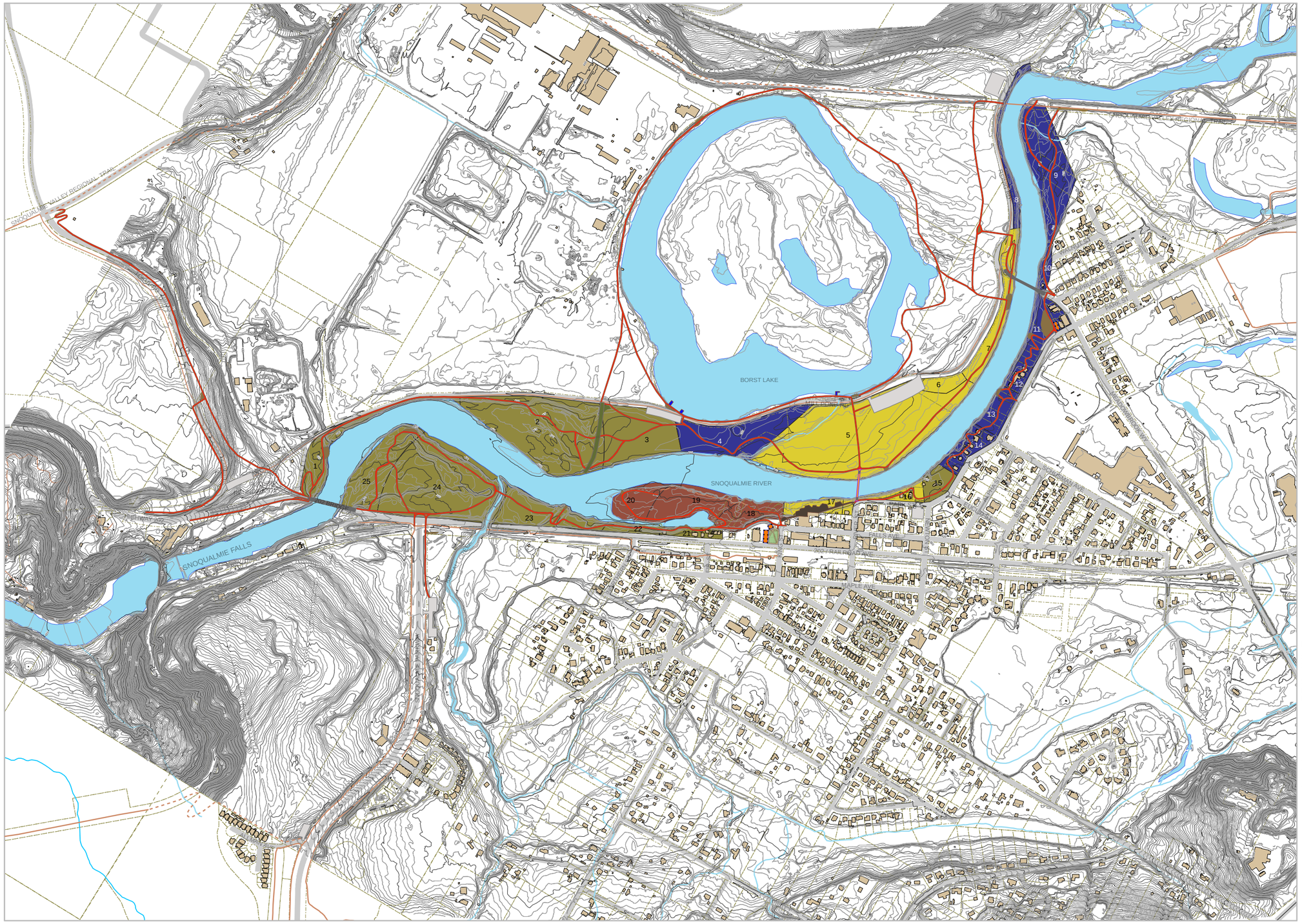
2. Remove Holly: Remove with implanted weed killer.

3. Plant Conifers: Focus on areas that lack existing seed sources.

4. Remove Knotweed: Coordinate removal with trained parties, as cutting increases proliferation.

When there is sufficient, contiguous area in public ownership, south-bank plantings should be prioritized along Park Street; east of the Meadowbrook Bridge; and the northern edges of both Sandy Cove Park and the Kimball Creek area as the River turns west. Planting should be coordinated with trail development, so as not to impact long-term views at full maturity. The second priority would be to remove invasive species between the road and the River in the Mill Pond area that are within 50 feet of the River, following coordination with the private landowners in this area.

However, restoration timing should acknowledge opportunities as they come. Buying private land for restoration, and even coordinating restoration with private land owners, can sometimes require lengthy time commitments. Some restoration opportunities may arise alongside other project foci, such as improving recreation amenities with Riverwalk Trail instalments, or reducing flood impacts. As open space in this River stretch is strongly interconnected, improving forest health by segments will improve the long-term health of the ecosystem overall.



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan with Restoration Areas

December 2014

Legend

- Proposed Riverwalk Trail
- Proposed Old Trestle Viewpoint
- Proposed Boardwalk
- Proposed Bridge
- Proposed Building
- Proposed Dock
- Proposed Viewpoint/Plaza
- Proposed Parking
- Planned Regional Trail
- Existing Trails
- Existing Roads
- Existing Bridge
- Existing Buildings
- Water
- Legal Lots & Parcels
- Snoqualmie City Limits
- Contours

Restoration Areas Priority Level

- Low
- Medium
- High-Medium
- High

Planning for:

City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet

Area #	Priority Level	Area Description	Justification of Priority Ranking	Deciduous	Conifer	Big Leaf Maple	Douglas Fir	Spruce	Cedar	Grand Fir	Hemlock	Ivy	Holly	Knotweed	Other
1	Low	A few conifers provide existence seed sources; might be too wet for conifers	Little room between roadway and riverbed	Medium	Low	N	N	N	N	N	N	N	N	Y	N
2	Low	High water table likely with wet soils and sedges. Young knotweed on sandbar; other invasives include tansy ragwort, purple loosestrife and butterfly bush along river. knotweed and blackberry along road.	Might be too wet for conifers; invasives presence relatively low	High	Low	Y	N	Y	Y	N	N	N	N	Y	Y
3	High-Medium	As deciduous transitions to thick conifer, the northern side of this area is relatively free of invasives, though site visits did find a patch of yellow archangel to the north. Further south you begin to see Holly and canopied Ivy take root. Tree presence is overly dense; selective thinning may be advisable if permitted. Some loosestrife tagged along road, along with blackberry and knotweed	Holly and Ivy can quickly damage coniferous ecology; move to remove if possible	Low	High	N	Y	N	N	Y	N	Y	Y	Y	Y
4	High	Area again transitions to deciduous. May be suitable for conifer planting. Blackberry & knotweed along road.	Ground may be dry enough for extensive conifer plantings; plant within 50 feet of river if at all possible	High	Low	Y	N	N	N	N	N	Y	Y	Y	Y
5	Medium	Grand fir stand with invasives presence.	Good condition but invasives presence	Low	High	N	N	N	N	Y	N	N	N	N	N
6	Medium	Mostly deciduous	Within 50 feet of river	Medium	Low	N	N	N	N	Y	N	N	N	N	N
7	Medium	Mostly deciduous	Within 50 feet of river	Medium	Low	N	N	N	N	Y	N	N	N	N	N
8	High	Little conifer presence; ground appears dry enough to support conifer plantings	South bank planting would increase river shade, which makes planting this area a high priority	High	Low	N	N	N	N	N	Y	N	N	N	N
9	High	Little conifer presence, some gaps could be filled	South Bank plantings increase river shade	Low	High	N	N	N	N	N	Y	N	N	N	N
10	High	Little conifer presence; when viewpoints have been established conduct restoration	South Bank plantings increase river shade	Low	Low	U	U	U	U	U	U	N	N	N	N
11	High	Little conifer presence; when viewpoints have been established conduct restoration	South Bank plantings increase river shade	Low	Low	U	U	U	U	U	U	N	N	N	N
12	High	Little conifer presence; when viewpoints have been established conduct restoration	South Bank plantings increase river shade	Low	Low	U	U	U	U	U	U	N	N	N	N
13	High	Little conifer presence; when viewpoints have been established conduct restoration	South Bank plantings increase river shade	Low	Medium	U	U	U	U	U	U	N	N	N	N
14	High	Little conifer presence; when viewpoints have been established conduct restoration	South Bank plantings increase river shade	Low	Low	U	U	U	U	U	U	N	N	N	N
15	Low	Established Park area; little restoration expansion capacity	Little restoration expansion capacity	Low	Low	U	U	U	U	U	U	N	N	Y	N
16	Medium	Varying room available for restoration, open space area filled with blackberry, some knotweed spotted	No longer a south bank though within 50 feet of river	Low	Low	U	U	U	U	U	U	N	N	N	Y
17	Medium	Open space area filled with blackberry; may be dry enough for conifer planting	No longer a south bank though within 50 feet of river	Low	Low	U	U	U	U	U	U	N	N	N	Y
18	Medium-High	Established park though back natural area. Unknown if ground too wet for conifers, though may support plantings	May be suitable for conifer planting;	High	Low	U	U	U	U	U	U	N	N	Y	N
19	Medium-High	Unknown if ground too wet for conifers, though may support plantings	May be suitable for conifer planting;	High	Low	U	U	U	U	U	U	N	N	N	N
20	High-Medium	Unknown if ground too wet for conifers, though may support plantings	May be suitable for conifer planting; sand spit creates a south bank	High	Low	U	U	U	U	U	U	N	N	N	N
21	Medium	Unknown if ground too wet for conifers, though may support plantings. Narrow stretch.	No longer a south bank though within 50 feet of river	Medium	Medium	U	U	U	U	U	U	N	N	Y	N
22	Medium	Unknown if ground too wet for conifers, though may support plantings. Narrow stretch.	No longer a south bank though within 50 feet of river	Medium	Low	U	U	U	U	U	U	N	N	Y	N
23	Low	Decent conifer presence	Decent existing conifer presence	Medium	High	Y	U	Y	Y	U	U	N	N	N	N
24	Low	Decent conifer presence	Decent existing conifer presence	Medium	High	Y	U	U	U	U	U	N	N	N	N
25	Medium-Low	A few conifers provide seed sources; might be too wet for conifers on the northely part of this strectch	Might be too wet, but area not well-investigated. Warrants exploration.	Medium	Low	Y	U	U	U	U	U	N	N	N	N

