



NICOMEKL RIVERFRONT PARK

MANAGEMENT PLAN

 2020

SURREY PARKS

Connecting through nature + play

IN PARTNERSHIP WITH:

 **PFS STUDIO**



THE CITY OF SURREY ACKNOWLEDGES THAT IT SITS ON THE UNCEDED TRADITIONAL TERRITORY OF THE COAST SALISH PEOPLE, INCLUDING KATZIE, KWANTLEN AND SEMIAHMOO

ACKNOWLEDGEMENTS

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The City of Surrey Nicomekl Riverfront Park project team would like to thank the 1300+ residents, First Nations, Stakeholders and partners who participated in the Nicomekl Riverfront Park planning phase, including:

Surrey Residents

First Nations
Kwantlen First Nation
Semiahmoo First Nation

Stakeholders, Agencies, Organizations and Academic

Birds on the Bay
Crescent Road Corridor Community Residents Association
Department of Fisheries and Oceans (DFO)
Ducks Unlimited Canada
Friends of Semiahmoo Bay
Friends of Semiahmoo Heritage Trail
Green Timbers Heritage Society
Little Campbell Watershed Society
Nicomekl Enhancement Society
Nicomekl Rowing Club
Ocean Park Tree Committee (O. P. Beautification Committee)
RESCUE (Residents of Elgin Saving Creeks from Urban Effects)
Rotary (White Rock)
Semiahmoo Fish and Game Club
Surrey Environmental Partners
Surrey Historical Society
UBC School of Architecture and Landscape Architecture

Fig. 1. (Cover photo) Nicomekl River and paddleboarder (City of Surrey).

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Fig. 2. Nicomekl River and area, looking south (City of Surrey).

EXECUTIVE SUMMARY

Surrey envisions the [Nicomekl Riverfront Park](#) as a significant ecological corridor within the city that maintains biodiversity and protects habitat connectivity while managing for human access along the river and park. Habitat protection and enhancement is the primary objective of the park. Public access throughout the park is achieved by a natural riverfront pathway experience along the 3km length of the park with blueway access points for kayaks, canoes and paddleboards. The park will be a new destination for walking, cycling, paddling, play, nature and heritage interpretation, education, public art, and community gathering. The challenge in managing the Nicomekl Riverfront Park is to find the appropriate balance between protecting the natural environment and allowing public access.

The planned approach is to:

1. Provide low-impact public access opportunities.
2. Monitor the impact of public use on the area and adapt if necessary.
3. Manage the park using adaptive management strategies that are responsive to the dynamic nature of the natural riverfront environment due to sea level rise and coastal flooding.

To maintain this balance between protecting natural areas and allowing public access, park programs and interpretation will encourage a strong connection and stewardship of the park. Art, heritage and cultural experiences will provide learning opportunities to connect users to the parks' past and future and nurture reconciliation with First Nations. Detailed supplementary information about Environment, Heritage, Public Art, and public consultation can be found in the four (4) *Companion Documents* in Appendix I. These documents inform and support the Management Plan and are referenced throughout.

- Nicomekl River Environmental Assessment Report, by Diamond Head Consulting;
- Nicomekl Riverfront Park Heritage Plan, by Denise Cook Design;
- Nicomekl Riverfront Park Public Art Strategy, by Lynne Werker; and
- Nicomekl Riverfront Park Public Consultation Summary, by PFS Studio.

Several Surrey policy documents also inform and support the Management Plan and are referenced throughout. These documents are referred to as *Related Documents* can be found in Appendix II.

The Nicomekl Riverfront Park Management Plan includes twelve (12) **Park Objectives**, twenty-two (22) **Design Initiatives** and twenty (20) **Management Strategies** related to ecological connectivity and restoration, a regional pathway system with neighbourhood connections, view points, passive recreation opportunities, washrooms, parking, kayak/canoe launch points, interpretation, heritage, public art, and coastal flood mitigation. It is important that these diverse **Park Objectives**, **Design Initiatives**, and **Management Strategies** are not stand-alone but layered together and integrated through design and implementation.

The **Design Initiatives** guide the design and development of the park and the **Management Strategies** guide the ongoing management, operation and use of the park. As an overview, the **Design Initiatives** and **Management Strategies** are listed on the following pages.



PARK OBJECTIVES OBJ-1 TO OBJ-12

OBJ-1

Increase biodiversity and ecological resilience throughout the park by protecting, restoring, enhancing and increasing ecological corridors, patches, tree canopy and shoreline habitat complexity

OBJ-2

Balance ecological integrity with park amenities, usage and programming

OBJ-3

Create access to the river - Connect the park into the greater land and water networks and systems

OBJ-4

Allow the experience of the river to be a primary organizing feature of the park

OBJ-5

Express multiple histories and stories across the site through public art, interpretation, materials and design elements

OBJ-6

Create diverse, high quality and engaging learning opportunities through arts, heritage and cultural experiences for all ages and abilities

OBJ-7

Engage First Nations and the public to work toward Reconciliation

OBJ-8

Celebrate the diverse qualities of each park area while unifying them into one continuous riparian experience

OBJ-9

Address sea level rise with multifunctional and adaptive management approaches that can change and evolve over time

OBJ-10

Monitor public use activities and natural systems data over time and adjust the park management strategies as needed

OBJ-11

Actively develop and nurture an effective and ongoing relationship with the local community, encouraging a strong connection and stewardship of the park through volunteer conservation opportunities

OBJ-12

Coordinate all construction and management activities in the park with other departments and levels of government

DESIGN INITIATIVES DI-1 TO DI-22

DI-1
Restore riparian vegetation in various areas along the river
p.62

DI-8
Provide public use amenities and structures in the Hadden Mill, Oxbow and Kensington Launch
p.70

DI-15
Hadden Mill
Zone 1
Design Initiatives
p.80

DI-22
Kensington Launch
Zone 8
Design Initiatives
p.96

DI-2
Provide a multi-use, universally accessible, granular pathway along the entire length of the park
p.64

DI-9
Provide a limited number of minor structures and furnishings from the Creek to the Bluff
p.72

DI-16
The Oxbow
Zone 2
Design Initiatives
p.84

DI-3
Design and develop a diverse path experience with connectivity to neighbourhood and river
p.64

DI-10
Co-develop a 'design character' for amenities, furnishings, signage and wayfinding elements
p.75

DI-17
The Creek
Zone 3
Design Initiatives
p.86

DI-4
Execute components of the Blueways Master Plan
p.66

DI-11
Provide a dog off-leash area
p.75

DI-18
The Meadow
Zone 4
Design Initiatives
p.88

DI-5
Design all park elements to withstand flooding
p.66

DI-12
Provide minimal lighting
p.75

DI-19
The Floodplain
Zone 5
Design Initiatives
p.90

DI-6
Prepare a Naming Strategy
p.68

DI-13
Manage stormwater for infiltration
p.76

DI-20
The Ravine
Zone 6
Design Initiatives
p.92

DI-7
Incorporate public artwork projects throughout the park
p.68

DI-14
Coordinate protective dyke elevations within the park with others
p.76

DI-21
The Bluff
Zone 7
Design Initiatives
p.94

MANAGEMENT STRATEGIES MS-1 TO MS-20

MS-1
Remove invasive species and prevent spread and encroachment using BMP's.
p.100

MS-8
Make adjustments to the Park management strategies as new data emerges.
p.106

MS-15
Provide Community Employment Benefits (CEB).
p.111

MS-2
Apply Natural Area maintenance procedures within the Park.
p.100

MS-9
Prepare a flood response plan; close the park as needed.
p.106

MS-16
Implement the conservation and interpretation recommendations from the Heritage Plan.
p.112

MS-3
Take steps to increase volunteer participation in some vegetation management activities.
p.101

MS-10
Look for funding opportunities for long term operations and maintenance of the park.
p.107

MS-17
Monitor and enforce the dogs-on-leash strategy to limit the damage to wildlife in the park.
p.114

MS-4
Continue to develop strong operational relationships and partnerships.
p.102

MS-11
Incorporate programs and activities along the entire length of the park.
p.108

MS-18
Manage dog and human behavior in the fenced, off-leash dog park.
p.114

MS-5
Monitor habitat enhancement and compensation projects over a period of several years.
p.103

MS-12
Establish the park as a place of learning.
p.110

MS-19
Monitor parking demand and explore parking partnership opportunities.
p.116

MS-6
Monitor, filter and slow down stormwater flow.
p.104

MS-13
Co-Develop First Nations Programming.
p.110

MS-20
Update wayfinding signage as pathways and circulation routes are implemented over time.
p.116

MS-7
Treat the Park as a Pilot Project; use adaptive management strategies.
p.104

MS-14
Develop accessible and inclusive cultural elements, interpretation, programs, and activities.
p.110



1 /

INTRODUCTION

- 1.1 NICOMEKL RIVERFRONT PARK
- 1.2 PURPOSE OF THE MANAGEMENT PLAN
- 1.3 PROJECT BACKGROUND
- 1.4 CITY OF SURREY STRATEGIC CONTEXT

Fig. 3. Nicomekl River in Bluff zone (PFS Studio)

1.1 NICOMEKL RIVERFRONT PARK

Nicomekl Riverfront Park assembles a series of riverfront parcels, between Elgin Road and 40 Ave, into a 3 km long riverfront park experience that weaves together ecology, heritage, public art, recreation, infrastructure and innovative adaptations to climate change and sea level rise. The pathway ties into the existing riverfront trail between the Elgin Heritage Park and Elgin Road and provides an eastern extension to 40th Avenue. The park prioritizes habitat conservation and enhancement while accommodating public use. Natural spaces are preserved, enhanced and connected into one continuous terrestrial and aquatic habitat corridor with significant space for wildlife and passive recreation.

The park will be a continuous river experience, providing a new integrated blueway and pathway system, on water and land, with docks, launches, bridges, boardwalks and pathways. There will be several spots to sit on a dock or launch a canoe or kayak, and points of interest that highlight views. Areas for recreation, community gathering, learning, interpretation and play will have a low impact on natural areas.

The “Nicomekl Riverfront Park” is a working name that may be changed to that of a traditional First Nation language.

SOUTH SURREY CONTEXT



1.2 PURPOSE OF THE MANAGEMENT PLAN

The purpose of the management plan is to provide an overview of how the park will be developed and managed. It provides a framework for making future decisions about the park that prioritize biodiversity and habitat protection while providing public access to the land and water.

This plan provides guidance for the preparation of detailed designs, operational plans and adaptive management procedures which will evolve and change over time in response to the dynamic nature of the river, future research, emerging best practices and community use of this newly accessible natural area.



OBJECTIVES

The twelve (12) **Park Objectives** provide overall guidance and direction for the planning, design, management, maintenance, operation and programming of the park.

PARK VISION

"The Nicomekl Riverfront Park will link, restore and amplify the unique collage of environments along the riverfront into a coherent, resilient and beautiful riverfront experience that accommodates future sea level rise and draws upon ecology, history, public art and sensitive design to provide recreation and cultural gathering spaces in a natural environment **for young and old, throughout all seasons.**"

DESIGN INITIATIVES

The park concept plan identifies 8 unique park character zones and describes appropriate uses, infrastructure and activities within each zone. Chapter Five describes the concept design and lists twenty two (22) **Design Initiatives (DI's)**. Fourteen (14) of the **DI's** apply to the entire park; eight (8) other **DI's** describe the design intent in each of the 8 Character Zones. The **DI's** are intended to guide future park design and development decisions.

MANAGEMENT STRATEGIES

Chapter Six describes twenty (20) **Management Strategies (MS's)**. These are intended to guide decision making regarding the ongoing management, operation and use of the park. The environment related strategies cover: vegetation management, ecological enhancement opportunities, wildlife habitat management, managing water and stormwater and managing for climate change and sea level rise. The public use related strategies cover: outdoor recreation, culture and heritage activities, circulation, dogs and parking. The **MS's** are intended to guide ongoing operation, maintenance and programming decisions.

1.3 PROJECT BACKGROUND

Over several years, the City of Surrey has acquired, as parkland, properties stretching along the south side of the Nicomekl River from Elgin Road to the river crossing at 40th Avenue. Although each of these properties are adjacent to the Nicomekl River, their natural condition varies depending on the previous land use and how each property was managed by the previous owner. A plan for development and management of these various land parcels was needed.

As the City developed a [Coastal Flood Adaptation Strategy \(CFAS\)](#), a multi-year undertaking aimed at reducing climate change-driven coastal flooding risks, the need for an overall plan for the riverfront parklands became a strategic priority for the City. The preparation of a management plan for the riverfront parklands has been a multi-disciplinary park planning process including typical park planning objectives (managing parkland for public access, use and enjoyment) as well as cultural, ecological and flood protection objectives of equal importance and priority. The result is this management plan with multiple objectives and strategies and a high level concept plan.

Research, public engagement and site analysis formed the foundation of the plan. Outreach to First Nations, stakeholders and the general public has included many workshops, open houses, site based events, online surveys and social media. Through the process, this management plan was developed. It incorporates ecological connectivity and restoration, significant areas that prioritize river and land habitat, a regional path system with neighbourhood connections, viewing points, passive recreation opportunities, washrooms, parking, kayak/canoe launch points, interpretation, heritage, public art, and sea level rise mitigation strategies.

The following companion documents are referenced in this plan:

- [Nicomekl River Environmental Assessment Report](#), by Diamond Head Consulting;
- [Nicomekl Riverfront Park Heritage Plan](#), by Denise Cook Design;
- [Nicomekl Riverfront Park Public Art Strategy](#), by Lynne Werker; and
- [Nicomekl Riverfront Park Public Consultation Summary](#), by PFS Studio.

1.4 CITY OF SURREY STRATEGIC CONTEXT

As the second-largest city in British Columbia by population, Surrey forms an integral part of Metro Vancouver. With a population of 518,000 (2019 estimate), Surrey continues to grow rapidly. The city is comprised of six town centres: Fleetwood, Whalley (City Centre), Guildford, Newton, Cloverdale, and South Surrey.

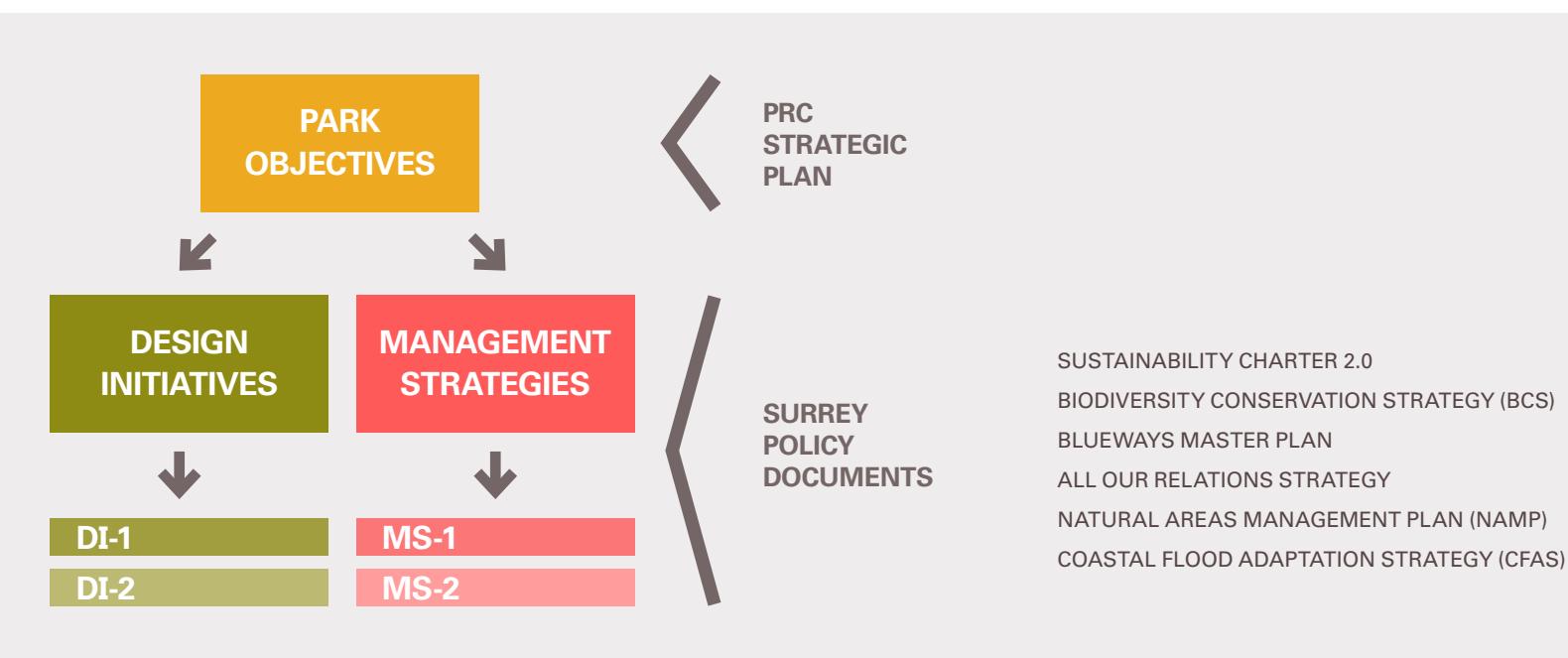
Nicomekl Riverfront Park is located in South Surrey and is a significant piece of the city's open space network. This management plan contributes to the City's mandate as expressed in several policy documents, including: the [Parks, Recreation and Culture Strategic Plan](#); the [Sustainability Charter 2.0](#); the [Coastal Flood Adaptation Strategy \(CFAS\)](#); the [Biodiversity Conservation Strategy \(BCS\)](#); the [Natural Areas Management Plan \(NAMP\)](#); the [All Our Relations Strategy](#); and the [Blueways Master Plan](#).

PARKS, REC AND CULTURE STRATEGIC PLAN

In 2018, the City of Surrey updated its ten-year [Parks, Recreation and Culture Strategic Plan](#) for the provision of Parks, Recreation and Culture (PRC) services for the residents of Surrey. Echoed in the Nicomekl Riverfront Park Management Plan, the PRC Strategic Plan identified five goals to achieve the City's vision of a healthy, green, inclusive community:

1. High quality parks and facilities for all;
2. Engaged and healthy community;
3. Vibrant and creative city;
4. Leader in environmental stewardship; and
5. Effective management of resources.

The Nicomekl Riverfront Park was highlighted as a key planning initiative in the PRC Strategic Plan.



1.4 CITY OF SURREY STRATEGIC CONTEXT

SUSTAINABILITY CHARTER 2.0

The City of Surrey's [Sustainability Charter 2.0](#) is a commitment by the City to prioritize three pillars of sustainability: social, economic, and environmental. The Nicomekl Riverfront Park Management Plan achieves several priorities in the Sustainability Charter including the following:

- Enhancement and protection of natural areas, fish habitat and wildlife habitat;
- Land, water, and air quality management;
- Enhancement of biodiversity; and
- Enhancement of the public realm.

The Nicomekl Riverfront Management Plan cultivates a culture of sustainability through community education and engagement.

BIODIVERSITY CONSERVATION STRATEGY (BCS)

Surrey's [Biodiversity Conservation Strategy \(BCS\)](#) recognizes biodiversity as fundamental to a healthy, livable and sustainable city. The strategy contains policies to preserve, protect, and enhance Surrey's biodiversity to provide multiple benefits such as decreased impact of climate change effects, clean air and water, improved health and livability, and recreational enjoyment. The BCS identifies significant habitat hubs and corridors to protect and link ecologically significant areas throughout the city. Nicomekl Riverfront Park is an important corridor and hub in the BCS.

BLUEWAYS MASTER PLAN

Surrey's [Blueways Master Plan](#) creates opportunities for residents and visitors to access and enjoy rivers through recreational non-motorized boating. One of the designated routes, the "Surrey Floating Nature Trail" includes the Nicomekl Riverfront Park as part of a nature interpretation based paddling experience.

ALL OUR RELATIONS STRATEGY

The [All Our Relations Strategy](#) was developed by the Surrey Urban Indigenous Leadership Committee and released in 2017. The goal of the Strategy is to build and strengthen relationships at all levels of the community. It looks at ways to improve economic participation, education and health for the indigenous population in Surrey.

NATURAL AREAS MANAGEMENT PLAN (NAMP)

The [Natural Areas Management Plan \(NAMP\)](#) recognizes that natural areas do not require the intensive maintenance procedures that are associated with active recreation parkland, but as they are within a highly urbanized setting, natural areas cannot simply be left alone; they require some level of active management. The NAMP contains a number of low impact resource management techniques and procedures related to: vegetation management; fauna management; tree hazard management; fire management; woody debris management and; yard waste management. The strategies contained in the NAMP are directly applicable to this Nicomekl Riverfront Park Management Plan.

COASTAL FLOOD ADAPTATION STRATEGY (CFAS)

The City of Surrey has developed a [Coastal Flood Adaptation Strategy \(CFAS\)](#) for Surrey's coastal floodplain area using a participatory and community-driven planning process. The CFAS strategies include 13 projects aimed at mitigating the impacts of climate change-related sea level rise on Surrey's coastline. The CFAS projects, including the Nicomekl Riverfront Park and projects in the lower reaches of the Nicomekl, have received significant federal funding for implementation.

In light of the City's recent declaration of a climate emergency, the Nicomekl Riverfront Park represents a timely initiative aimed at addressing this important issue.



Fig. 4. 1968 Flood of agricultural land (Surrey Archives).

2 / VISION AND OBJECTIVES

2.1 VISION STATEMENT

2.2 PARK DESIGN AND MANAGEMENT OBJECTIVES



Fig. 5. Existing forest vegetation in Bluff zone (PFS Studio).

2.1 VISION STATEMENT

The vision statement for the Nicomekl Riverfront Park describes the future vision that is desired for the park. It establishes the overall intent of the Management Plan.

The vision statement has been developed over the duration of the park planning process in consultation with various City departments, First Nations, interest groups, and the public.

PARK VISION

“**The Nicomekl Riverfront Park will link, restore and amplify the unique collage of environments along the riverfront into a coherent, resilient and beautiful riverfront experience** that accommodates future sea level rise and draws upon ecology, history, public art and sensitive design to provide recreation and cultural gathering spaces in a natural environment **for young and old, throughout all seasons.**”

2.2 PARK DESIGN AND MANAGEMENT OBJECTIVES

The **Park Objectives** support the key themes of Surrey's [PRC Strategic Plan](#). They were developed and honed through the consultation process. In the end, twelve key objectives were developed for the design and management of Nicomekl Riverfront Park, see below.

It is important that these diverse **Park Objectives**, covering ecology, sea level rise, public art, heritage, cultural programming, First Nations, wayfinding, etc., are not stand-alone but layered together and integrated through design and implementation.

OBJ-1

Increase biodiversity and ecological resilience throughout the park by protecting, restoring, enhancing and increasing ecological corridors, patches, tree canopy and shoreline habitat complexity

OBJ-2

Balance ecological integrity with park amenities, usage and programming

OBJ-3

Create access to the river - Connect the park into the greater land and water networks and systems

OBJ-4

Allow the experience of the river to be a primary organizing feature of the park

OBJ-5

Express multiple histories and stories across the site through public art, interpretation, materials and design elements

OBJ-6

Create diverse, high quality and engaging learning opportunities through arts, heritage and cultural experiences for all ages and abilities

OBJ-7

Engage First Nations and the public to work toward Reconciliation

OBJ-8

Celebrate the diverse qualities of each park area while unifying them into one continuous riparian experience

OBJ-9

Address sea level rise with multifunctional and adaptive management approaches that can change and evolve over time

OBJ-10

Monitor public use activities and natural systems data over time and adjust the park management strategies as needed

OBJ-11

Actively develop and nurture an effective and ongoing relationship with the local community, encouraging a strong connection and stewardship of the park through volunteer conservation opportunities

OBJ-12

Coordinate all construction and management activities in the park with other departments and levels of government



Fig. 6. (Left to Right) Nicomekl River, Highway 99, King George Boulevard and Elgin Road (City of Surrey).

3 / PUBLIC OUTREACH

3.1 PUBLIC CONSULTATION

3.2 FIRST NATIONS CONSULTATION



3.1 PUBLIC CONSULTATION

OVERVIEW

Planning for Nicomekl Riverfront Park included a two-phased community consultation process. First Nations, stakeholders, and Surrey Residents (adults, youth and kids) were asked to help create the park vision, objectives and concept plan and provide feedback at various engagement events, meetings, site visits and via multiple consultation platforms. Phase 1 was focused on understanding residents' vision for the park and collecting information about the community. Phase 2 was focused on getting feedback on the proposed park vision, principles and concept plan.

The City of Surrey's Nicomekl Riverfront Park webpage provided project information and updates throughout the planning process. Project postcards, posters and digital media were distributed publicly to invite residents to learn more about the project and provide feedback. Feedback from early consultation was incorporated into the park management plan, concept plan, design initiatives and management strategies and presented at later consultation events. Further public consultation will occur in the future phases of the project.

Refer to Appendix I for the public consultation companion documents.



STAKEHOLDER WORKSHOP #1 – MAY 4, 2018

The first stakeholder workshop was held on May 4, 2018 and involved invited representatives of a number of community and environmental groups. In summary, participants wanted to see high ecological integrity, a naturalized aesthetic, soft paths, boardwalks, places to touch the water, intimate gathering areas and integrated habitat. They wanted to avoid expanses of paving, large gathering places, formal ordered landscapes and big lawns.

STRONGEST POSITIVE REACTIONS FROM STAKEHOLDERS

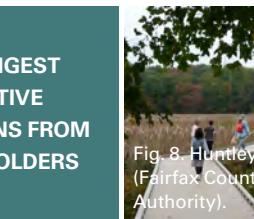


Fig. 8. Huntley Meadows (Fairfax County Park Authority).



Fig. 9. Chatfield State Park (Keith Akers).

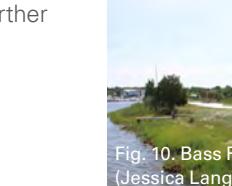


Fig. 10. Bass River Park (Jessica Langlois).



Fig. 11. Canmore Creek, Alberta (Stream Tender Magazine).

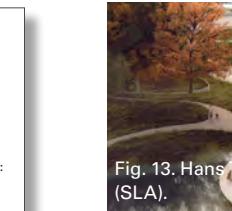


Fig. 13. Hans Tavsen's Park (SLA).



Fig. 14. The River Aire, Geneva (Landezine).

LEAST FAVOURABLE REACTIONS FROM STAKEHOLDERS WORKSHOP



Fig. 15. Museum Park Louvre Lens (Mosbach Paysagistes).



Fig. 16. Tianjin Qiaoyuan (Turenscape Landscape Architecture).

3.1 PUBLIC CONSULTATION

PUBLIC OPEN HOUSE #1 – SEPT 24, 2018

The first Public Open House took place on September 24, 2018 and attracted over 160 attendees. In addition to those who participated in the open house, there were over 1200 online surveys completed after the event.

There was great support for the preliminary park concept plan either as presented or with minor changes. The top five amenities desired in the park were:

- natural trails;
- boardwalks;
- washrooms;
- habitat areas; and
- parking lot.

Participants felt the most important drivers in shaping the Nicomekl Riverfront Park should be nature / wildlife habitat; trails / connectivity / accessibility, and public access to the waterfront. People felt that more information was needed about parking / traffic, the potential to expand the park to the west, provisions for biking and dog areas. Natural areas were generally preferred with limited programmable park space. First Nations, early settlers, river use and watersheds, significant people and events, and wildlife/environment were all considered important histories to address in the park. There was a strong preference for functional and integrated public art in the park. Many stated that the art expression should align with the natural character of the park.

YOUTH SPEAK UP FORUM

Youth were engaged to think about and design ideas for the park at the ‘Build a City’ workshop at the Youth Speak Up Forum held on October 26, 2018. Youth aged 13–18 took part in a facilitated design charette.



SURREY KIDS CONFERENCE

Children were engaged at the ‘Your Voice, Your Park’ workshop at Surrey Kids Conference on November 17, 2018. Key takeaways were that the kids wanted a natural park supporting animals, forest and trails. Kids preferred a natural playground over a more conventional structure.

WORLD WETLANDS EVENT

On World Wetlands Day, February 2, 2019, the City hosted an event for people to learn more about wetlands and the natural ecology and heritage of the Nicomekl Park site. A keynote presentation, “Wetland Values & Threats” was given by Dr. Sean Boyd, Research Scientist from Environment Canada Wildlife Research Division, Science and Technology Branch.

A bus and walking tour with City staff and members of the design team was given of the existing wetlands, salmon stream and riparian areas on the park site. Short talks and questions and answers were fielded at three sites within the park on wetlands, salmon habitat, sea level rise, and the vision for the park.

STAKEHOLDER WORKSHOP #2 – JULY 17, 2019

The second stakeholder workshop was held on July 17, 2019 and involved invited representatives of a number of community and environmental groups. A presentation was given about the project’s development since the first stakeholder meeting and an update was provided about the draft management plan. The design for the overall plan and each of the detailed concepts for the individual park zones were presented.

Participants commented and provided additional thoughts and information about each zone of the park. In summary, stakeholders were very supportive of the plan as it had evolved over the last year. They supported greenway connections from the park and recommended additional boat access from the north side of the river. Boardwalks were well supported with interest in having boat pull-out

areas incorporated within the loops to stop, rest and listen to birds. Stakeholders emphasized the importance of directing dog owners to the proposed off-leash dog park in order to preserve the ecological integrity of the rest of the park.

Stakeholders felt that the proposed design for the Park offers what people need – walking paths, community spaces, space for family activities, picnics, informal recreation, and opportunities to experience native plant communities and animals near the water. It was also mentioned the park can easily incorporate meaningful heritage components throughout.

PUBLIC OPEN HOUSE #2 – AUG 6, 2019

The Second Public Open House for the Nicomekl Riverfront Park took place on August 6, 2019 at Elgin Community Hall in South Surrey. It was well attended and in addition to those who participated in the open house, there were over 1000 online surveys completed. The open house displayed a series of panels that covered information about how the plan had evolved since the first open house. Boards focused on the proposed park planning principles as well as the plans for the whole park and for each zone and recommendations for the environment, climate change, heritage and public art. The majority of participants and survey respondents were supportive of the plans and recommendations and pleased with the progress made since the first open house.





Fig 18. Photos of public consultation events (City of Surrey and PFS Studio).

3.2 FIRST NATIONS CONSULTATION

In keeping with the City of Surrey's policies in support of Reconciliation, City staff met with representatives of the Semiahmoo and Kwantlen First Nations to understand their vision for the Nicomekl Riverfront Park. Refer to Appendix I for a link to the Public Consultation Summary Report.

At meetings on July 3 and 23, 2018, representatives from the Semiahmoo First Nation suggested:

- Planting medicinal/traditional First Nation native plants in the park;
- Including interpretations of historical First Nation's structures, such as a cedar hat pavilion;
- Identifying opportunities for First Nation historical elements;
- Providing opportunities to host First Nations events at the park, serving aboriginal tourism;
- Collaboration with the urban the aboriginal population as well as the land-based nations regarding the use of cultural practices and art in the park; and
- Using the traditional name of the river and other traditional First Nation names through the park.

The Semiahmoo First Nation requests that Surrey Parks does an extensive archaeological impact assessment of the park site. They also ask to work with the project team, DFO and the Nicomekl Hatchery to enhance the river and shoreline to improve salmon habitat.

At a meeting on August 26, 2019, representatives from the Kwantlen First Nation and Semiahmoo First Nation suggested:

- Add content, such as information on how the River was used. The City has an opportunity to share the history of the Indigenous people. The story should be positive, interactive and done in a way that would allow new stories to be added as more knowledge is gained about First Nations history and cultural heritage;

- The park should be a place about learning who lived here before, including the Nicomekl people, descendants of the Smakwec, and who the Coast Salish are today too. The park should include information about the Nicomekl people and their demise, but should not focus on the negative aspects of colonialism;
- The park should focus on the Indigenous way of life and world view in a positive way and the First Nations attitude toward nature and living in relation to the land, including changing water levels;
- Naming is important. Traditional names should be used that represent all the Nations;
- Ethnobotanical plants and ecologies should be highlighted throughout all the zones of the park. There may be interest in some sensitive collection of 'medicine' and workshops to help educate young people;
- First Nations should be engaged and employed for the construction of the park and artworks;
- The park could provide an active learning experience and space to support First Nations curricula in schools;
- The park's process should include research to find strategies to recover, restore and preserve traditional cultural practices; and
- Limited interest in preserving the Hadden House since it is much more pressing to preserve lost indigenous culture. There was discussion about the possibility of hosting residencies for First Nations writers and other artists in the space to share stories of old growth forests, elk and other local topics.

Additional meetings and discussions with First Nations representatives will occur on a regular basis. Discussions that include the Katzie First Nation are anticipated. These discussions will continue to influence the priorities and practices associated with the management of the Nicomekl Riverfront Park.