SUMMARY OF THE SANDY COVE BANK RESTORATION PROJECT PROPOSED BY NHC (NORTHWEST HYDRAULIC CONSULTANTS), 2014

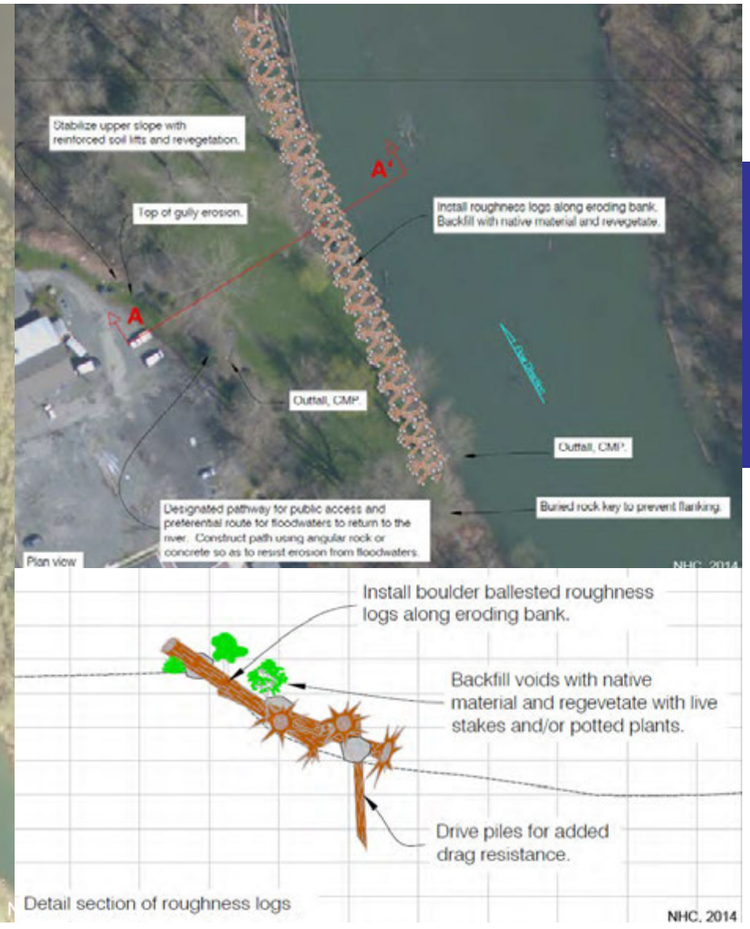
The use of roughness logs (Alternative L1) at the lower bank and a combination of live planting stakes (Alternative U1) as well as pedestrian access and flood recession path armoring (Alternative U3) was selected as the preferred project concept. Roughness logs alternative L1 was selected because it allows the cost of the project to be minimized without jeopardizing the long term stability of the bank. At the upper bank, a combination of live planting stakes and a preferred pedestrian access route serves to deter pedestrian impacts to the bank while also increasing stability of the soil. The preferred pedestrian access route should be constructed at a low point so that it serves as a preferred flow path when flood waters recede from the upper portion of the floodplain (NHC, 2014).

Upper Bank:
- Lies between gravel parking and park.
- About 12 to 15 feet high, 100 feet long. 2h:1v.
- Fluvial deposit silt, gravely sands.

Lower Bank:
- 8 to 10 feet high.
- South end of the park, gradually decreases to a few feet high at the north end of the park.
- Silt and fine sand. deposit increase in gravel content with downstream distance.

Solution Selected for the Lower Bank Stabilisation: Alternative L1: Roughness Logs

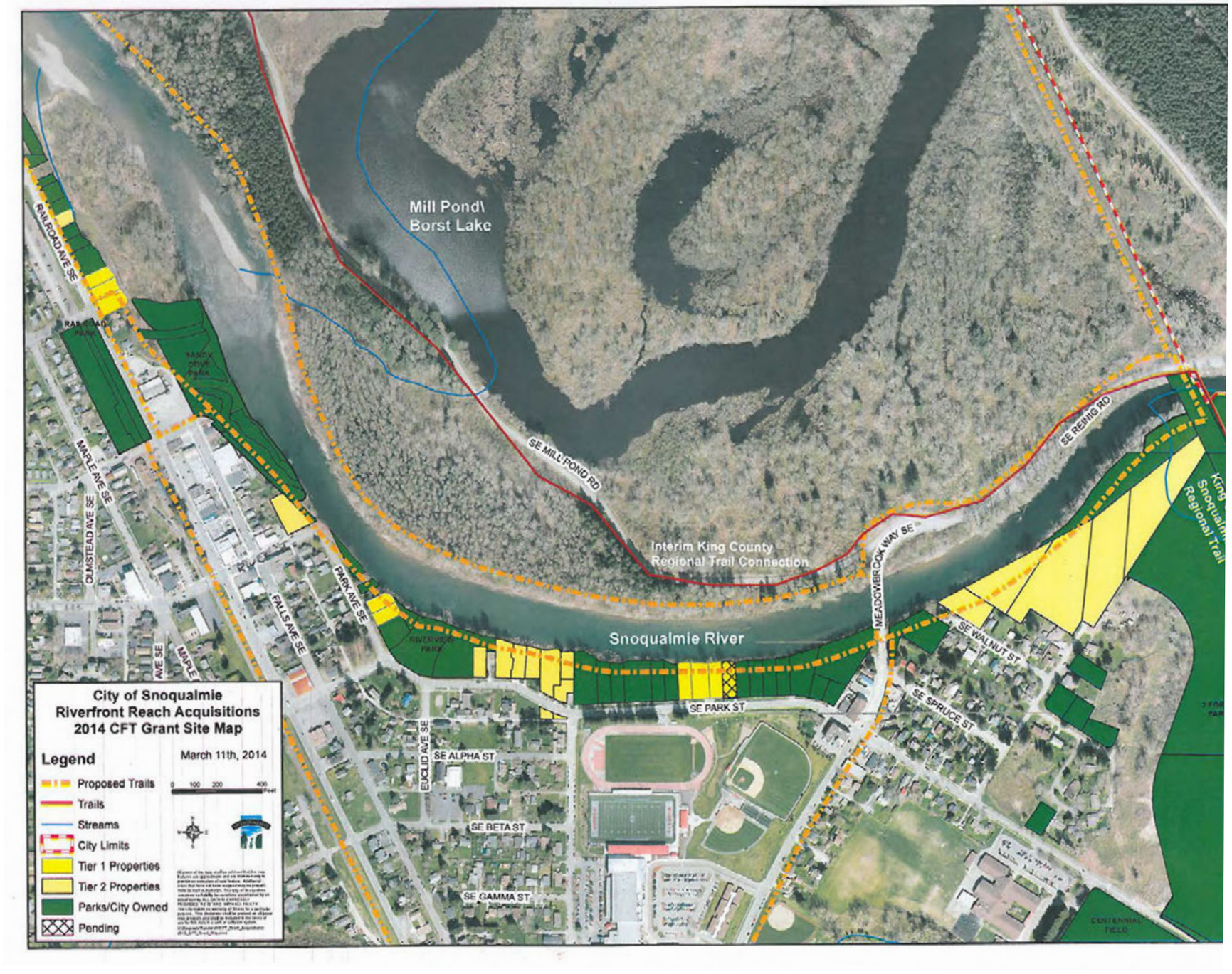
Stabilize the bank with boulder ballasted roughness logs placed in front of and on the bank slope. Each log would be individually ballasted (not tied to other logs). Individually ballasted logs require more boulder ballast to achieve stability, but the benefit is that if a log breaks loose, it can do so individually. Some bank resloping would be beneficial, but not much is needed. Once the logs are in place, timber piles would be driven at key locations to provide added drag resistance. The logs would not be secured to the piles so that they may adjust with scour. Native material could be backfilled between voids and live stakes or nursery stock installed to help establish a riparian edge. We expect that over time, sediment will deposit between the logs and a more gradual bank slope will return (NHC, 2014).