4 / SITE CONTEXT

- 4.1 REGIONAL CONTEXT
- 4.2 LOCAL CONTEXT AND ADJACENT LAND USES
- 4.3 ECOLOGY
- 4.4 TOPOGRAPHY AND HYDROLOGY
- 4.5 CLIMATE CHANGE AND SEA LEVEL RISE
- 4.6 CULTURE, HERITAGE AND ARCHAEOLOGY
- 4.7 TRANSPORTATION AND ACCESS
- 4.8 INFRASTRUCTURE AND UTILITIES
- 4.9 CURRENT PARK USES AND EXISTING PARK AMENITIES

Fig. 19. Existing mixed vegetation in Bluff zone (City of Surrey).



Fig. 20. Nicomekl River, South Surrey and Mount Baker (City of Surrey).

4.1 REGIONAL CONTEXT

One of three significant river systems in Surrey, the 34 km long Nicomekl River springs from the ground in Langley, and winds its way through Surrey, draining over 149 km² of land into Mud Bay near Crescent Beach. Mud Bay is a significant component of Boundary Bay, a renowned complex of interconnected marine habitats including mudflats, estuaries, salt marshes, bogs, eelgrass beds, rivers and streams, and deep tidal waters. This area is home to waterfowl, shorebirds raptors and migrating birds, as well as whales, porpoises, seals, sea lions, and countless fish, including salmon.

Boundary Bay is one of three key sites of the Fraser River Estuary Important Bird Area. With Roberts Bank and Sturgeon Bank, it is the highest rated of the 600 'Important Bird Area' sites in Canada for the number and diversity of species reaching global thresholds. It is also considered to be among the top 20 wetland sites in North America, and is deemed a 'Wetland of International Importance'. The Province has classified the area as a Wildlife Management Area due to its importance. It is estimated that up to five million migratory birds use Boundary Bay and the surrounding landscape as a vital stopover on the Pacific Flyway bird migration route. Creating a large habitat patch and corridor along the Nicomekl River will be a major step in helping to sustain the diversity of the Fraser River Estuary.

The Nicomekl River and its streams are home to a diverse array of aquatic life, including salmon, trout, stickleback, lamprey, carp and sculpins. Vulnerable to the quality of water draining into the river, fish are often the indicators of water pollution, erosion and thermal pollution.

As part of Surrey's floodplain area, the Nicomekl River has experienced regular coastal flooding from rain storms, high tides and storm surges. As sea levels rise, existing infrastructure such as sea dams, dykes, drainage ditches and pumps will be less effective and vulnerable to breaches. Surrey currently has the largest network of dykes in BC. Climate change will mean higher sea levels with increased frequency and intensity of storms and storm surges.

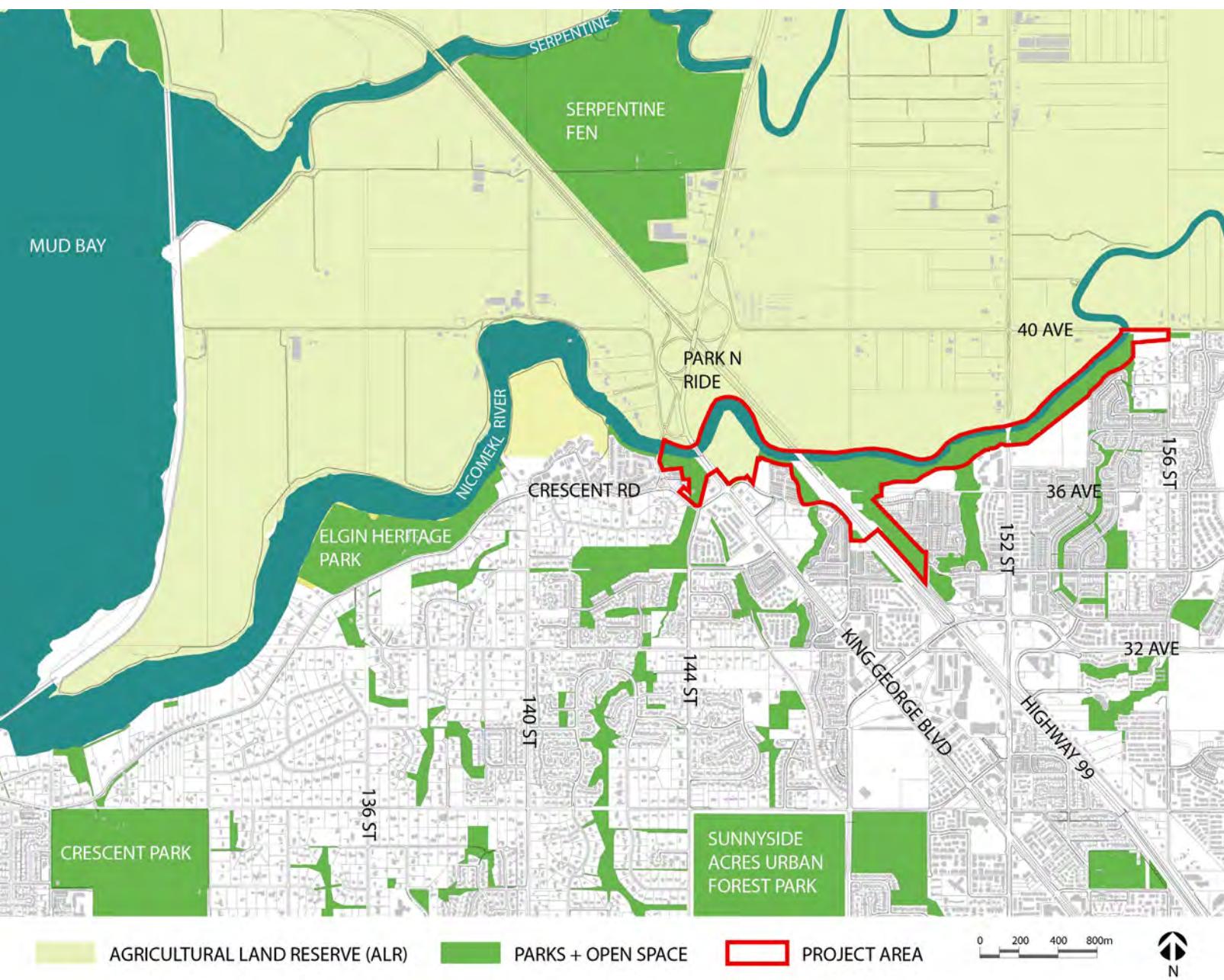
Supported by the rich alluvial soils of the floodplain, about one third of Surrey's land is preserved in the ALR (Agricultural Land Reserve), to be used for agricultural production. The Nicomekl River is bounded by ALR lands for the majority of its length until the crossing at 40th Avenue west, where it is bounded on the northern bank by ALR lands, and the southern bank primarily by parkland and private property.

The City of Surrey acknowledges that it sits on the unceded traditional territory of the Coast Salish People.



Fig. 21. Eastward view of the park (City of Surrey).

OPEN SPACE CONTEXT



4.2 LOCAL CONTEXT AND ADJACENT LAND USES

Nicomekl Riverfront Park is an amalgamation of older and recently acquired parkland that creates a 3 km linear park located in South Surrey on the southern edge of the Nicomekl River between Elgin Road and 40th Ave. Adjacent to the Rosemary Heights neighbourhood, it includes two larger park spaces near the intersection of Elgin and Crescent Road. It's an extension of the existing park to the west of Elgin Road.

The north bank of the Nicomekl River is part of the Agricultural Land Reserve, while the southern bank is bordered by parkland and single family and multi-family residential development. The exception to this is the former golf driving range site, which is within the ALR. The ALR land to the north, and the single family housing west of the park are protected with dykes, while the project site is largely unprotected, save for a few remnant historic dykes. As sea levels rise, these remnant dykes will not be sufficient to protect lands from flooding.

Several streams cross the park and flow into the Nicomekl including Elgin, Anderson and Barbara Creeks which are fed by both ditches and smaller tributaries. These waterways form green habitat corridors that connect the larger Nicomekl Riverfront Park into the greater network of Surrey parks and open spaces. As one of three fish-bearing rivers in Surrey, the Nicomekl River is identified as an important habitat corridor in the City of Surrey's Green Infrastructure Network. Other large parks in the area are Elgin Heritage Park, Blackie Spit, and Sunnyside Acres Urban Forest Park. The development of a continuous riparian park will strengthen the larger network of interconnected habitat and trail systems across the City of Surrey including the existing waterfront walk and the historic Semiahmoo Trail.

Surrey's [Blueways Master Plan](#) identifies opportunities for residents and visitors to access and enjoy Surrey's rivers using non-motorized boats. The canoe/kayak routes developed in the Blueways Plan allows for recreational boating that supports the fish, wildlife and agriculture of the area. The route proposed for the Nicomekl River is the "Surrey Floating Nature Trail". This water route would provide interpretive elements and enhancements to separate paddlers from sensitive habitat areas. The Blueways Plan identifies the span of the Nicomekl

River within the boundaries of the park as being highly scenic and an area that should include a small-scale launch point facility.

A BC Hydro Right of Way extends north-south through the centre of the park, along Highway 99, which limits the height of trees in this area, but creates a significant open space for passive recreational use. There is a small strip of commercial uses on the King George Blvd corridor and Elgin Heritage Hall is located just southwest of the park. An RV park and two TransLink-owned Park & Ride lots are located just north of the King George Blvd crossing.

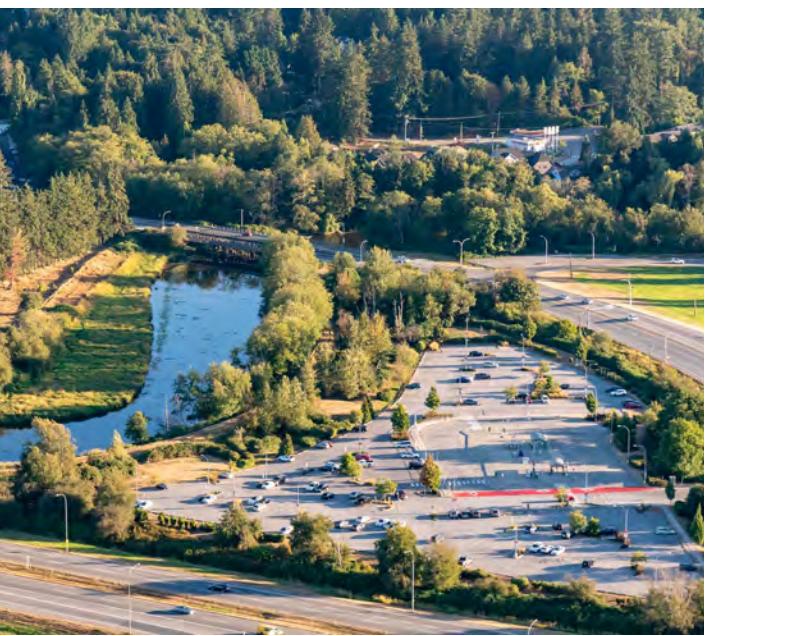
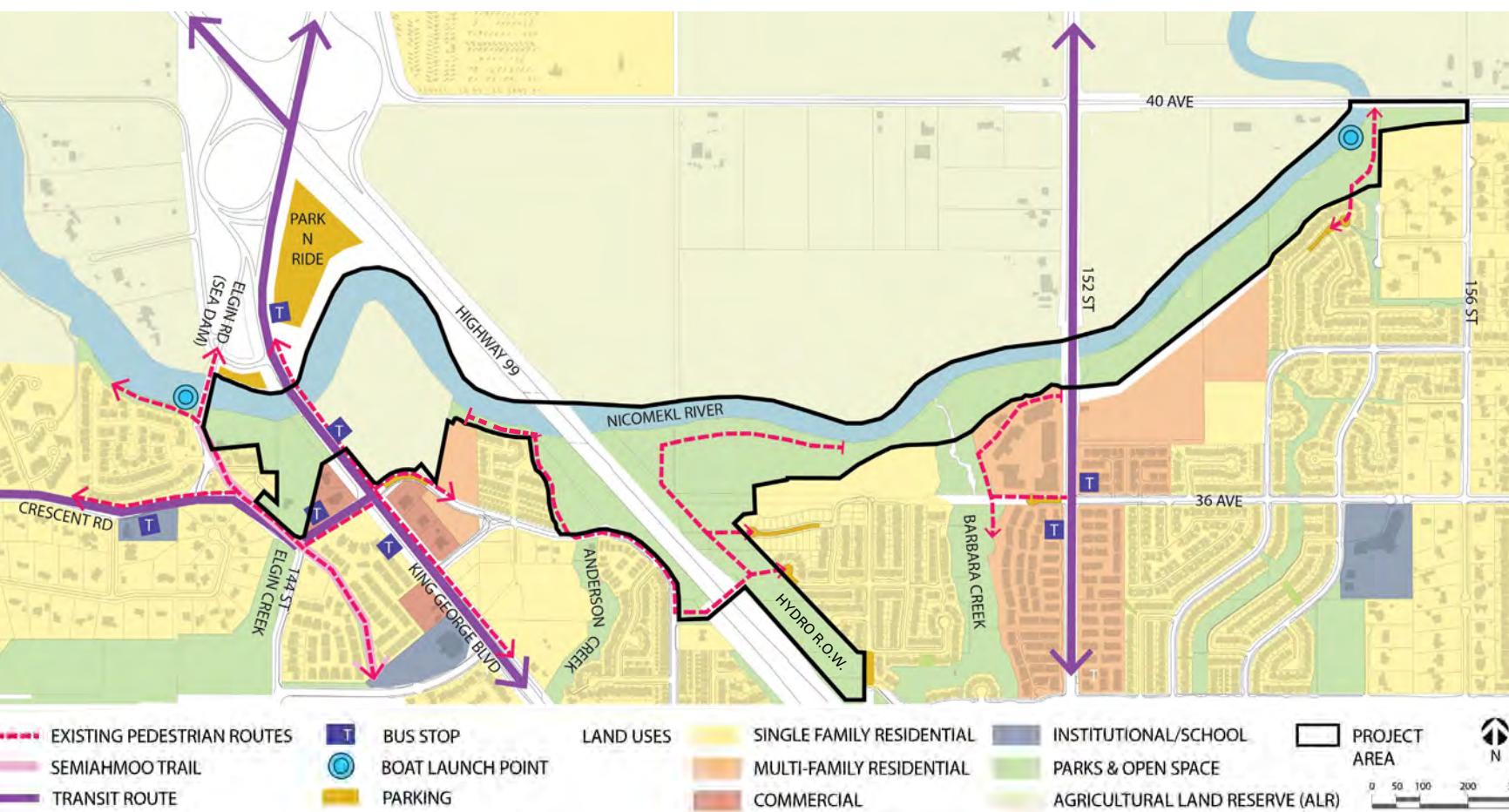


Fig. 22. The Oxbow and Park and Ride (City of Surrey).

EXISTING CIRCULATION & LAND USES



4.3 ECOLOGY

GENERAL

An environmental assessment was undertaken in order to provide background information regarding the ecology of the Nicomekl Riverfront Park. The full Environmental Assessment Report is listed and linked in Appendix I Companion Documents.

The existing ecology of Nicomekl Riverfront Park consists of diverse natural areas on the eastern end and disturbed sites that provide opportunities for restoration and enhancement on the western end. There are also some semi-disturbed sites in multiple areas throughout the park. The plant communities range from pioneer populations of native plants and invasive non-native plants to areas of well-established older forest environments.

The topography and levels of disturbance across the length of the site help to divide it into zones. The western-most zone from Elgin Road to Highway 99 contains many engineered flood control measures and small areas of forest, including significant sized trees remaining on the 14391 Crescent Road residential property. This portion of the site has varied and discontinuous understory vegetation, including areas dominated by turf grass and invasive



Fig. 23. Mixed shrub and herb cover in Oxbow (City of Surrey).



Fig. 24. Bluff forest on east end of park (City of Surrey).

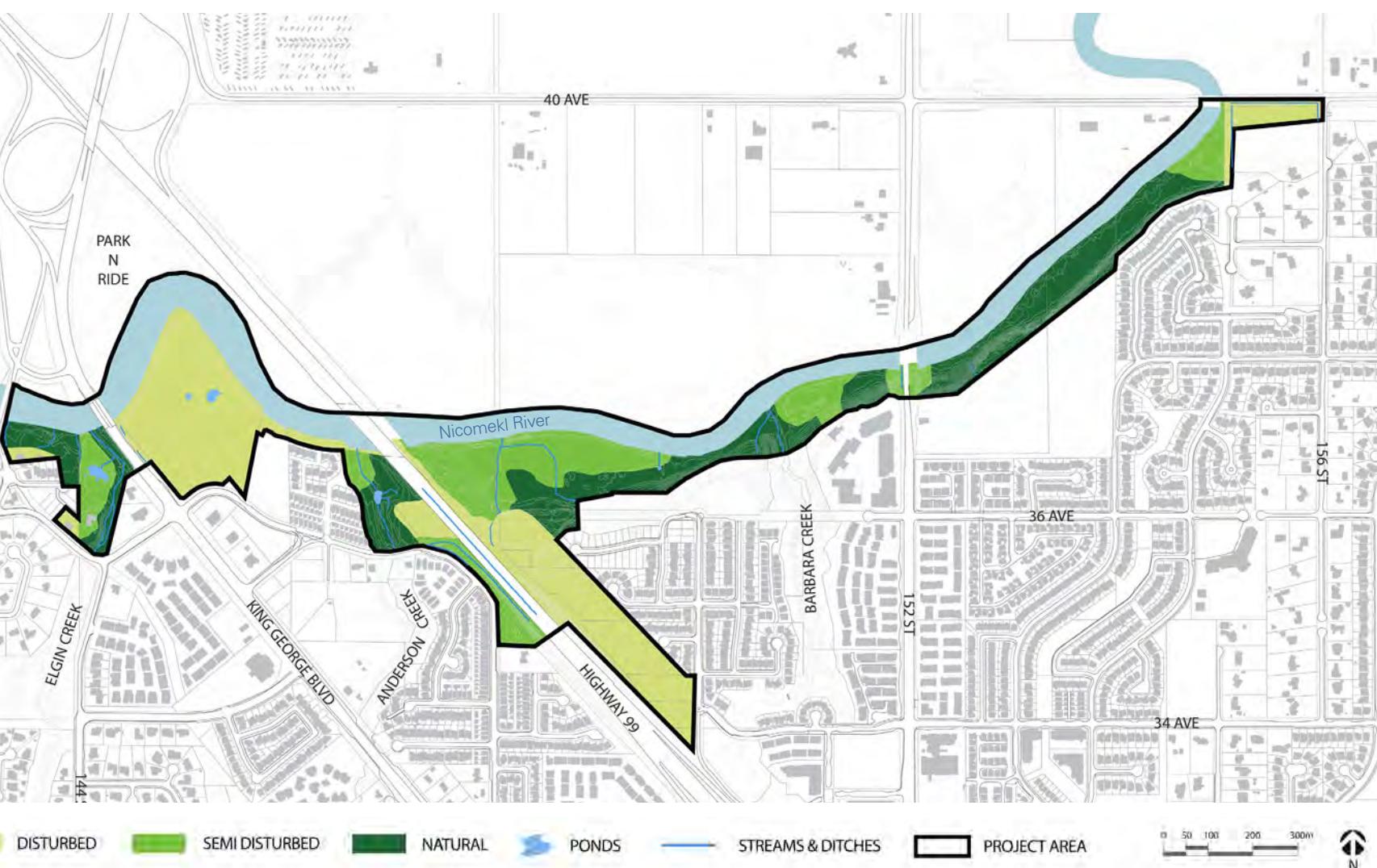


Fig. 25. Elgin Creek in Hadden Mill (City of Surrey).

plant species. The middle zone of the site from Highway 99 east to 152nd Street includes a BC Hydro right of way where trees and vegetation are kept low, leading to a plant community dominated by dense shrubs, most of which are invasive. Just east of the Hydro ROW is a planted habitat restoration area, and east of this establishing landscape is the forested channel with significant sized trees around Barbara Creek. The eastern-most zone of the site is the most naturalized section of the park. There is a steep embankment along the edge of the water, and a distinct slope break between the floodplain and neighbouring development to the south. The steep slopes above the river support a mature mix of coniferous and deciduous species with significant sized trees and dense understory vegetation. Invasive species are limited in this stretch of the river. This area includes a highly disturbed area east of the river and south adjacent to 40th Ave.

The extent of the project area provides a wide range of wildlife habitat. This includes shrub and grass communities, forests, floodplains, open water and wetlands. The park will provide high value habitat connected to adjacent natural areas, and will continue to act as a strong wildlife movement corridor. The park area is a significant link east-west for animal movement across the site which the park plan protects and enhances.

EXISTING DISTURBED AREAS



4.3 ECOLOGY

POLICY CONTEXT

The Nicomekl River is an important natural feature and one of three significant fish bearing river systems within the City of Surrey. It is currently highly constricted for flood control and runs through the Agricultural Land Reserve until crossing 40th Avenue, where the southern bank is bounded primarily by parkland and private property. This area has been identified as a corridor within the Green Infrastructure Network as part of the [Biodiversity Conservation Strategy \(BCS\)](#) and supports both intact natural areas as well as disturbed areas that provide opportunities for ecological restoration and habitat enhancement.

The Provincial Riparian Areas Protection Regulation (RAPR) establishes setbacks where development cannot occur. These setbacks and development regulations apply to residential, commercial or institutional activities near riparian areas. Although the Nicomekl project is almost entirely within the riparian area, one of the primary objectives of the work is the preservation and enhancement of vegetation and natural habitat conditions in the riparian area. The work described in the Nicomekl Management Plan is not regulated by the RAPR.

WHO LIVES HERE?



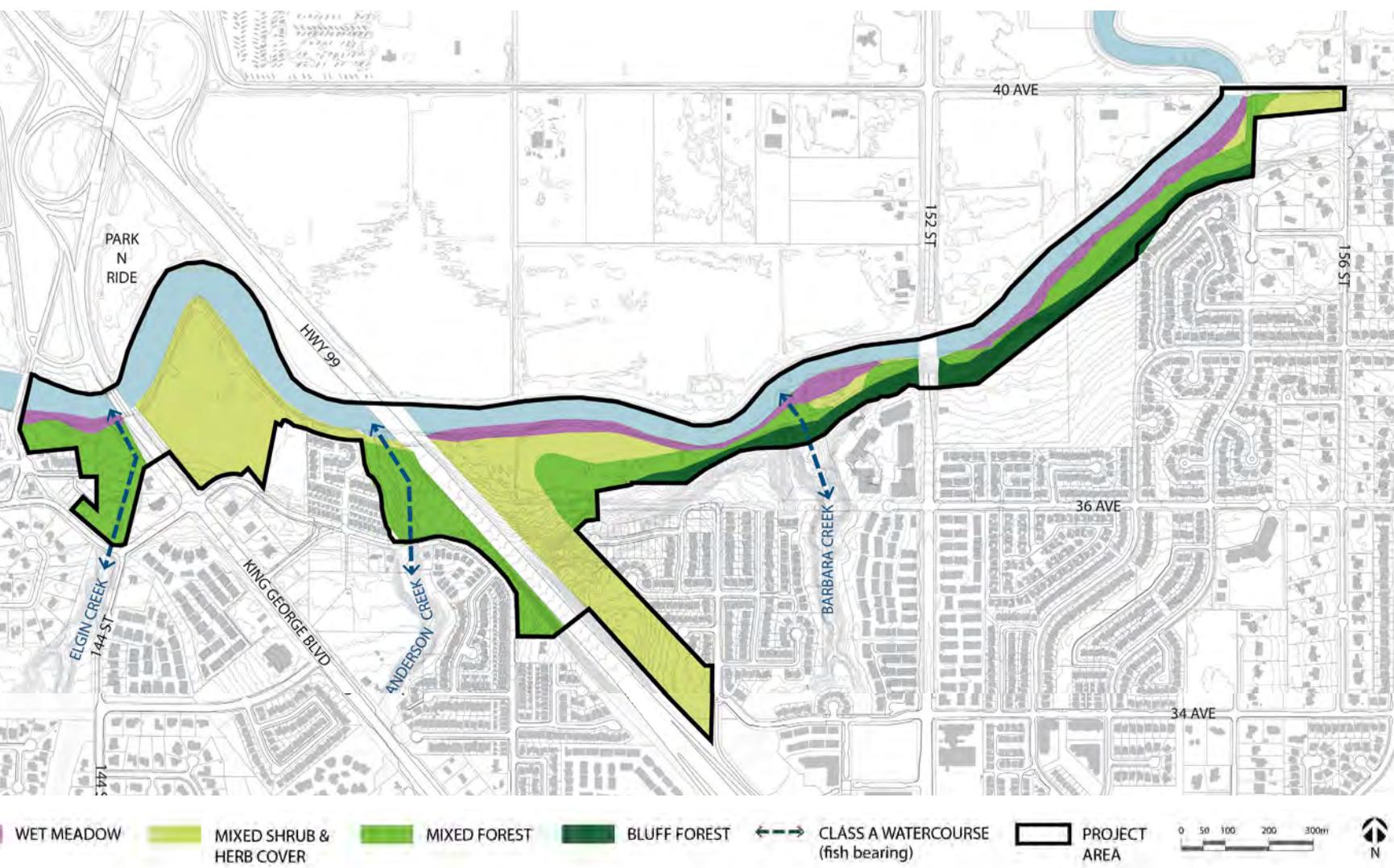
PLANT COMMUNITIES

The project site contains plant communities that are mapped and described in detail in the Environmental Assessment Report in Appendix I Companion Documents. Much of the original forest was previously cleared for development or agriculture in the early 20th century. The plant communities that exist range from young regenerating pioneer forests to some well-established and diverse older mature forests. Some trees in remote areas that would have been difficult to clear are estimated to range from 150-250 years old.

INVASIVE PLANT SPECIES

In general, invasive species are found adjacent to the areas that have been historically developed as well as along waterways. The area under the Hydro transmission lines is almost exclusively dominated by invasive species. Several large areas on the floodplain of the Nicomekl are dominated by reed canary grass.

EXISTING VEGETATION TYPES



4.3 ECOLOGY

FISH AND WILDLIFE

The Mud Bay intertidal zones form part of the Pacific Flyway, which is a bird migration route along the west coast between wintering areas and nesting habitat. The mud flats of Boundary Bay are critical areas where large migrating flocks stop, rest, and feed to ensure they have enough energy for the rest of their migration.

A number of resident and migratory bird species seasonally feed and nest in the project area including: raptors, doves, kingfishers, swallows, hummingbirds, woodpeckers, great blue herons, flycatchers, wrens, jays, crows, chickadees, nuthatches, thrushes, vireos, warblers, sparrows, finches, owls, red tailed hawks and bald eagles.

Larger mammals inhabit this area including coyote and black tailed deer. There are some well-used deer trails one that extends along the top of bank from 152nd to 154th, and others at the existing Hadden House and under the Hwy 99 bridge. A wide range of medium mammals likely inhabit this area, including beaver, skunk, marten, mink, raccoon and weasels. Smaller mammals include a variety of rodents, hares and shrews. Wildlife habitation and movement were present throughout the site, such as a well used otter trail at Anderson Creek, a bald eagle nest between Hwy 99 and Barbara Creek, a red tailed hawk nest east of 152nd ST, owls nesting at old Riverside driving range, and invasive rabbits in the eastern-most reach.

Species of reptiles and amphibians that may be present for part or all of the year include those associated with terrestrial habitats for some of their life cycle; these include frogs, salamanders and garter snakes.

Despite the challenges associated with the in-stream habitat conditions, there are extensive salmon migrations up the Nicomekl River. Coho, Chum and Chinook salmon and other fish species are able to migrate up the Nicomekl River past the sea dam. No species at risk were identified at the site during the field visit. The Great Blue Heron (*Ardea Herodias fannini*) is the only species previously identified by the Conservation Data Centre close to the study area.

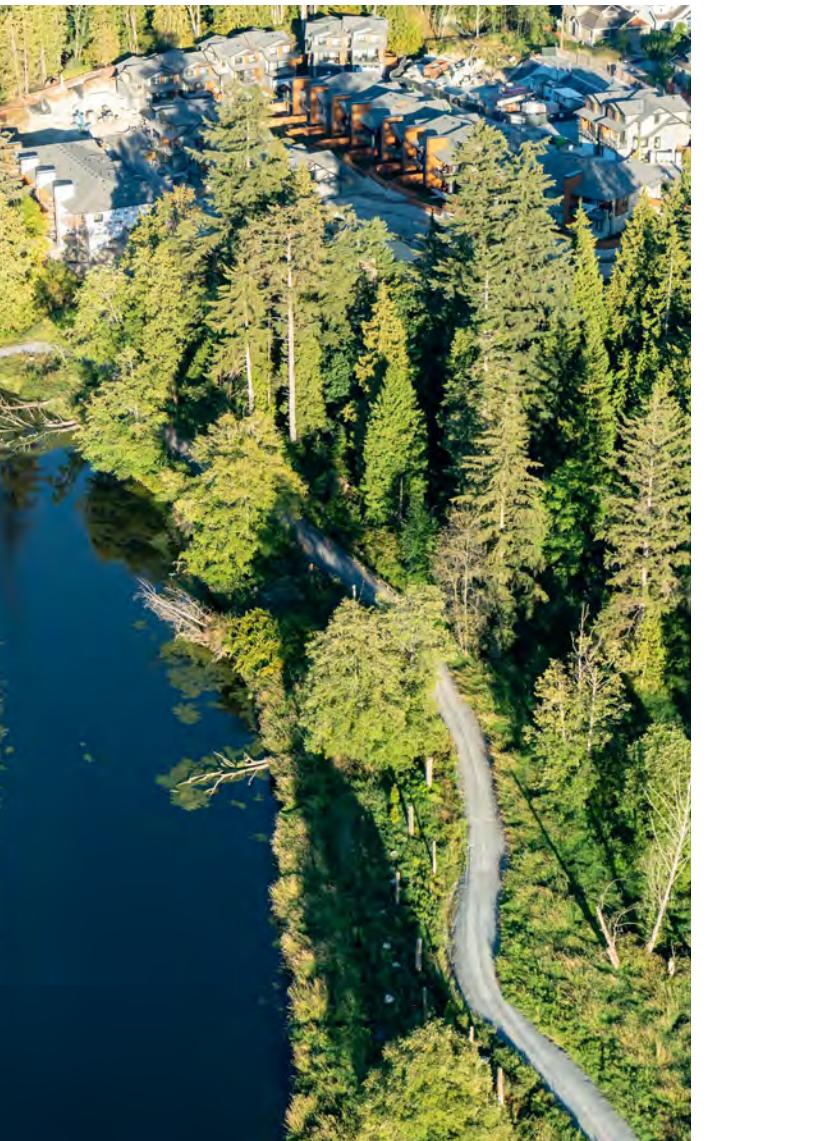
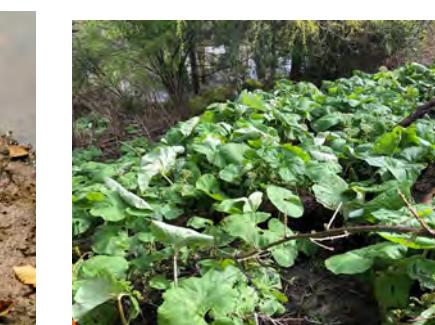
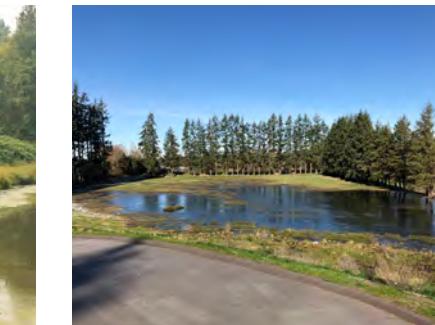


Fig. 26. The Floodplain zone (City of Surrey).