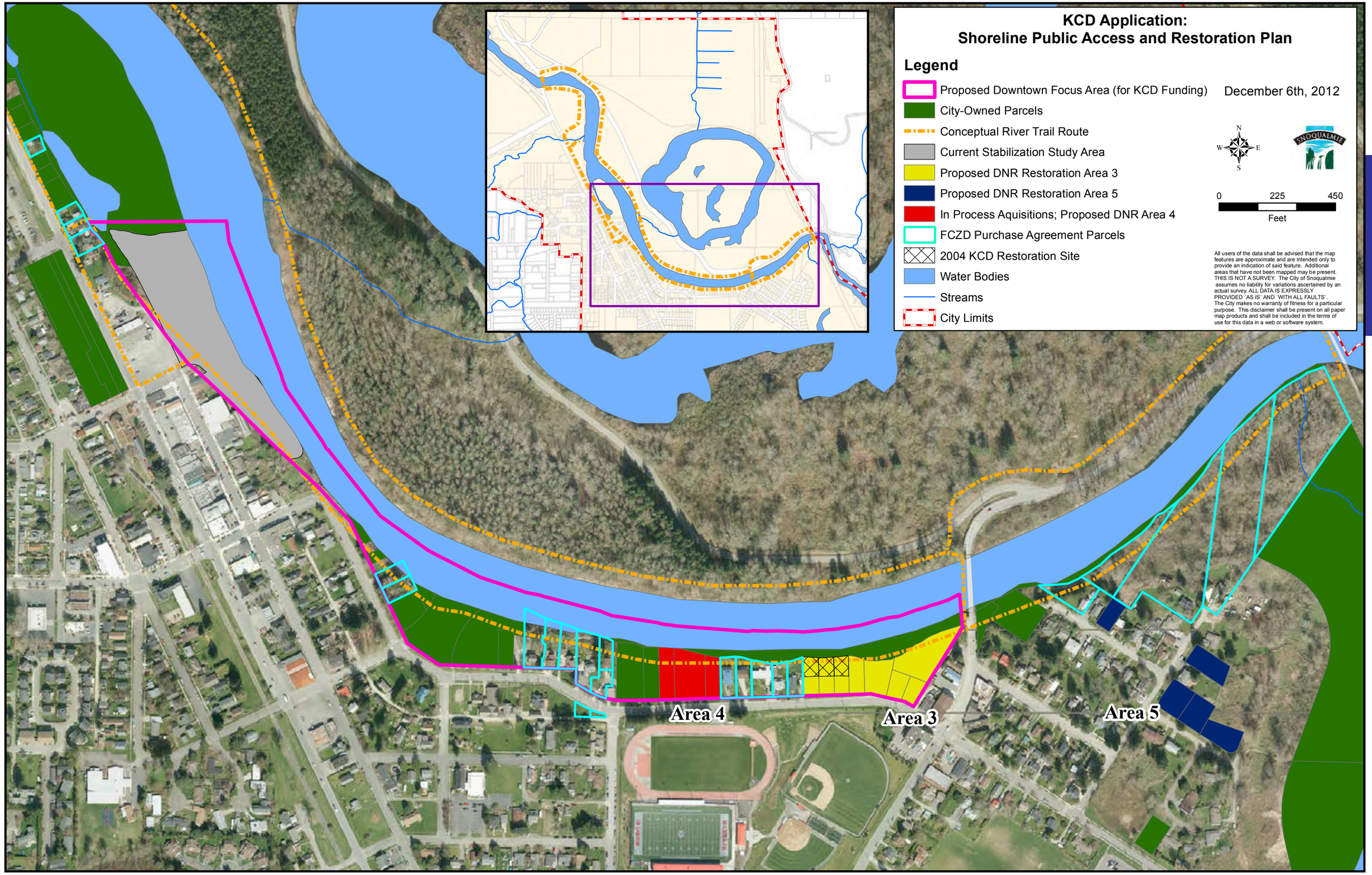


Solutions Selected for the Upper Bank :
Combination of Alternative U1: Live Planting Stakes and Alternative U3: Pedestrian Access and Flood Water Recession Armoring

U1 – Live Planting Stakes.
Uses live planting stakes to stabilize the upper bank.
Once the live stakes start growing, they will deter pedestrian use, lower velocities and stabilize the bank.

U3 – Pedestrian Access and Flood Water Recession Armoring.
This alternative provides a designated path for pedestrian access and flood waters to return to the river. The path should be well armored with angular rock or concrete (i.e. a staircase) so as to resist erosion and be constructed at a local depression in the bank line, making it the preferred path for flood waters to return to the river – rather than over untreated portions of the bank as it currently does (NHC, 2014).


Mill Pond\
Borst Lake
Interim King County
Regional Trail Connection
Snoqualmie River
RAILROAD AVE SE
MAPLE AVE SE
OLMSTEAD AVE SE
FALLS AVE SE
PARK AVE SE
SE MILL POND RD
SE REINIG RD
MEADOWBROOK WAY SE
SE WALNUT ST
SE SPRUCE ST
SE PARK ST
EUCLID AVE SE
SE ALPHA ST
SE BETA ST
SE GAMMA ST
RIVERVIEW PARK
CENTENNIAL FIELD
City of Snoqualmie
Riverfront Reach Acquisitions
2014 CFT Grant Site Map
Legend
March 11th, 2014
Proposed Trails
Trails
Streams
City Limits
Tier 1 Properties
Tier 2 Properties
Parks/City Owned
Pending


KCD Application:
Shoreline Public Access and Restoration Plan
Legend
Proposed Downtown Focus Area (for KCD Funding)
City-Owned Parcels
Conceptual River Trail Route
Current Stabilization Study Area
Proposed DNR Restoration Area 3
Proposed DNR Restoration Area 5
In Process Aquisitions; Proposed DNR Area 4
FCZD Purchase Agreement Parcels
2004 KCD Restoration Site
Water Bodies
Streams
City Limits
December 6th, 2012
N
W
E
S
0
225
450
Feet
All users of the data shall be advised that the map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. THIS IS NOT A SURVEY. The City of Snoqualmie assumes no liability for variations ascertained by an actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The City makes no warranty of fitness for a particular purpose. This disclaimer shall be present on all paper map products and shall be included in the terms of use for this data in a web or software system.
Area 4
Area 3
Area 5

ID	Owner	Address	Acres	Lineal River Ft	Status/Funders
1	Jaylene E & Brian P Lisle	8202 PARK AVE SE	0.17	66	FCD Only
2	Carolee E Sellers (Johnson)	8220 PARK AVE SE	0.17	63	FEMA (?)/FCD
3	Nichole & Michelle Walstrom	39112 SE PARK ST	0.36	84	FCD Only
4	Snoqualmie Huang LLC	39130 SE PARK ST	0.27	63	FEMA (?)/FCD
5	Mark R & Reena B Goforth	39154 SE PARK ST	0.25	63	FCD Only
6	Richard A & Karen D Clark	39170 SE PARK ST	0.47	95	FCD Only
7	William H Guyer	39192 SE PARK ST	0.14	62	FCD Only
8	Clark	Not Assigned	0.17	60	FCD Only
9	Steven Crabb	39254 SE PARK ST	0.29	64	Acquired
10	James A. Porterfield	39282 SE PARK ST	0.51	121	Acquired
11	James A. Porterfield		0.22	58	Acquired
12	Matt & Jaynae Stone	39326 SE PARK ST	0.22	64	Acquired
13	Jeanne M Large	39348 SE PARK ST	0.21	64	FEMA (?)/FCD
14	Jeanne M Large & Fred Herzberg	39382 SE PARK ST	0.25	80	FEMA (?)/FCD
15	Erin & Jerrit Venable (Clegg)	39390 SE PARK ST	0.18	62	FEMA (?)/FCD
16	Lisa Thompson	39414 SE PARK ST	0.19	64	FEMA (?)/FCD
17	Donald Warren	7702 RAILROAD AVE SE	0.09	78	FCD Only
18	Jaclyn A Roth	7780 RAILROAD AVE SE	0.12	64	FEMA (?)/FCD
19	Mr. & Mrs. Hailstone	7802 RAILROAD AVE SE	0.12	60	FEMA (?)/FCD
20	Gregory S Fooks	7830 RAILROAD AVE SE	0.18	90	FEMA (?)/FCD
201	Rolo & Diane Sandoval	8125 MAPLE AVE SE	0.16	59	FEMA (?)/FCD
202	Richard & Victoria Bastedo	38810 SE RIVER ST	0.39	192	No Present Funder