4.4 TOPOGRAPHY AND HYDROLOGY

TOPOGRAPHY

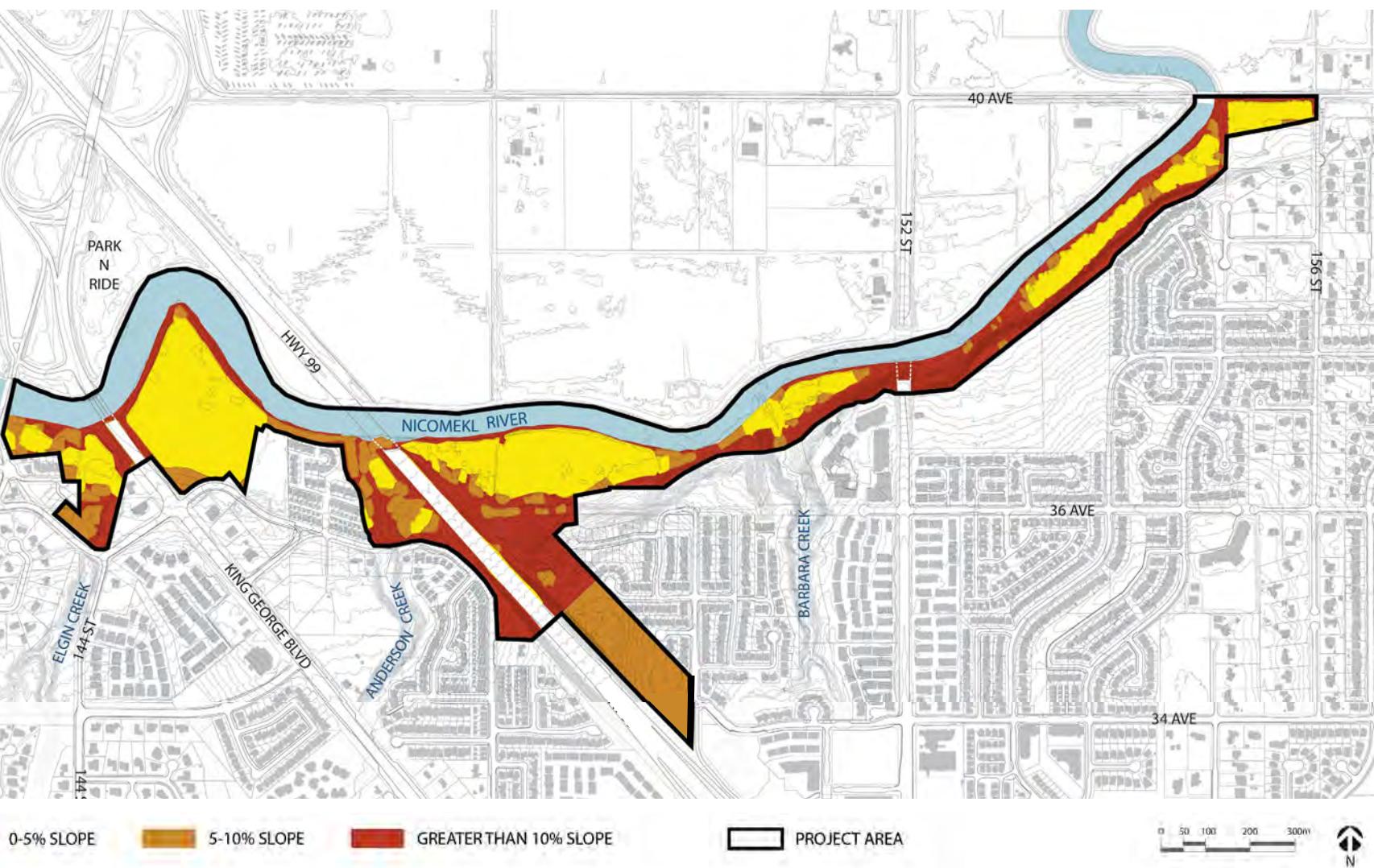
The study area includes a variety of landscape forms from floodplains adjacent to the Nicomekl River to steep embankments and upland areas. The terrain is highly variable – the western reach is flat and low floodplain and the middle and eastern reaches are very steep, with a large amount over 10% slope. Ground elevation ranges from a few metres below sea level in the floodplain areas to 40 m above sea level under the utility lines along Highway 99. Portions of the river bank have engineered flood control and historic disturbances influencing the topography of the shoreline.

Steep, forested ravines at Barbara Creek and Anderson Creek carry water into the Nicomekl River, while Elgin Creek, a salmon bearing creek, has a lower gradient and lower flows. Several ditches and culverts carry water across the park site and into the river.



Fig. 28. The Meadow zone (PFS Studio).

EXISTING SLOPES



4.4 TOPOGRAPHY AND HYDROLOGY

HYDROLOGY

The Nicomekl River has been highly confined; the northern banks are dyked for flood control for the agricultural land to the north of the river while the southern edge consists of old dykes from the sea dam to just west of 150th Street. There is a tidal influence on the lower reaches of the river, especially below the sea dam.

The Nicomekl River ranges from 40m to 45m wide at the west end and is 35m to 40m wide at the east end of the park. The gradient is very low.

The instream complexity has been compromised by dyking and flood control measures; stream side habitat is minimal except along the south banks of the river to the east of Barbara Creek.

WATER QUALITY

The City of Surrey Engineering Department has been conducting water quality sampling of the Nicomekl River at two locations downstream of the study site since 2009. A number of water quality parameters are of some concern, including: E.coli concentrations that exceed secondary contact guidelines; variable levels of seawater entering the Nicomekl River up to the sea dam; high summer water temperatures; oxygen levels that are occasionally too low to adequately support Coho and high concentrations of total nitrogen and total phosphorous in the Nicomekl.

In both wet and dry seasons, turbidity levels were low enough that they should not affect fish survivability. Average chlorophyll values are within the recreational guidelines. The average pH values are within the ideal range for fish growth and survivability. Nutrient concentrations are generally higher during the wet season, suggesting nutrient inputs entering the river through run off. Restoring the native riparian vegetation along the Nicomekl would help increase shade and reduce water temperature.

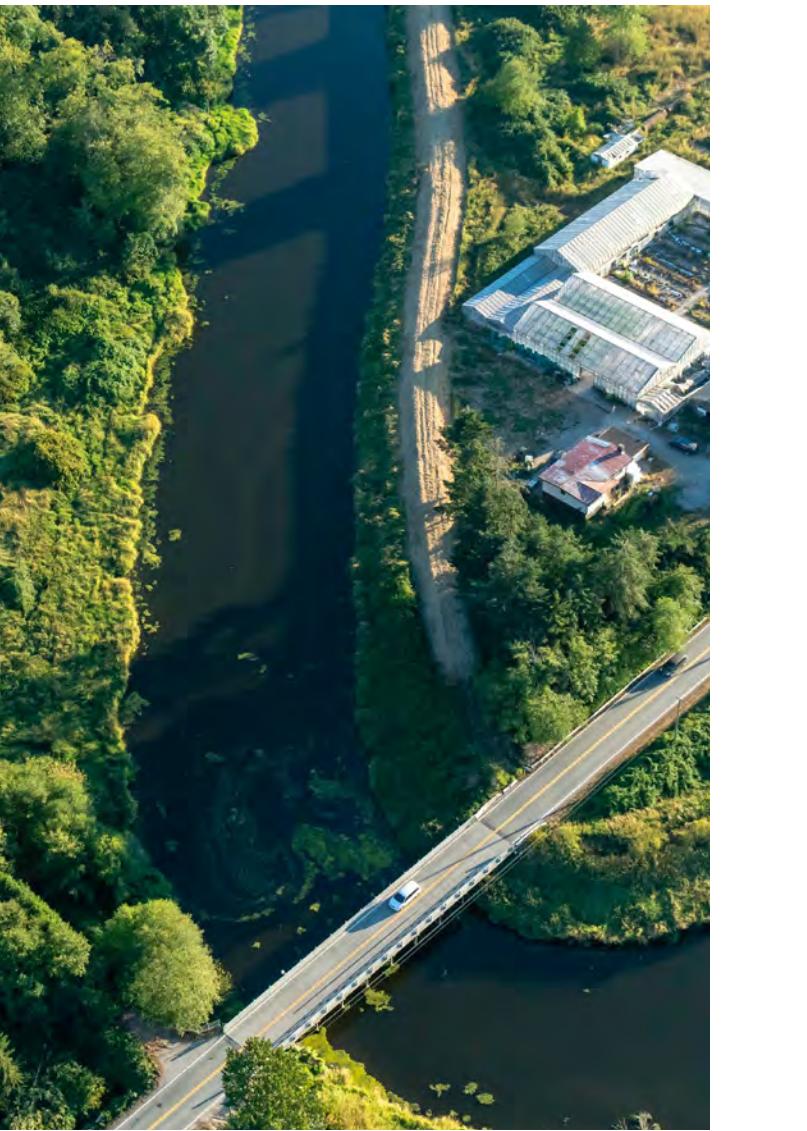
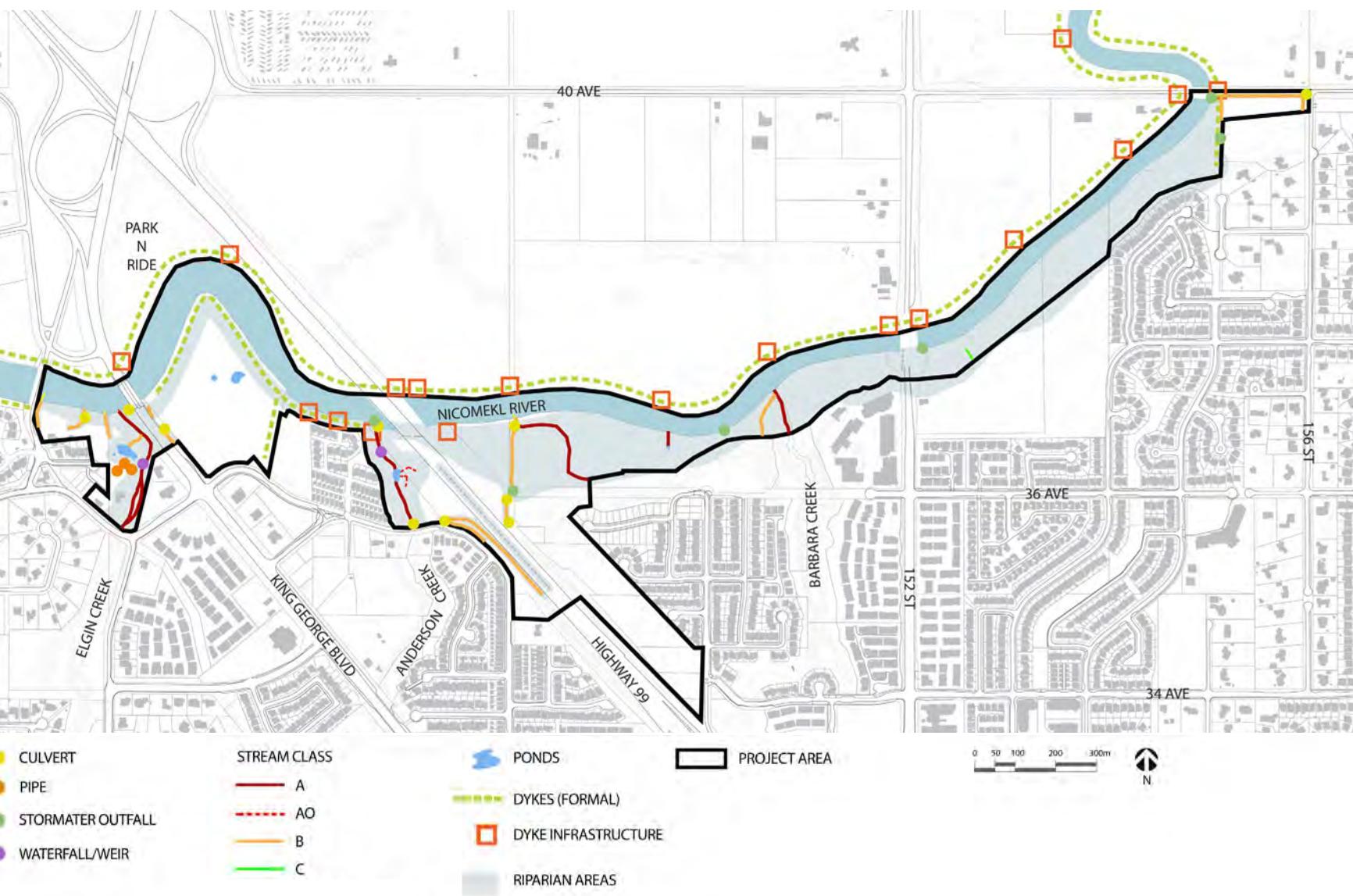


Fig. 29. Nicomekl River at 40th Ave (City of Surrey).

EXISTING STREAMS



COMMUNITY FEEDBACK / Deal with the agricultural run off to improve water quality. - Josef H

4.5 CLIMATE CHANGE AND SEA LEVEL RISE

The area around the park has historically experienced occasional flooding from significant rainfall events, high tides, and storm surges. Globally, however, storm events and sea levels are currently rising and flood events are becoming more frequent and extreme. As climate change continues, more carbon is added to the atmosphere, more heat radiation is captured by the atmosphere and radiated back to earth in an ongoing cycle. Hotter temperatures are melting glaciers and polar ice caps, and as water temperatures increase, the sea expands and levels rise.

Flooding of the Nicomekl River floodplain is affected by the volume and timing of significant rainfall events, stormwater runoff, tide cycles, freshet water volumes, and storm surge. The City manages the flooding in the river system through a series of dykes, pump stations, flood boxes, sea dams and storage. Some aspects of the Management Plan will provide increased flood capacity and protection from flooding.

It is anticipated that climate change and sea level rise will have an increasingly important impact on management strategies at the Nicomekl Riverfront Park. Currently, the Province of British Columbia advises municipalities to plan for 1 metre of sea level rise over the next 80 years, and 2 metres by 2200. However, local studies of the Nicomekl Riverfront Park site, recommend this number is even higher. East of the Sea Dam, the current dyke construction elevation (DCE) is 3.4 m, while the 2100 DCE is 4.3 m. These values include riverine flooding combined with high ocean levels. West of the Sea Dam, the current DCE is 2.7 m, and 3.65 m in 2100 (closer to the ocean, the DCE is 3.53, while the 2100 DCE is 4.29 m). These values include full wave effects and full storm surge.

The City has prepared a [Coastal Flood Adaptation Strategy \(CFAS\)](#), which identifies current and potential impacts of climate change driven sea level rise, and long term adaptation strategies that can manage and mitigate these impacts. The City has received Federal funding and is moving forward with the implementation of the 13 climate mitigation actions identified in the CFAS.

Adaptation is defined as the initiatives or measures to reduce vulnerability to climate change and sea level rise. These adaptation strategies include:

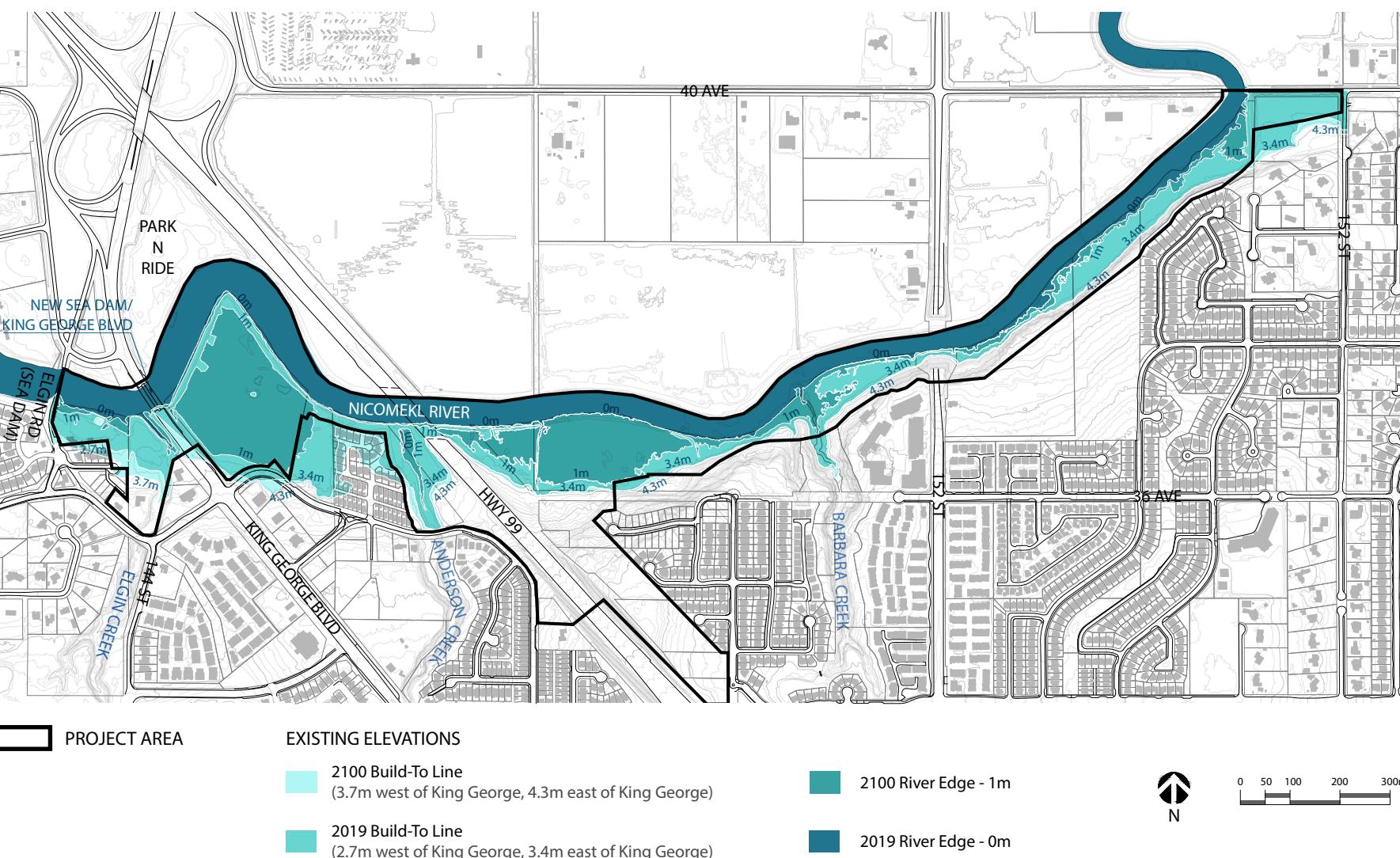
- Resist (creating dykes and barriers);
- Accommodate (living with flooding); and
- Retreat (moving to higher ground).