City of Snoqualmie Floodprone Acquisition Map

Legend

- FEMA Acquisition Properties (Pending)
- Acquired in 2013
- Target Flood Mitigation Properties
- CityProperty
- City Limits

N W E S

Data Sources:
King County GIS
City of Snoqualmie

Map produced on:
Dec. 2nd, 2013

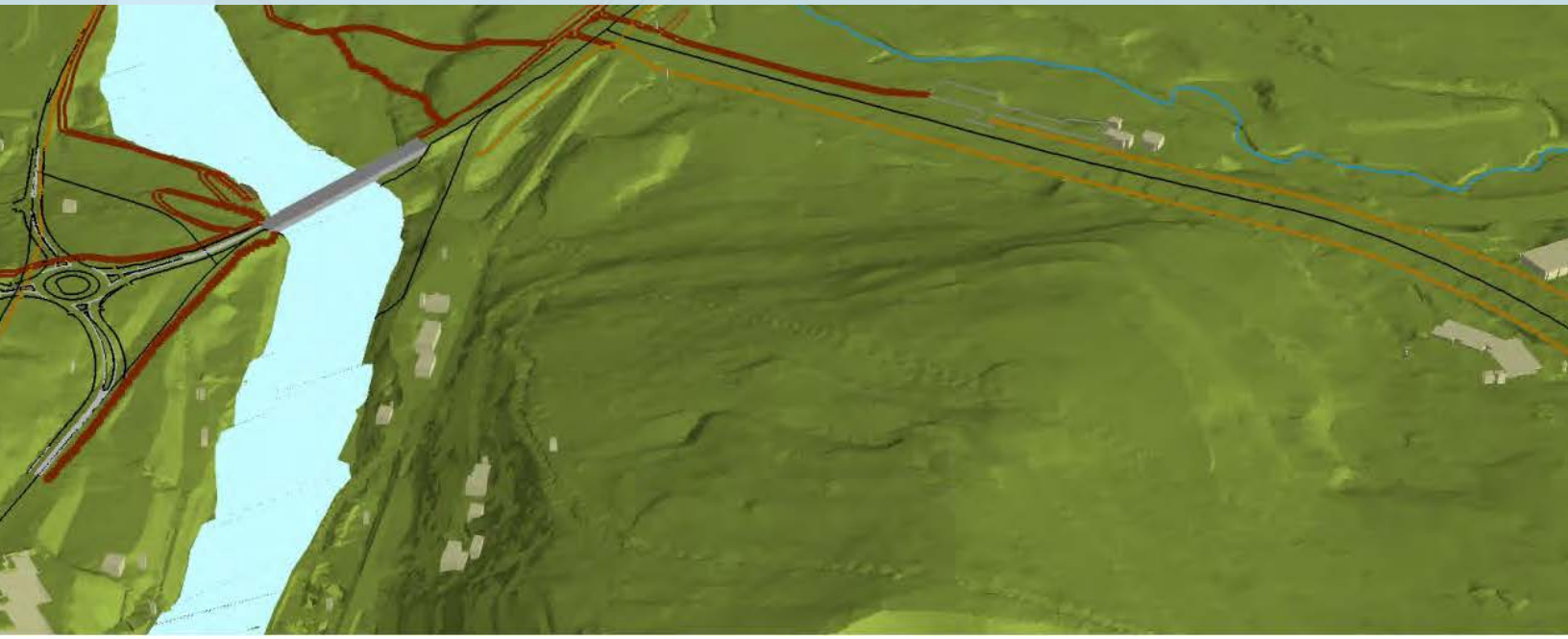
0 150 300 600 Feet

Z:\IT\GIS\GIS_Data\Planning\Other_projects\CFT_Grant_Acquisitions_12022013.mxd

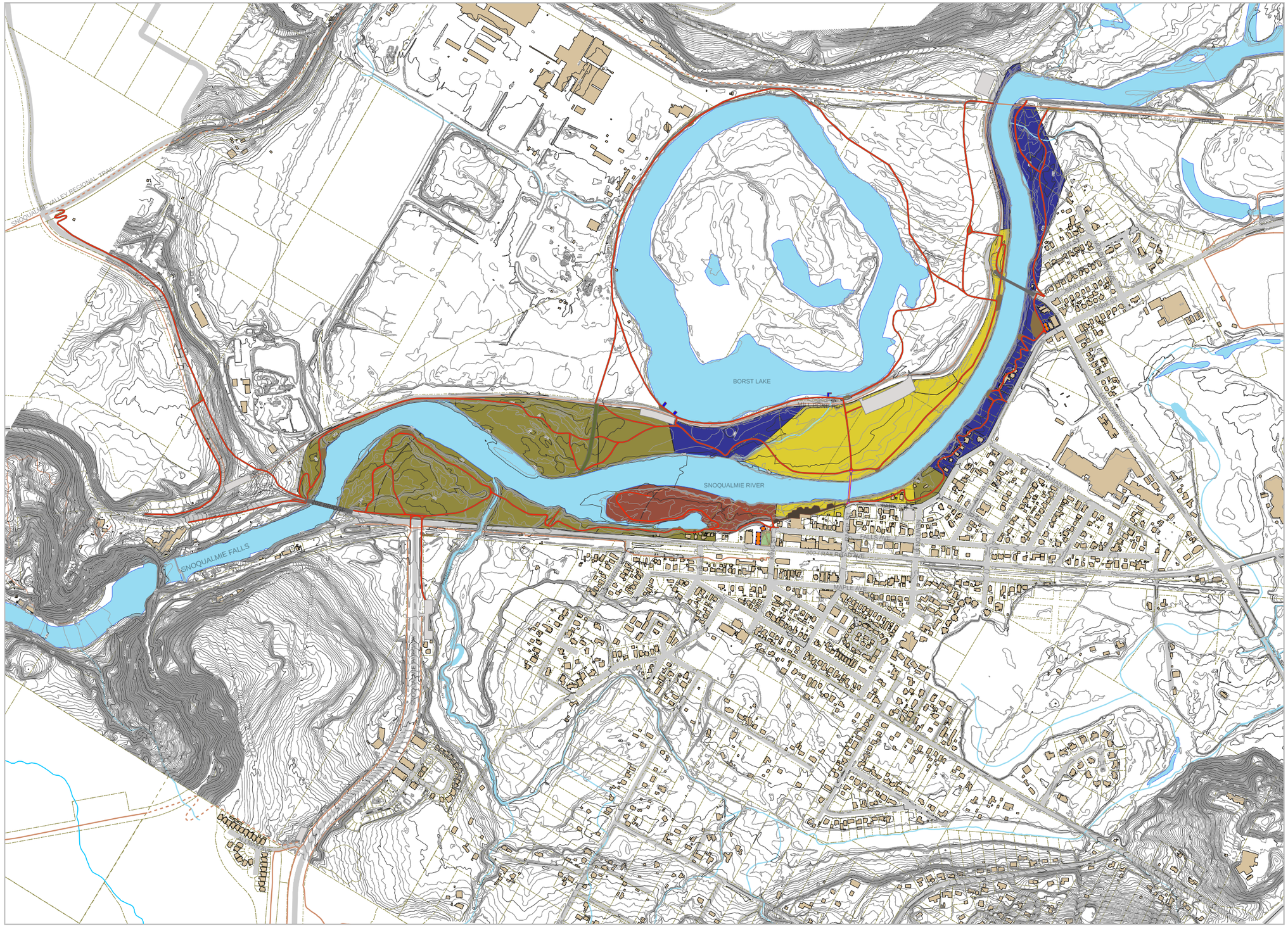
Total City-Owned Riverfront Acres
9.47

Total City-Owned Lineal River Ft.
3002

APPENDIX 2 : RIVERWALK PLANS



This page is intentionally left blank



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan with Restoration Areas

December 2014

Legend

- Proposed Riverwalk Trail
- Proposed Old Trestle Viewpoint
- Proposed Boardwalk
- Proposed Bridge
- Proposed Building
- Proposed Dock
- Proposed Viewpoint/Plaza
- Proposed Parking
- Planned Regional Trail
- Existing Trails
- Existing Roads
- Existing Bridge
- Existing Buildings
- Water
- Legal Lots & Parcels
- Snoqualmie City Limits
- Contours

Restoration Areas Priority Level

- Low
- Medium
- High-Medium
- High

Planning for:

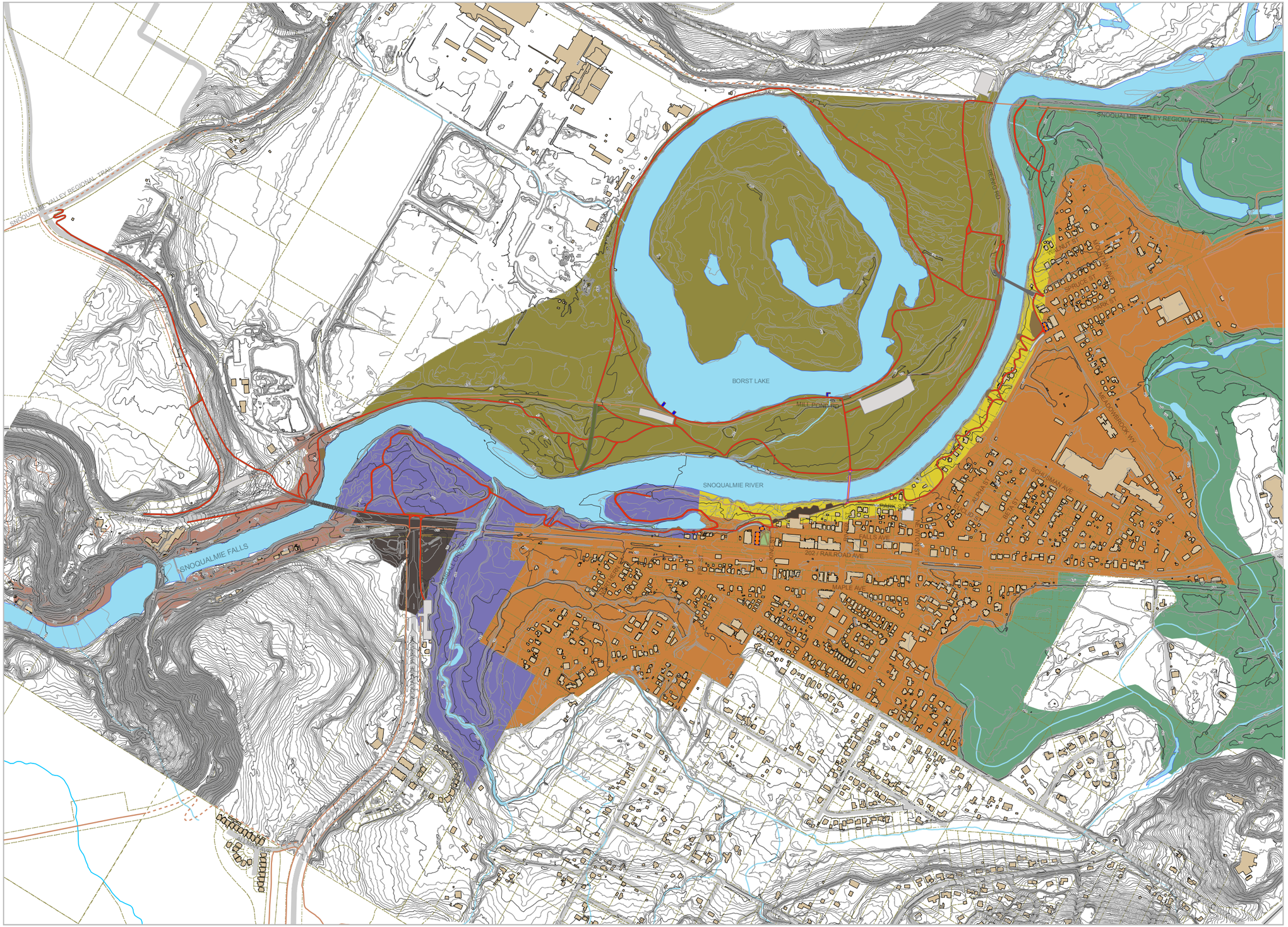
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet



Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan and Shoreline Inventory

December 2014

Legend

- Proposed Riverwalk Trail
- Proposed Old Trestle Viewpoint
- Proposed Boardwalk
- Proposed Bridge
- Proposed Building
- Proposed Dock
- Proposed Viewpoint/Plaza
- Proposed Parking
- Planned Regional Trail
- Existing Trails
- Existing Roads
- Existing Bridge
- Existing Buildings
- Water
- Legal Lots & Parcels
- Snoqualmie City Limits
- Contours

Shoreline Inventory Segments

- Segment 2
- Segment 4
- Segment 5
- Segment 6
- Segment 7A
- Segment 8
- Segment 11

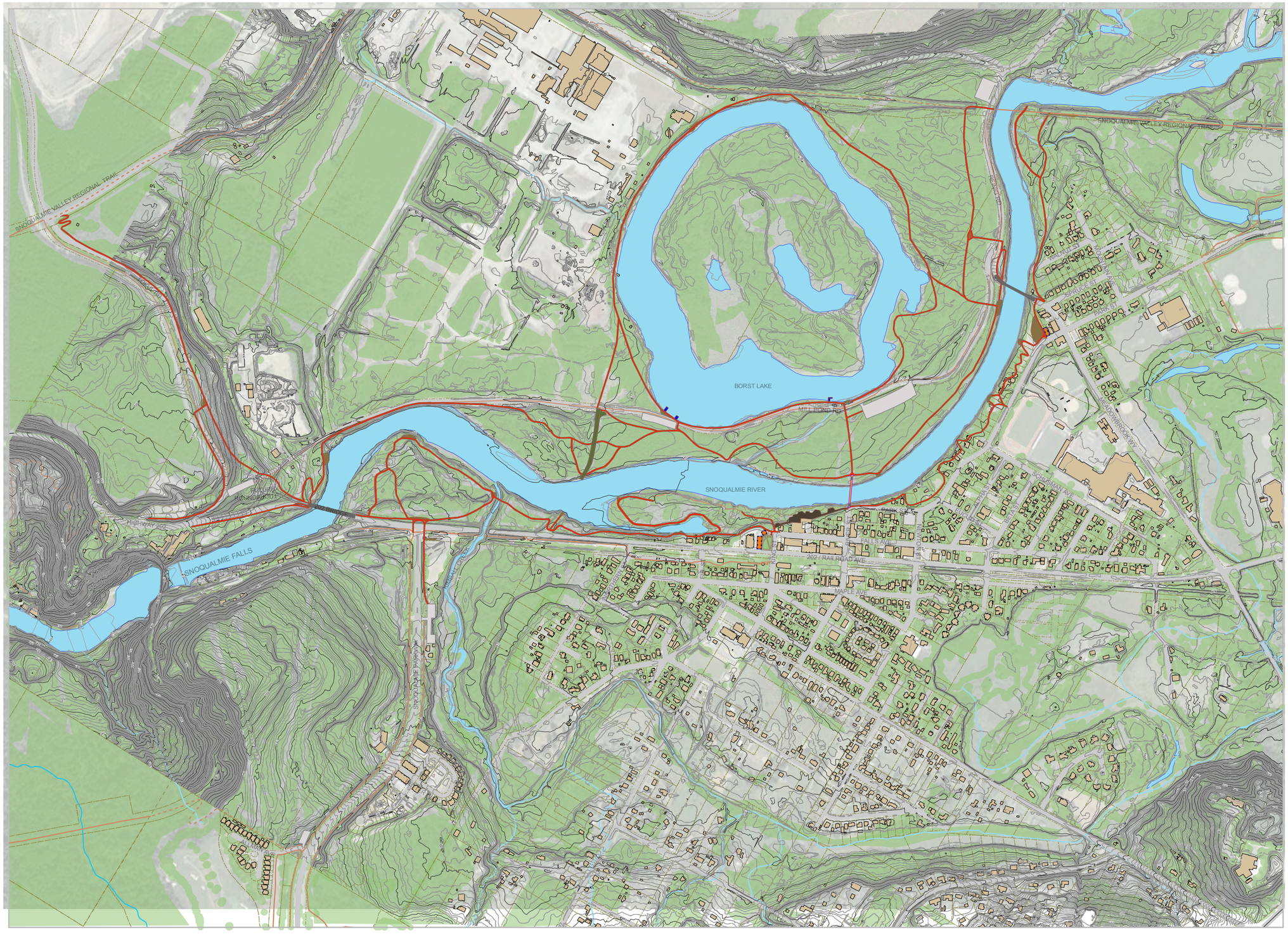
Planning for:
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:
BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