Refer to Chapter 6 Management Strategies for a discussion of how these actions will continue to be implemented in the future.



Fig. 30. Existing wetland area, winter 2018/2019 (City of Surrey).

EXISTING ELEVATIONS



4.5 CLIMATE CHANGE AND SEA LEVEL RISE

The Nicomekl Riverfront Park Management Plan is one component of the much larger response by the City to the potential impacts of climate change and sea level rise. Some of the other 13 projects have impacts on the park that will be addressed as each project moves forward. The implementation of the CFAS projects will be coordinated by the City's Engineering Department with input by the Parks Division over a period of several years.



Fig. 31. Nicomekl River, park, highway 99 and Boundary Bay (City of Surrey).

EXCERPT FROM CFAS REPORT, NOV 2019

APPENDIX II: DMAF ACTIONS



4.6 HERITAGE, CULTURE AND ARCHAEOLOGY

The Nicomekl River is an important element in the history of South Surrey. It has had an impact on the development of the area through its use:

- By First Nations for travel and livelihood;
- As a means of newcomer settlement;
- Its productiveness; and
- Its connection to the greater Fraser River watershed.

The history of the Nicomekl River can be described through six heritage subject areas.

1. WATERWAY ENVIRONMENT: The natural environment of the river is diverse. The lowlands of the site are located on land that used to be part of the sea prior to glacial shift. The river at its current extents is an important fish-bearing watercourse with a shoreline that includes habitat and also human disturbance. Flooding history is also a part of the natural heritage of the place.

2. POPULATING PLACE: The area around the Nicomekl River Park is the traditional territory of Kwantlen, Semiahmoo, Musqueam and Katzie First Nations. The mouth of the Nicomekl River was used by the First Nations for over 4,000 years, illustrating the importance of the area for settlement and as a source of food. In June 1873 the development of the land was influenced by the beginning of the provincial survey and division of land into square blocks. The craftsman-style Billy Hadden House (located within the project area) was constructed about 1940. It is a designated heritage site for its value as a connection to the early development of the Elgin neighbourhood.

3. LAND AND WATER-BASED ECONOMY: The Nicomekl River was an important driver in the economic growth of South Surrey. Logging and the transport of farm crops and supplies were facilitated by the use of the waterway.

4. ENGINEERING THE RIVER: The Nicomekl River has been manipulated through engineering since the area was settled. This includes dyking and ditches to improve agricultural viability. The sea dam was constructed to prevent salt water from flooding the farmland. This caused economic activity along the river to change since it prevented vessels from traveling upriver.

5. TRANSPORTATION NETWORKS: The Nicomekl River was an important inland travel route for Indigenous people for trade and communication. The River was traveled and documented by the Hudson's Bay Company in 1824 while in the process of establishing Fort Langley. The river was also more navigable than other nearby streams and rivers so was important to Surrey pioneers. The river continued to act as a primary transportation route prior to the construction of local roads. The Semiahmoo trail was an important early travel route through Surrey, which crosses the Nicomekl River along Elgin Road.

6. RIVERFRONT COMMUNITY: The River plays an important role in recreation, leisure and community activities related to the water. It has been identified as an important link in the city's Blueways network. For First Nations, the Nicomekl River and the local place names are highly culturally significant.

A preliminary, stage 1 archaeology assessment of a broader area has been completed in conjunction with the Disaster Mitigation and Adaptation Fund project work. That preliminary assessment indicates that there is archaeological potential in the Hadden Mill and Oxbow Zones as well as in the Ravine and the Bluff Zones of the Nicomekl Riverfront Park. Further archaeological study is required and First Nations have identified this as an opportunity for employment for Indigenous peoples for this study.

The full Heritage Plan is available via a link in Appendix I Companion Documents.

EXISTING CULTURAL LANDSCAPE FEATURES



4.6 HERITAGE, CULTURE AND ARCHAEOLOGY



Fig 32. Roads near the park site in 1960 (City of Vancouver Archives).



Fig 33. Logging in South Surrey (Surrey Archives).



Fig. 34. Billy Hadden Heritage House (PFS Studio).



Fig. 35. Salmon Ponds on Ramsell Property (PFS Studio).



Fig 36. Sea Dam on the Nicomekl River (Surrey Archives).



Fig 37. Fishing off the Nicomekl River Dam, 1966 (Surrey Archives).



Fig 38. Route of Semiahmoo Wagon Road (1873) on 1913 map (Surrey Archives).



Fig. 39. Semiahmoo Trail Marker (PFS Studio).



Fig 40. Bridge over the Nicomekl River at Semiahmoo Trail with Customs House in Background (Surrey Archives).



Fig 41. Johnston Road (152 Street) before construction of the overpass, 1968 (Surrey Archives).

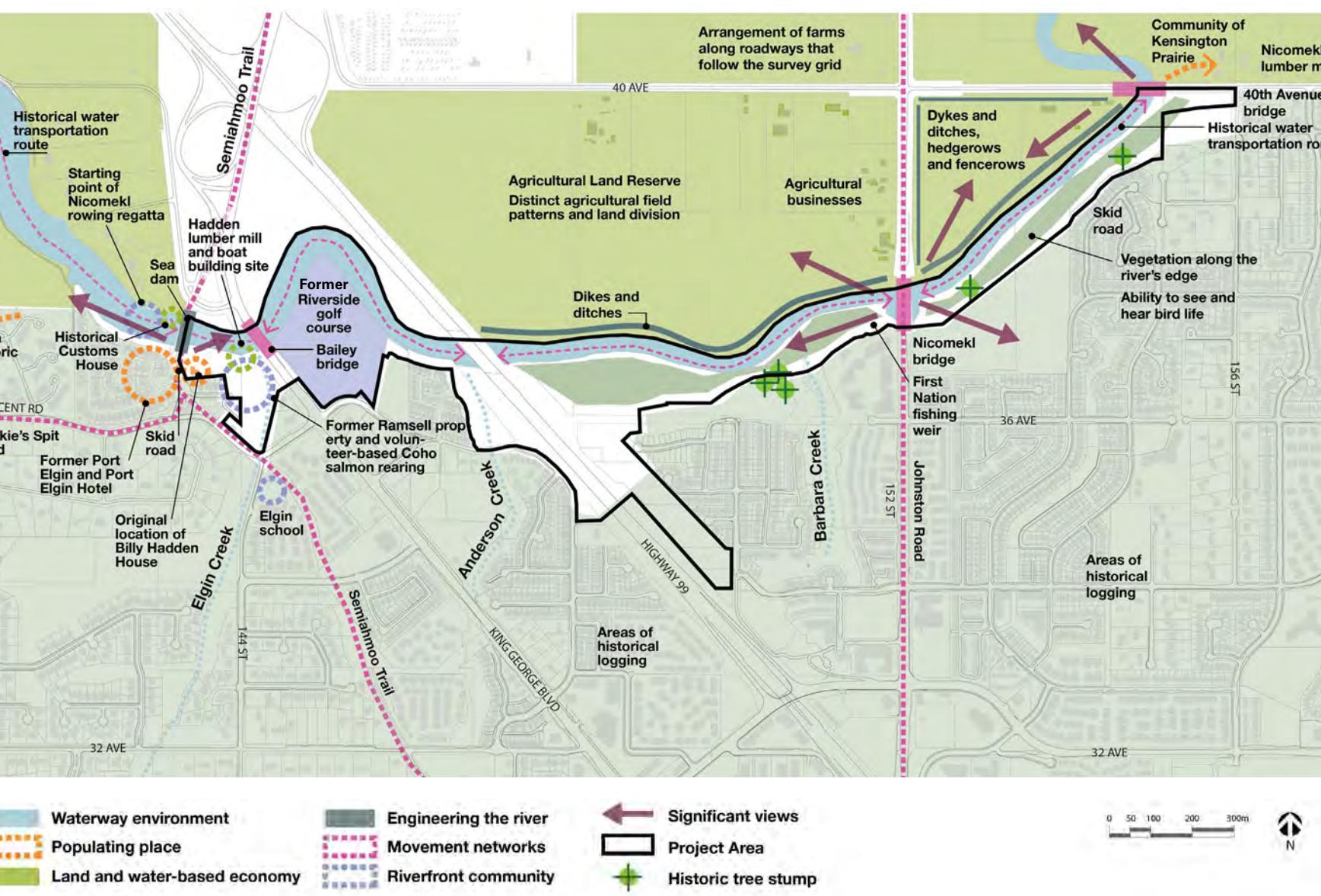


Fig. 42. Sea Dam / Elgin Rd Crossing (PFS Studio).



Fig. 43. Large heritage stump (PFS Studio).

HERITAGE THEMES



4.7 TRANSPORTATION AND ACCESS

Use of the site is currently limited as there are a limited number of access points. Some areas where people can currently walk into the site are located at Anderson Creek, the BC Hydro ROW and the eastern edge of the park at 40th Ave and 156th Street.

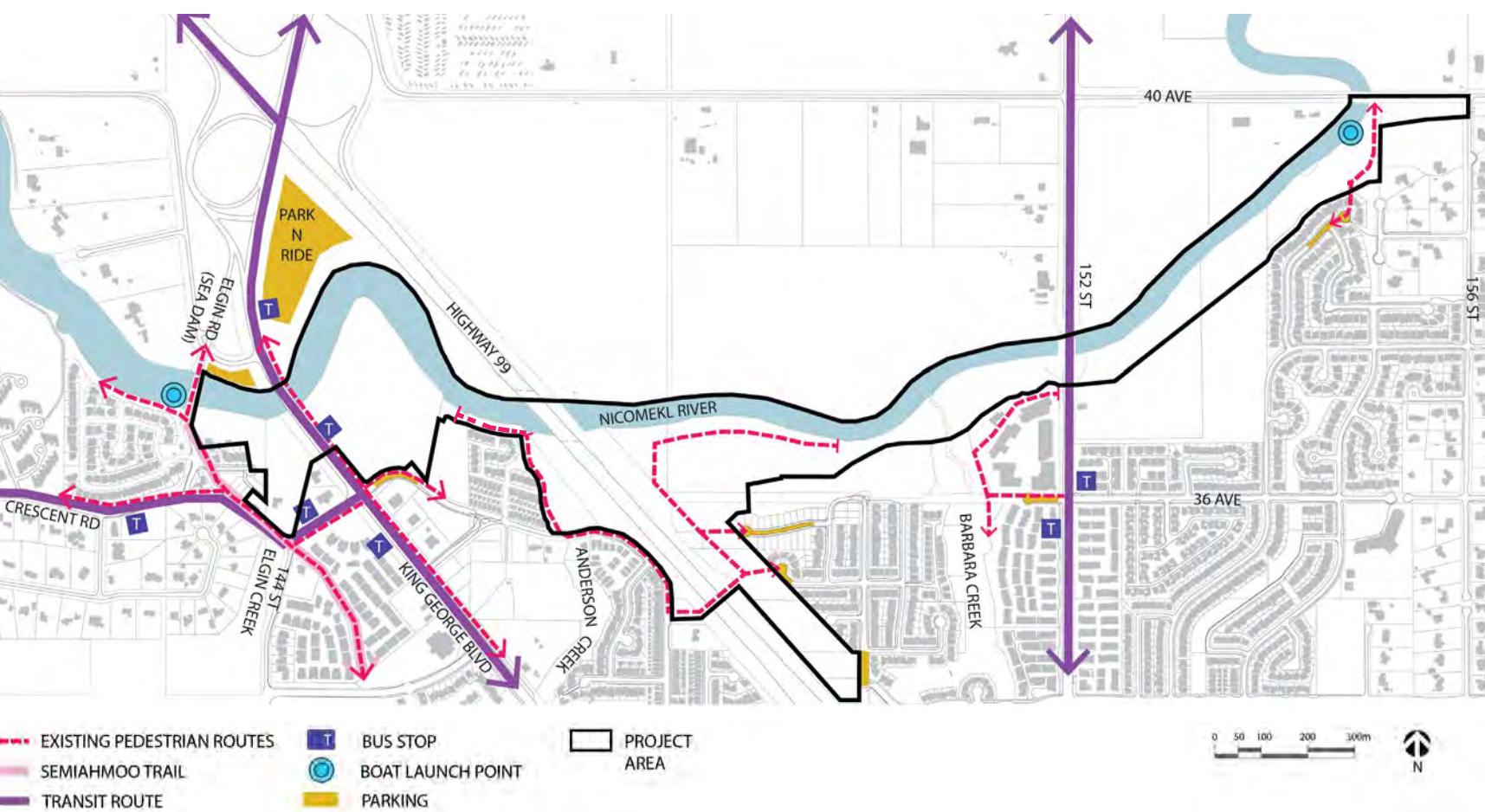
The Semiahmoo Trail extends north-south on the western edge of the site with a waterfront trail extending along the river to the west. Translink park and ride parking lots are located across the King George Blvd Bridge, and there is limited on-street parking in the neighbourhoods south of the park. There are a few public parking lots within 1.5 kms, at Elgin Centre, and Elgin Hall and two at Elgin Heritage Park. Several bus routes run through or adjacent to the park with stops near the boundary of the site. There is an existing, unmaintained small boat launch point on the eastern end of the park with some non-motorized boating taking place along the river. There is a semi-maintained small boat launch on the west side of Elgin Road.

There is a desire to provide connectivity between existing walking trails on both the eastern and western sides of the park and to provide easier access for people to experience the river and observe the ecologies of the riverfront park.



Fig. 44. Nicomekl River and King George Boulevard bailey bridge (City of Surrey).

EXISTING TRANSPORTATION & ACCESS



COMMUNITY FEEDBACK / Allow walk/bike on dyke on north side of the river, like in Delta. - Lee G

4.8 INFRASTRUCTURE AND UTILITIES

In addition to the creeks that flow into the Nicomekl River, there are several outfalls from the municipal storm system that connect to the river through pipes and culverts. Anderson Creek is collected into a culvert before being discharged into the Nicomekl River. An existing ditch at the eastern end of the site at 40th Ave floods regularly during wet months.

The existing sea dam has gates that open at low tide to allow fresh water to flow to Mud Bay and close at high tide to prevent salt water from flowing up the river and impacting agricultural land and irrigation. A new sea dam will be constructed upstream of the existing dam as one of the 13 projects related to Surrey's [Coastal Flood Adaptation Strategy \(CFAS\)](#). This project will provide similar benefits as the existing but will also provide improved flood protection and upstream fish passage. The new upstream location of the sea dam will expose the river in the Hadden Mill Zone to tidal and saltwater conditions.

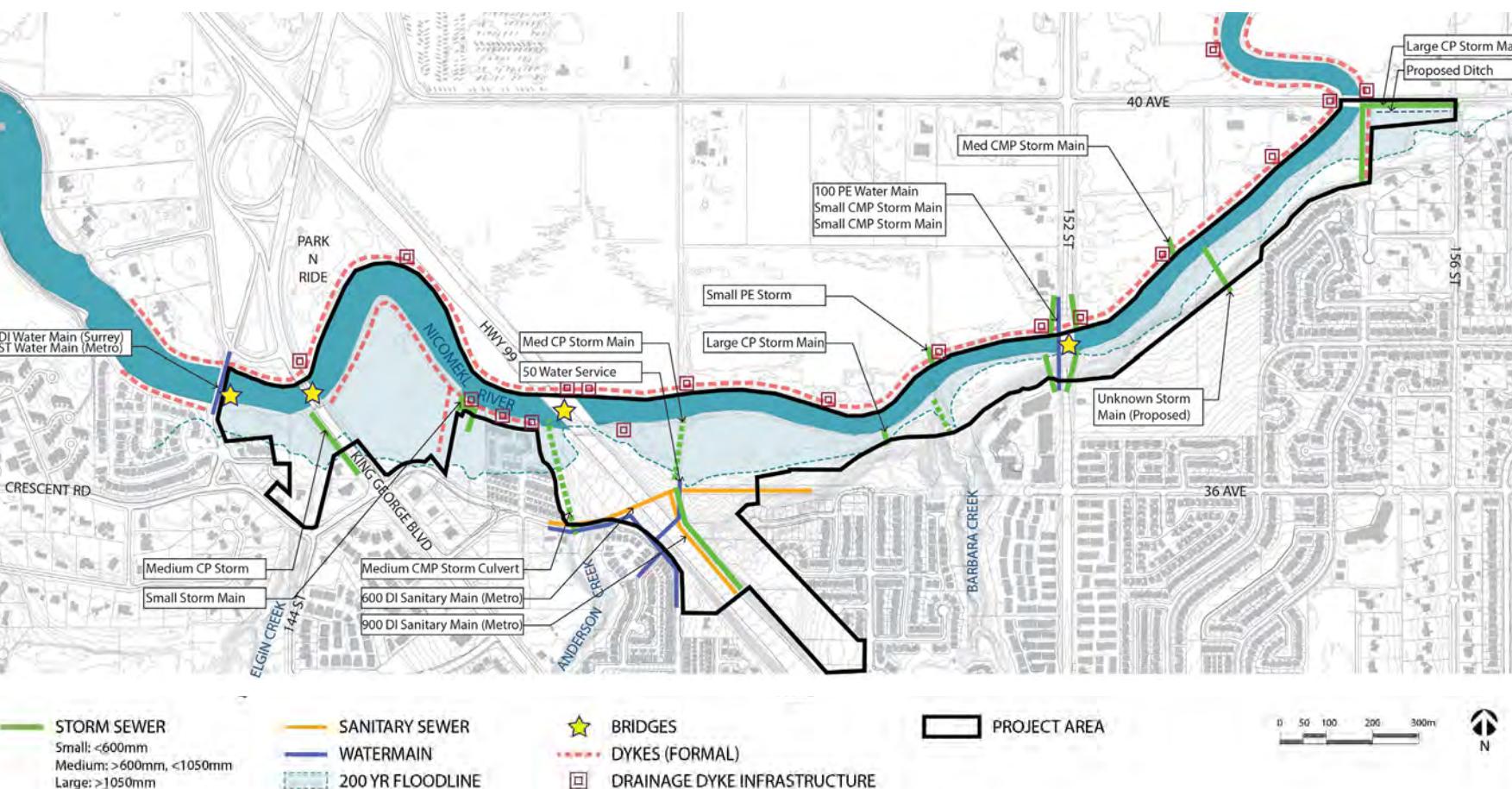
A BC Hydro corridor runs along the east side of Highway 99. Vegetation management within the ROW must comply with the guidelines established by BC Hydro.

Existing storm sewer, sanitary sewer, water main lines, dykes and bridges in the project area are shown in the diagram to the right.



Fig. 45. Nicomekl River, Elgin Road / sea dam, King George Boulevard (City of Surrey).

EXISTING INFRASTRUCTURE & UTILITIES



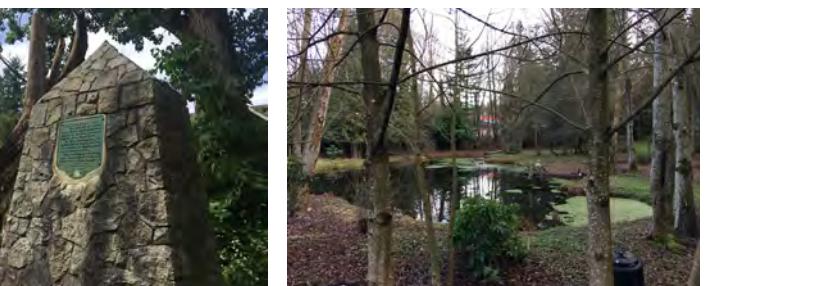
4.9 CURRENT PARK USES AND EXISTING PARK AMENITIES

The Nicomekl Park site has many existing features that can contribute to the overall design of the riverfront park. The historic house in the Hadden Mill zone provides a heritage structure for the park that can be programmed for educational and event uses. The Hadden Mill zone also contains remnants of two ponds that have some potential to be rehabilitated and reintegrated into the design of the park to once again contribute to the local salmon population.

The Oxbow zone is flat and low in elevation with a wetland forming at its centre, showcasing a unique habitat type.

Currently the historic Semiahmoo Trail provides a popular point of access at the Elgin road area. There is also an existing canoe and kayak access point and boat launch at this point. Pedestrians are able to walk westbound from the Elgin boat launch along the tidal stretch of the Nicomekl River to Elgin Heritage Park and the Stewart Farm.

There are spectacular views across the river from the south banks to the agricultural landscape north of the park. On the steep bluffs on the eastern end of the site, the mixed forest contributes to this view and creates a sense of enclosure to the viewer.



A. Semiahmoo Trail

B. Salmon Ponds in Hadden Mill zone



C. Semiahmoo Trail elements

D. Billy Hadden House



E. Sea Dam at Elgin Road

F. Elgin Creek

Fig. 46. Existing site elements (PFS).



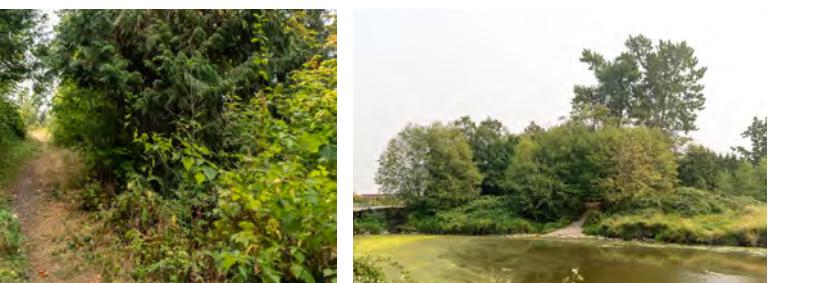
G. Oxbow zone

H. Existing dyke in Oxbow zone



I. Path under hydro corridor

J. Floodplain



K. Walking path in Bluff zone

L. Existing boat launch at 40th Ave

Fig. 47. Existing site elements (PFS).

EXISTING LANDSCAPE ELEMENTS

(from West to East along the site)

A. Semiahmoo Trail

B. Salmon ponds in Hadden Mill zone

C. Semiahmoo Trail elements

D. Billy Hadden House

E. Sea Dam at Elgin Road

F. Elgin Creek

G. Oxbow zone

H. Existing dyke in Oxbow zone

I. Path under hydro corridor

J. Floodplain zone

K. Walking path in Bluff zone

L. Existing boat launch at 40th Ave

Fig. 48. Existing vegetation in park (City of Surrey).

5 / PARK CONCEPT PLANS AND DESIGN INITIATIVES

- 5.1 PARK CONCEPT PLAN AND OVERALL DESIGN INITIATIVES
- 5.2 Zone 1: HADDEN MILL
- 5.3 Zone 2: THE OXBOW
- 5.4 Zone 3: THE CREEK
- 5.5 Zone 4: THE RAVINE
- 5.6 Zone 5: THE FLOODPLAIN
- 5.7 Zone 6: THE MEADOW
- 5.8 Zone 7: THE BLUFF
- 5.9 Zone 8: KENSINGTON LAUNCH



Fig. 49. Existing ponds in Hadden Mill zone (City of Surrey).

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

OVERALL DESIGN INITIATIVES (DI)

The 3 km linear riverfront park spans several character zones defined by different ecologies, topographic conditions, adjacencies and histories. The change in character between these zones defines the boundaries of eight (8) designated park areas, hereinafter referred to as the eight (8) *character zones*, as identified in the concept plan to the right.

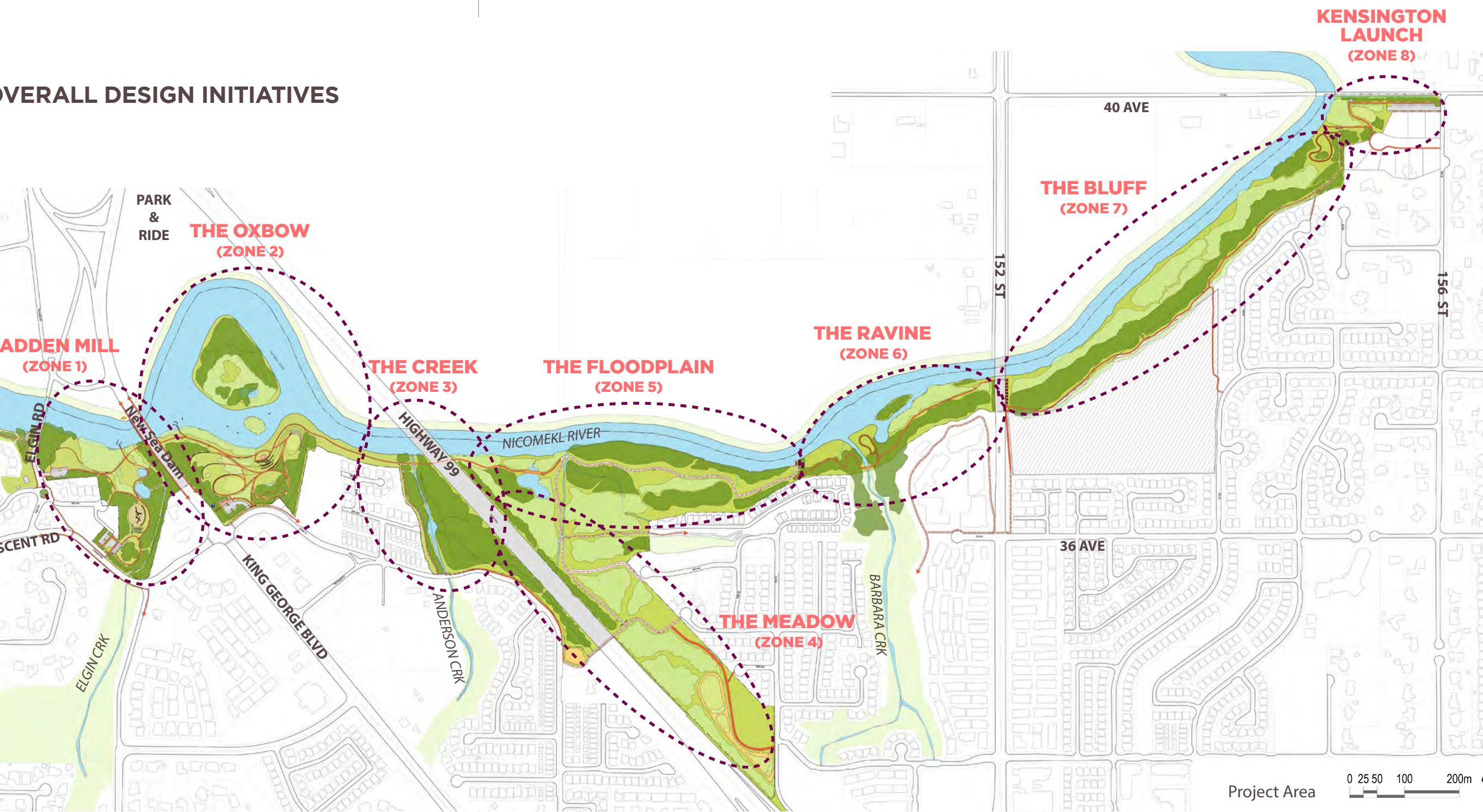
Chapter 5 lists a number of overall park **Design Initiatives**, identifies the eight (8) character zones and outlines the specific design features of each character zone. Zones are numbered from west to east.

- The central and eastern zones: The Creek, Meadow, Floodplain, Ravine and Bluff, have a relatively 'light' design approach that is focused largely on ecological restoration, enhancement, protection and preservation with limited passive public use.
- The western-most zones, Hadden Mill and The Oxbow, are intended to host a variety of both active and passive public uses where a number of amenity areas are proposed adjacent to protected and enhanced natural areas.
- The Kensington Launch zone at 40th Ave, is intended as a major arrival point and staging area for access to the Nicomekl blueway.

The following **Design Initiatives (DI's)** express how the twelve (12) **Park Objectives** (refer to 2.2 on page 20) will be achieved through design. The **DI's** are intended to guide future park design and development decisions. The overall concept plan and **Design Initiatives DI-1 to DI-14** apply to the entire park.

These are followed by the individual concept plans and **Design Initiatives DI-15 to DI-22** that apply to each individual character zone.

It is important that these diverse **Park Objectives** are not stand-alone but layered together and integrated through design and implementation.



5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-1 RESTORE RIPARIAN VEGETATION IN VARIOUS AREAS ALONG THE RIVER.

Habitat protection and enhancement is the primary design objective along the entire length of the park. Tree cover along the south side of the Nicomekl River is critical for shading, stabilizing banks and providing leaf litter input. Restoration of native plant communities provide important habitat for animal species, increasing biodiversity, and create the conditions for a more resilient and ecologically diverse system.

Climate change must be considered during replanting; use species that are more adaptable to predicted weather patterns. Design shoreline improvements using overhanging riparian planting to reinforce against shoreline erosion, and to provide shade to protect fish. Recommended species to be considered for planting are provided in the Environmental Assessment Report in Appendix I Companion Documents. It is expected that pioneer species such as red alder and black cottonwood will establish naturally in these areas. Restoration areas include:

- The areas east of Barbara Creek generally provide good riparian vegetation with the exception of two large areas dominated by reed canary grass. The areas west of Barbara Creek have been disturbed;
- Many areas where dykes were constructed have little tree cover or vegetation complexity. Where these dykes are not subject to the Dike Maintenance Act and required to be maintained, opportunities exist to replant with native trees and shrubs;

OBJ-1

Increase biodiversity and ecological resilience throughout the park by protecting, restoring, enhancing and increasing ecological corridors, patches, tree canopy and shoreline habitat complexity

- The area between Barbara Creek and Highway 99 is currently under restoration with a commitment in place through approval of the adjacent development. Replant using native trees and shrubs where appropriate. Restore riparian plant cover in the Oxbow and Creek zones east to Highway 99;
- Invest considerable resources in the planting of ecosystem appropriate native plants and trees; and
- Access for watering and maintenance must be a consideration when planning these restoration areas.

ECOLOGICAL ENHANCEMENT OPPORTUNITIES



* Plant native species, including First Nation medicinal/traditional plants, throughout the entire park.

COMMUNITY FEEDBACK / Minimum possible disruption... it's a sensitive area for wildlife. - Maria B

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-2

PROVIDE A MULTI-USE, UNIVERSALLY ACCESSIBLE, GRANULAR PATHWAY THAT IS AT LEAST 2 M WIDE ALONG THE ENTIRE LENGTH OF THE PARK.

The continuous path is an extension of the existing path from Elgin Heritage Park, along the riverfront, and altogether will create a 6km+ riverfront pathway system. The path, with access for everyone, is the most important outdoor recreation feature of the park. Most visitors to the park will use at least some portion of the path. It will be multi-use and intended for walking, rolling, jogging, casual cycling and on-leash dog walking. Path width should be 3m, where possible, to allow for two-way traffic, enough space for people of various speeds to pass each other without unsafe conditions. Include benches at intermittent and strategic locations along the length of the path to allow rest and contemplation. Although the path surfacing should allow for water infiltration (rather than runoff), it, and the boardwalks, must also be universally accessible where possible. Refer to the All Persons Trail precedent in other jurisdictions as a guide to path design practices and precedent for accessible features like a guide rope. Adequate rest points are essential to achieve universal access. Include distance markers to encourage recreational use of path.

Commit to resolving the detailed design challenges associated with the width and the universal accessibility of certain sections of the pathway. Add under-bridge pedestrian and wildlife connections at all bridges for an uninterrupted trail system along the length of the park. Coordinate pedestrian access across all major roads with the city's Engineering Department to ensure that any road improvements at these crossings allow for continuous, accessible access along the length of Nicomekl Riverfront Park and provide pedestrian access from the roadside onto the riverside trail. Provide trail connections into the surrounding neighbourhood, specifically to the Semiahmoo Heritage Trail, the trail leading to Elgin Heritage Park, and the walkways adjacent to the Meadow zone.

Reference the city's park pathway and trail standards in specifying materials and width and ensure pathways and trails are selected based on the operational and maintenance area requirements.