N

0 225 450 675 900 Feet



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan

December 2014

Legend

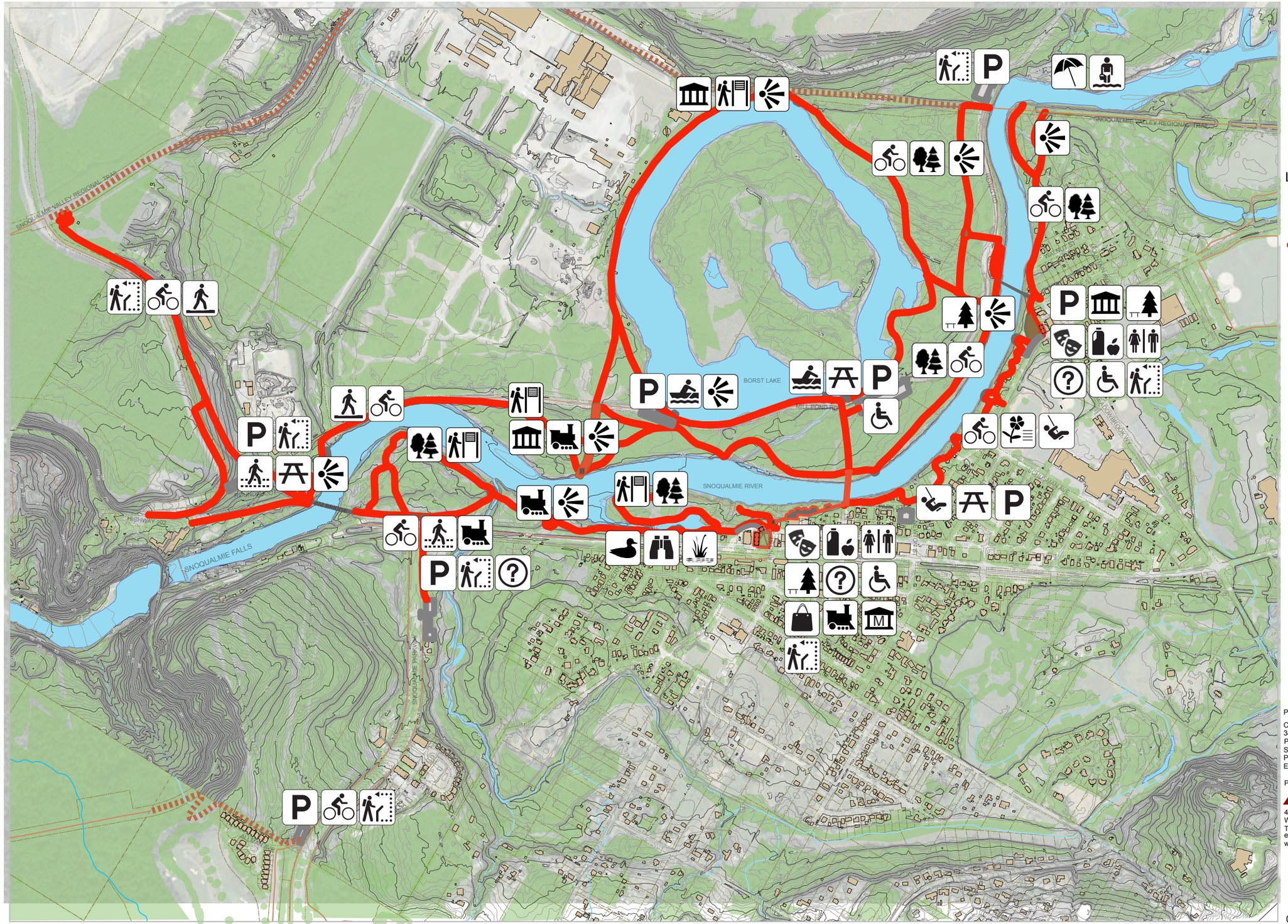
- Proposed Riverwalk Trail
- Proposed Old Trestle Viewpoint
- Proposed Boardwalk
- Proposed Bridge
- Proposed Building
- Proposed Dock
- Proposed Viewpoint/Plaza
- Proposed Parking
- Planned Regional Trail
- Existing Trees
- Existing Trails
- Existing Roads
- Existing Bridge
- Existing Buildings
- Water
- Legal Lots and Parcels
- Snoqualmie City Limits
- Contours

Planning for:
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:
BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
Fax: 604 938 1161
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan
Land Use, Amenities & Facilities

December 2014

Legend

- Riverwalk
- Wayfinding
- Cycling
- Pedestrian
- Interpretative Signs
- Parking
- Beach area
- Wading
- Historical Landmark
- Playground
- Railroad History
- Information Kiosk
- Pedestrian Crossing
- Picnic Area
- Rest Area
- Universal Access
- Viewpoint
- Waterfowl
- Wildlife Watching
- Wetland Area
- Forest Area
- Garden & Arboretum
- Art and Culture
- Retail
- Food & Drinks
- Restroom
- Non-motorised Boating

Planning for:

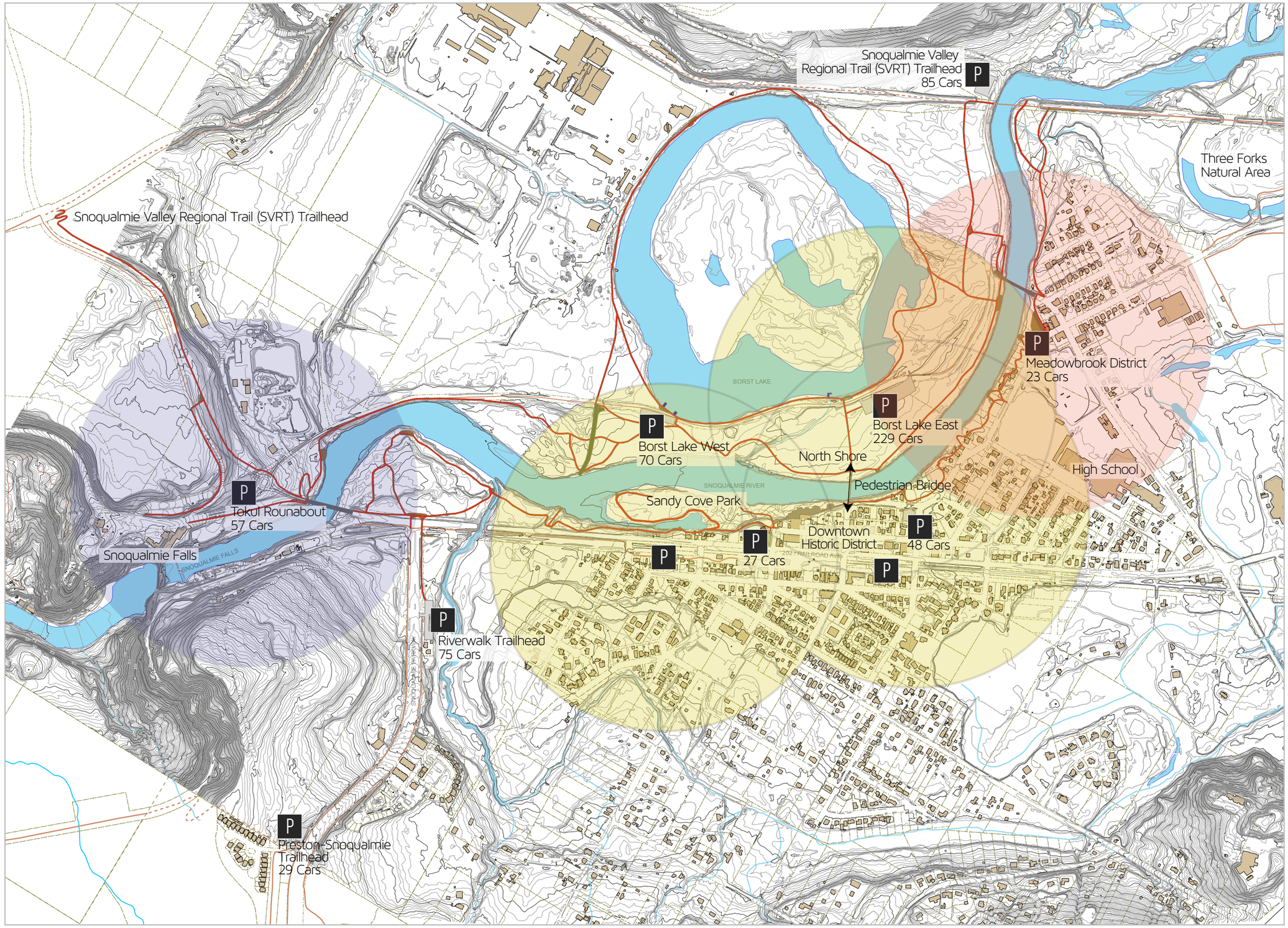
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet



Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan

Parking Plan

December 2014

Legend

- Proposed Parking Zone
- Proposed Riverwalk Trail
- Proposed Pedestrian Bridge
- Proposed Parking
- Planned Regional Trail
- Potential parking area; Walking Radius (1200 feet)

Planning for:

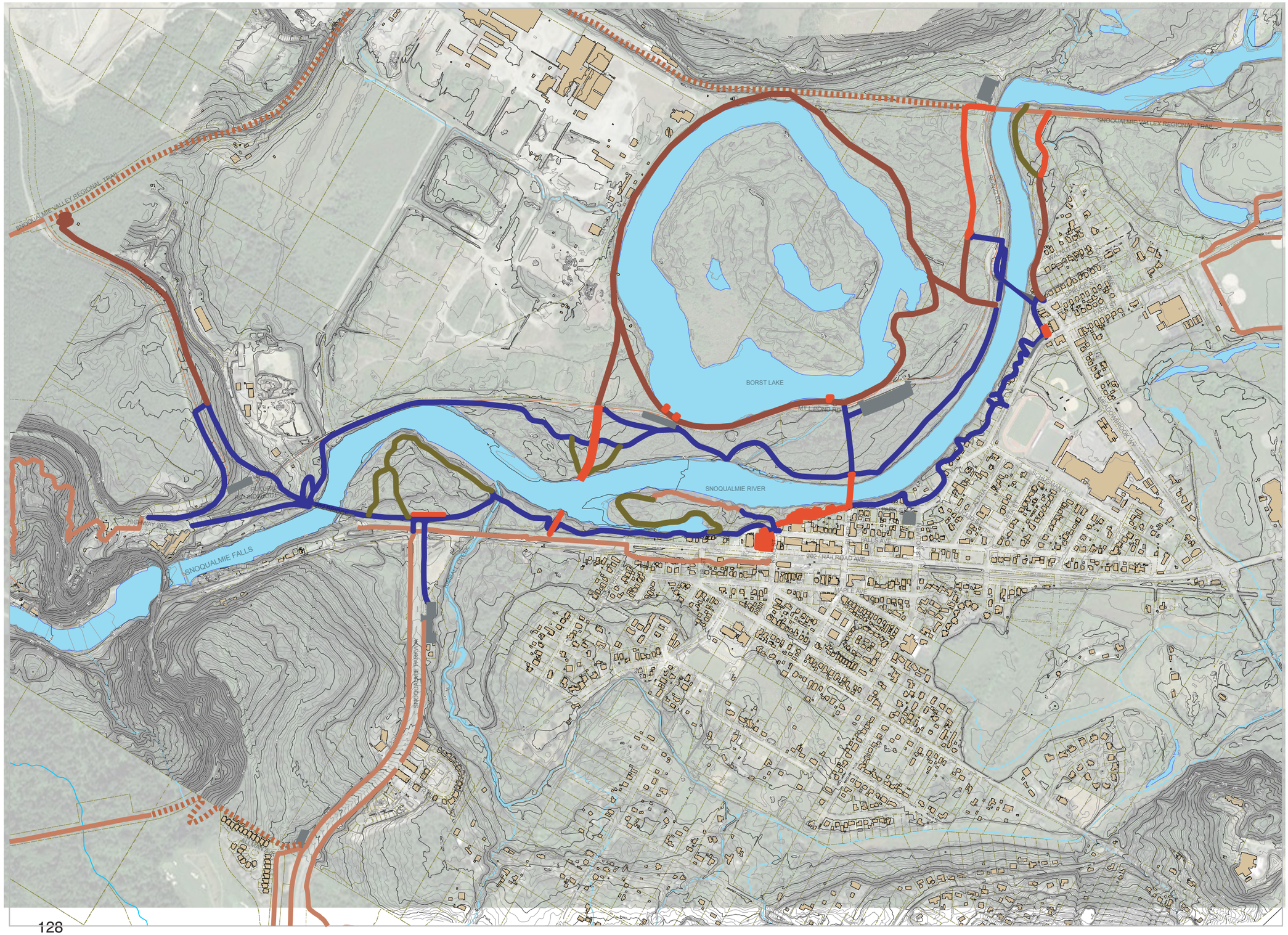
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan
Trail Types

December 2014

Legend

- Prime Riverwalk Trails
- Secondary Riverwalk Trails
- Nature Trails
- Riverwalk Signature Elements
- Planned Regional Links
- Existing Trails

Planning for:

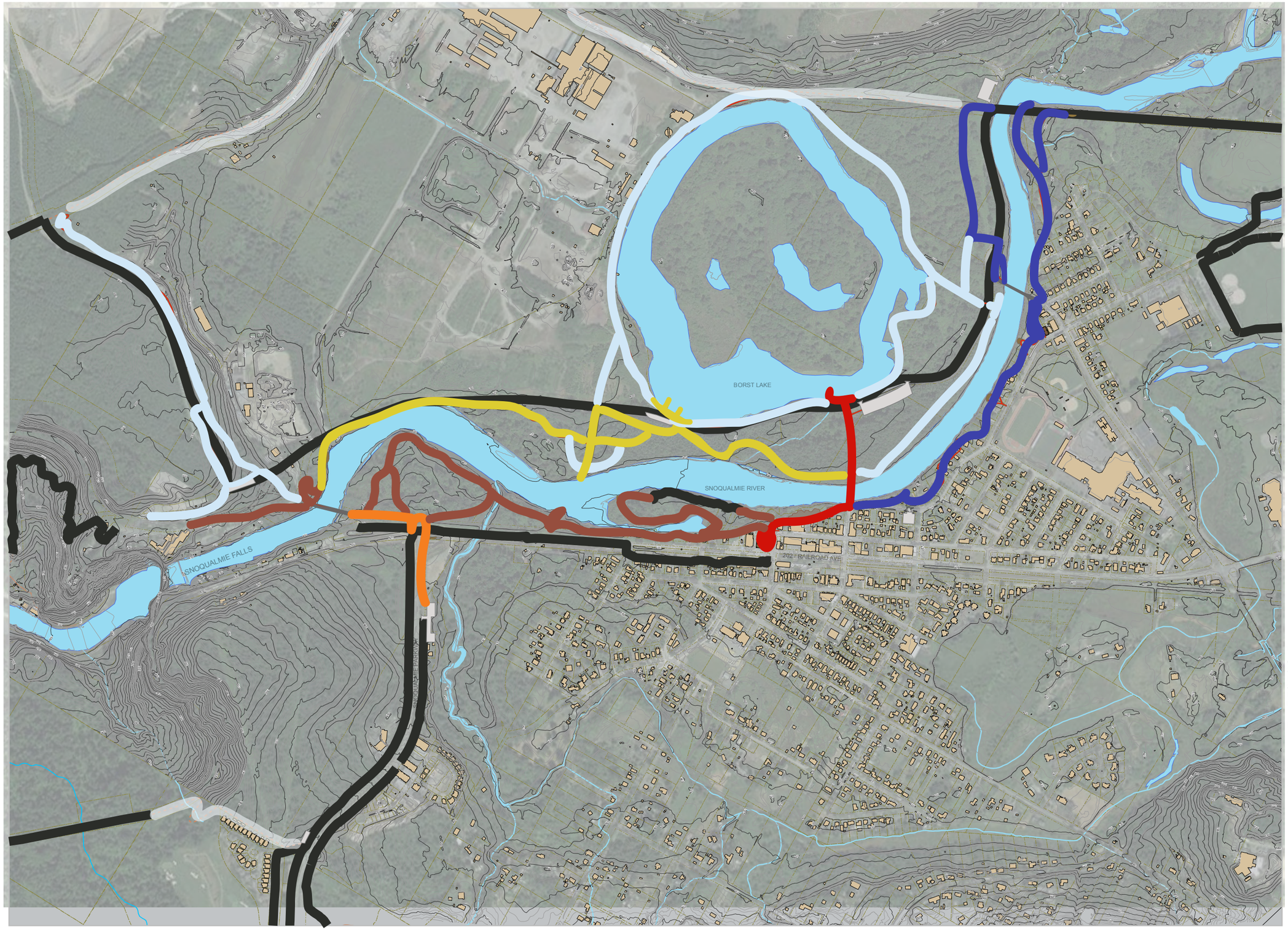
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie, WA

Riverwalk Master Plan

Phasing Strategy

November 2014

Legend

- Phase I
- Phase II
- Phase III
- Phase IV
- Phase V
- Phase VI
- Planned Regional Trails
- Existing Trails

Planning for:

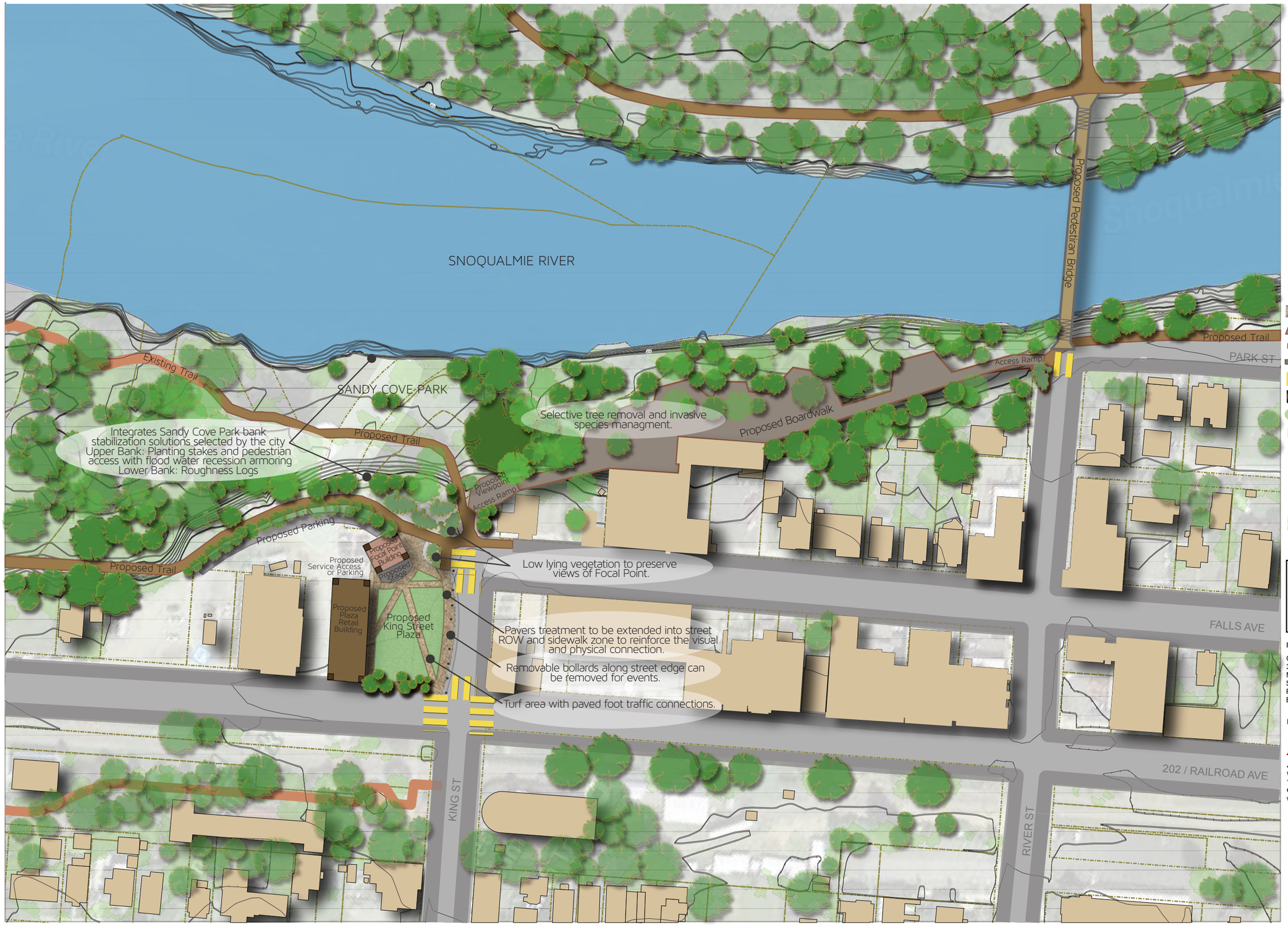
City of Snoqualmie
38624 SE River St.
PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour interval 2ft

0 225 450 675 900 Feet



CITY OF SNOQUALMIE

Snoqualmie Riverwalk
Snoqualmie
Washington

Downtown Master Plan

December 2014

Legend

- Proposed Plaza
- Proposed Boardwalk
- Proposed Riverwalk
- Proposed Pedestrian Bridge
- Proposed Crosswalk
- Proposed Buildings
- Vegetation
- Existing Trails
- Existing Roads
- Existing Sidewalk
- Existing Building
- River
- Legal Lots & Parcels
- Contours

Disclaimer

The intent of this plan is to illustrate the proposed spatial relationship for the downtown structures. Engineering, geo-technical assessment and drainage design must be completed and approved prior to construction.

Planning for:

City of Snoqualmie
38624 SE River St.
Mailing: PO Box 987
Snoqualmie, WA 98065
Phone: (425) 888-1555
Email: info@ci.snoqualmie.wa.us

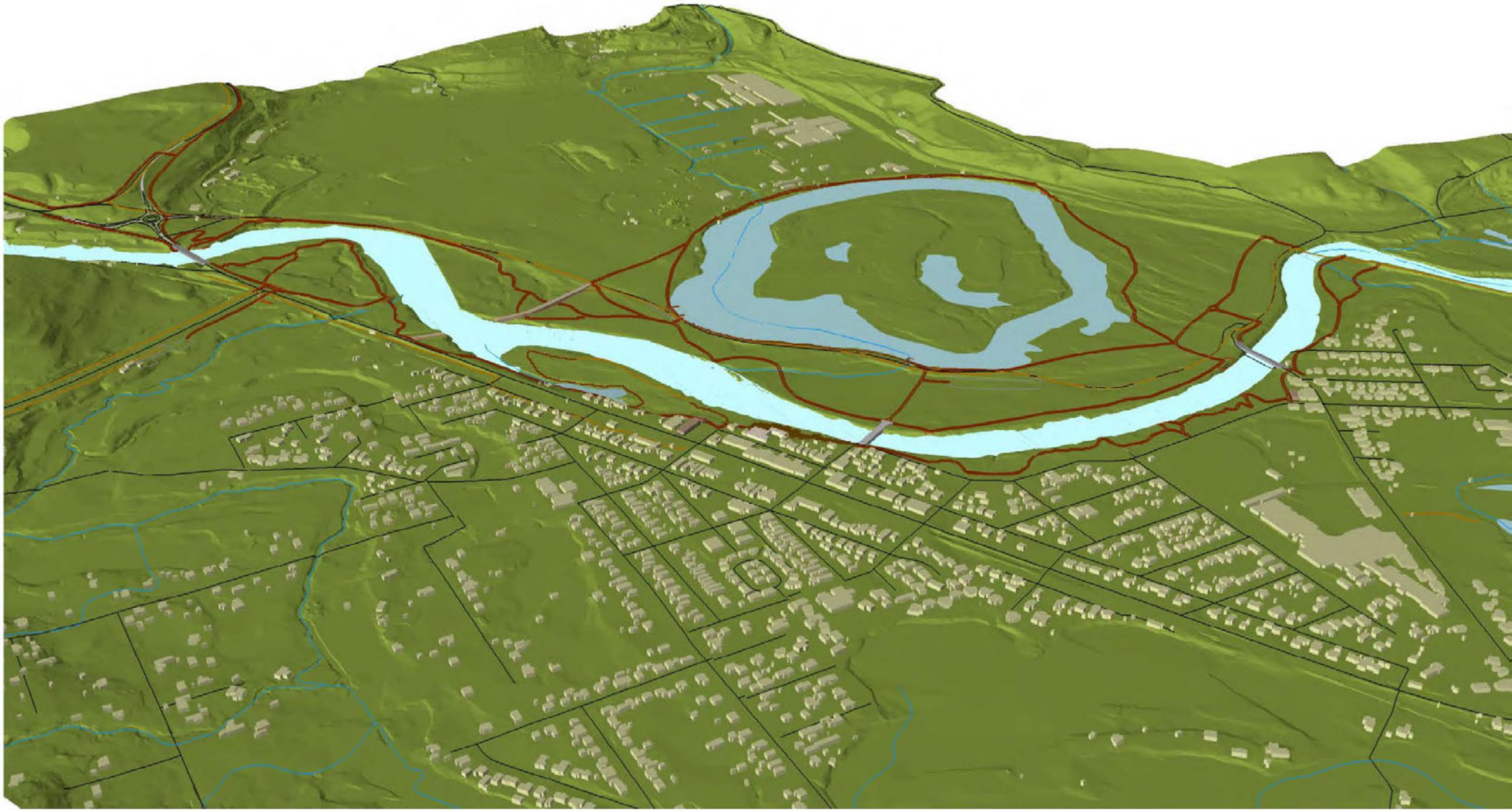
Planning by:

BHA
BRENT HARLEY & ASSOCIATES
4-1005 Alpha Lake Road,
Whistler, BC, Canada. V0N 1B1
Tel: 604 932 7002
email: bha@brentharley.com
www.brentharley.com

Contour Interval 2ft

N

Feet
0 25 50 100 150



This page is intentionally left blank