DI-3

DESIGN AND DEVELOP A DIVERSE PATHWAY EXPERIENCE THAT PROVIDES IMPROVED CONNECTIVITY TO THE SURROUNDING NEIGHBOURHOOD AND CONTROLLED ACCESS TO THE RIVER'S EDGE.

The continuous path system knits together the different park character zones into a comprehensive park experience. To diversify the experience, provide pathway loops where space and topography permit. Ensure that secondary paths take meandering routes, while boardwalks may enable access to and from the river edge. Increase public access to the river and its surrounding ecologies at limited and controlled points to protect wildlife habitat. Although the pathway system extends along the entire length of the park, ensure that certain areas of the park remain without access in order to retain large, undisturbed natural patches. Find locations where connections into adjacent neighbourhoods can be improved. Increase connectivity to other parks and trail networks.

OBJ-8

Celebrate the diverse qualities of each park area while unifying them into one continuous riparian experience

PROPOSED CIRCULATION



COMMUNITY FEEDBACK / Include benches along the route to sit and enjoy the view. - Lynn N
/ Make the park accessible for people with disabilities. - MaryAnn T

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-4

EXECUTE COMPONENTS OF THE BLUEWAYS PLAN.

Design and install each of the boardwalks, launches, and boat rest pullout docks in a manner that enhances the blueways experience for canoe, kayak and paddleboard users as well as pedestrians venturing to the water's edge. Ensure that each boat rest dock is universally accessible and easy to use for pedestrians and boaters. Add benches and interpretive information at each pullout point. Identify the portage route around the future bridge/sea dam at King George Boulevard using wayfinding signage and on wayfinding maps. Design direct and short circulation routes to launch/docks from parking lots.

DI-5

DESIGN ALL PARK ELEMENTS TO WITHSTAND FLOODING.

All design decisions must take into account that much of the park will be subject to flooding. Flooded areas will be monitored, designs may need to be reengineered and/or some facilities may need to be relocated. Anticipate how each design feature will be affected both during and after inundation. Design for resiliency.

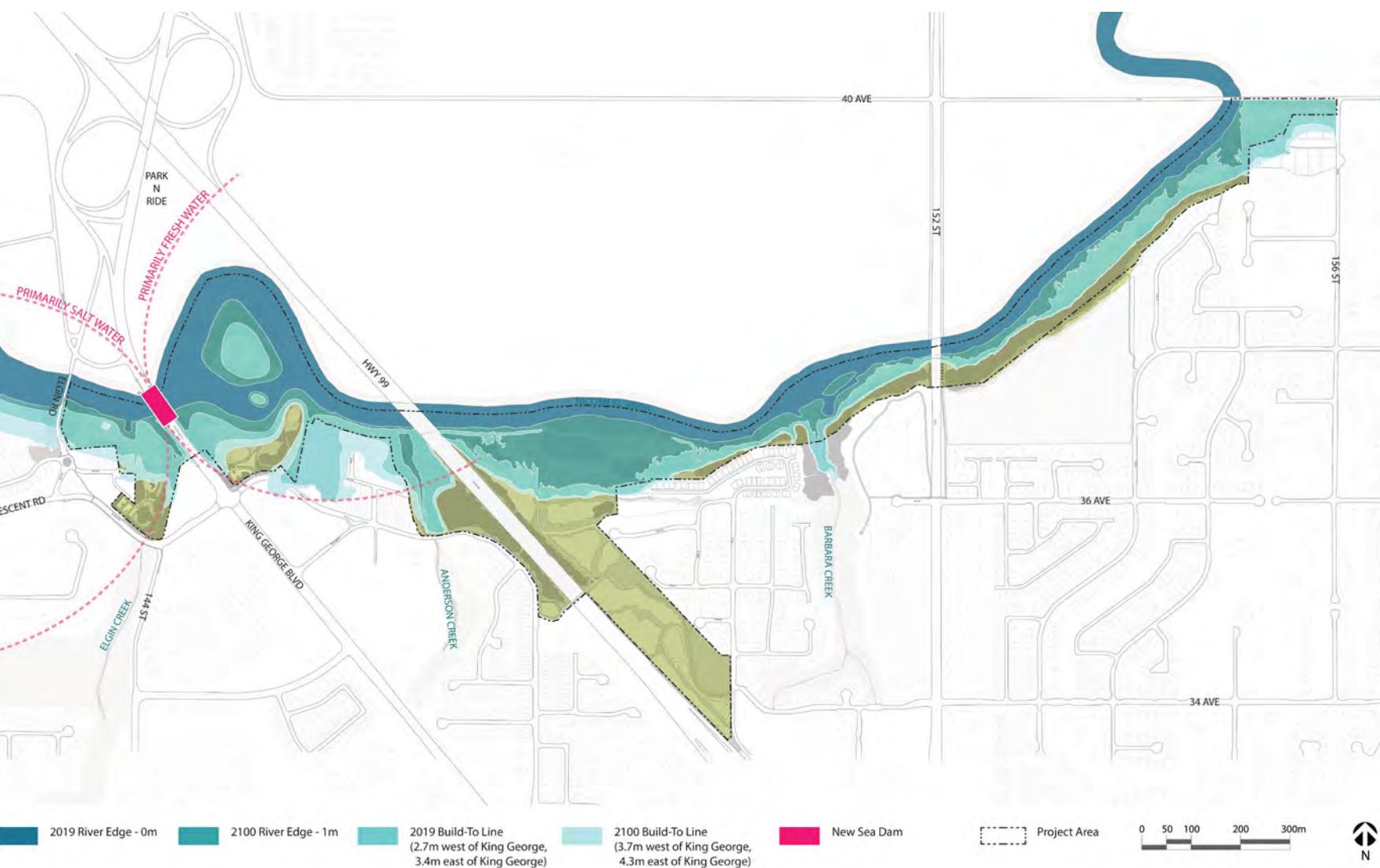


Fig. 50. Nicomekl River high water by Oxbow and King George Blvd bridge (City of Surrey).

OBJ-3

Create access to the river – Connect the park into the greater land and water networks and systems.

SEA LEVEL RISE IMPACTS



COMMUNITY FEEDBACK / Incorporate features specific to canoes and kayaks. - Svsh96
/ Keep it natural to deal with the flooding. - T D

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-6 PREPARE A NAMING STRATEGY THAT IDENTIFIES NAMES FOR THE VARIOUS PARK TRAILS AND FEATURES.

The floodplain and river was a workplace and transportation network for First Nations people and the river a highway, not a place of habitation, and its purpose has changed over time and will continue to change with continued interest in the site and area. Prioritize using traditional First Nations name. The park site itself may warrant a traditional Indigenous name based on its historical importance to First Nations. Trails, places and features within the park should be named. Engage First Nations representatives in a naming process and rely on their knowledge and expertise for trail and place name signage. [Refer to All Our Relations Strategy](#), Goal #38: "increase visibility of traditional Coast Salish place names [in parks]."



Fig. 51. Artwork installed on Salt Spring Island at Duthie Gallerie and B & B - 125 Churchill Rd (Lynne Werker).

DI-7 INCORPORATE PUBLIC ARTWORK PROJECTS THROUGHOUT THE PARK AS IT IS DEVELOPED OVER TIME.

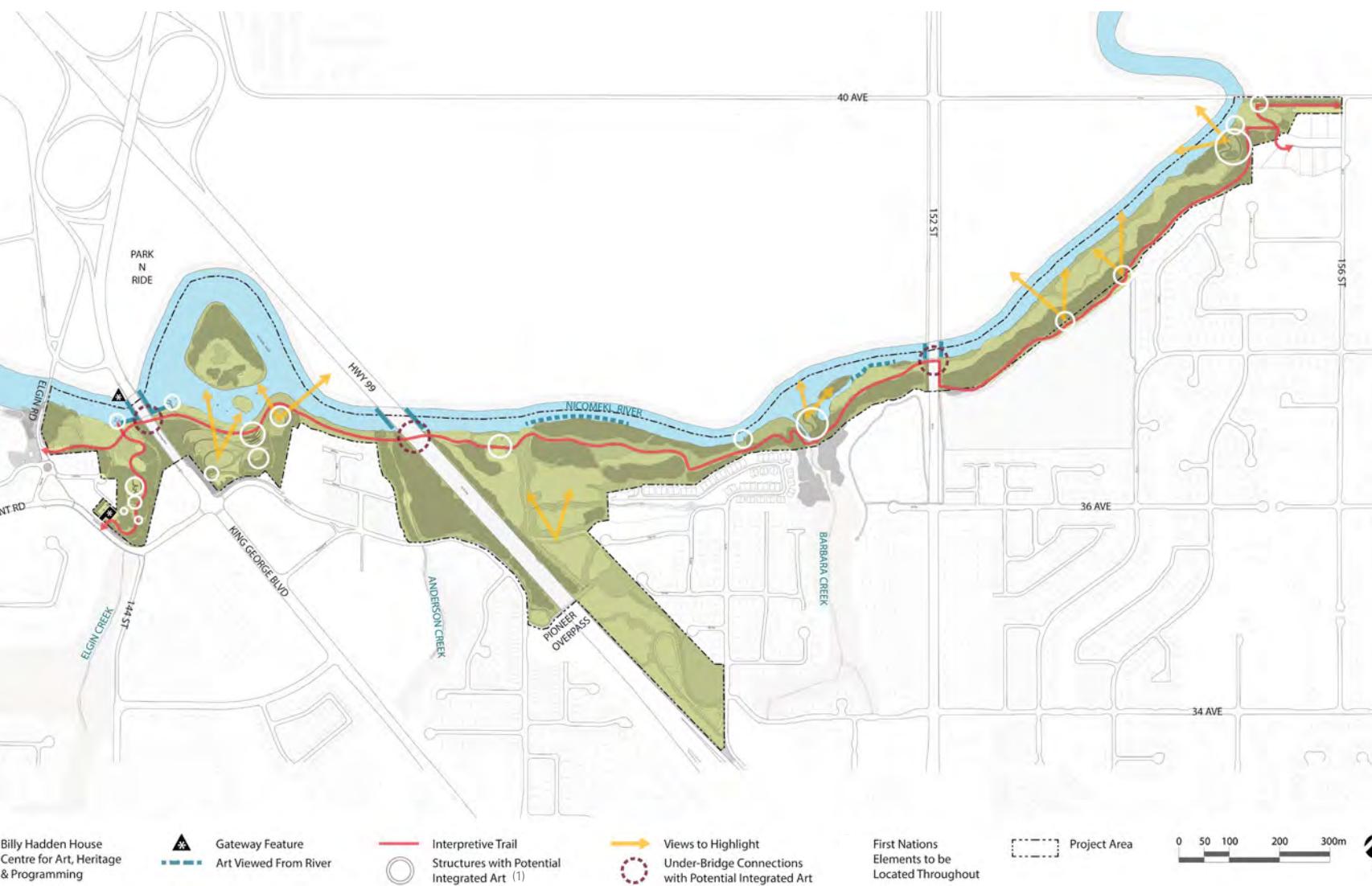
Take advantage of the opportunities to achieve the goals contained in the overall Public Art Strategy for the park, found in Appendix I Companion Documents.

- Find opportunities to include permanent and temporary artwork, artistic events and rituals on a regular and ongoing basis as the park is developed;
- Thoroughly integrate public art into park design and use art in the park to enhance the public experience of the park wherever possible;
- Integrate public art work into structures;
- Develop a gateway feature at King George Boulevard;
- Use the physical, environmental, heritage and cultural characteristics of the park to inform artistic expression in the park;
- Develop unique interpretation experiences, i.e. art that can be viewed only from the river;
- Develop an art/heritage journey; and
- Use art to highlight views.

OBJ-5

Express multiple histories and stories across the site through public art, interpretation, materials and design elements

POSSIBLE ART, HERITAGE, INTERPRETATION, AND CULTURAL LOCATIONS



(1) Proposed integrated art structures can include interpretation, heritage, cultural recognition, First Nations and public artwork elements.

COMMUNITY FEEDBACK / Multi-cultural art. - Youth

/ Relevant plaques, carvings, installations along path/river. - Chandler T

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-8

PROVIDE THE MAJORITY OF THE PUBLIC USE AMENITIES AND STRUCTURES IN THE HADDEN MILL, OXBOW AND KENSINGTON LAUNCH ZONES.

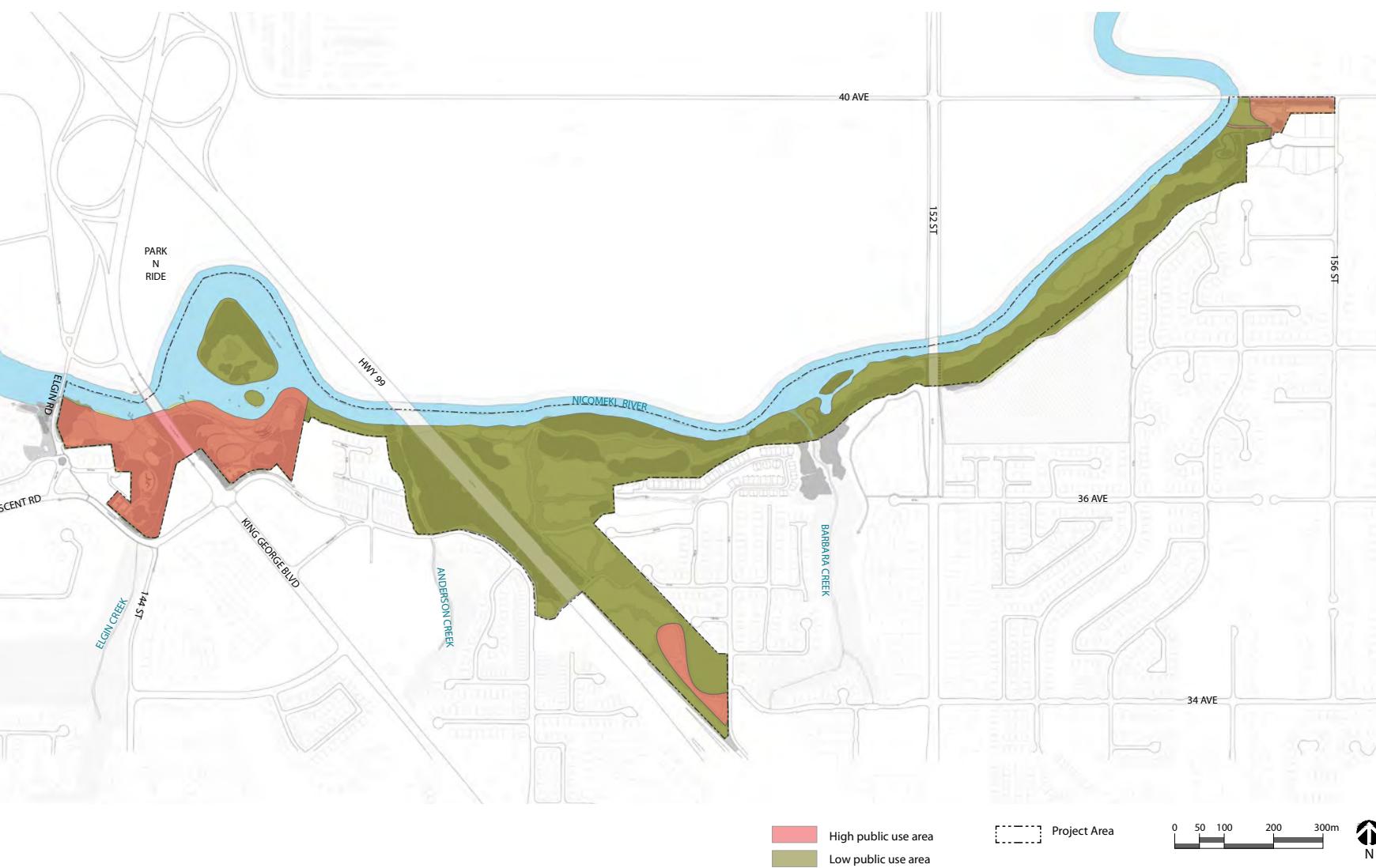
Park-wide development is focused on ecological protection/restoration/enhancement, trail construction and access improvements except in the Hadden Mill, Oxbow and Kensington Launch zones where a greater variety of public use amenities are provided. Refer to the **Design Initiatives** for each character zone in Chapter 5. Design and locate the program spaces in these areas in terms of:

- Proximity to access, parking, garbage bins and washrooms;
- Easy maintenance access (not in conflict with park uses/programs); and
- Adjacent programs vs. programs to locate far away from each other.

OBJ-2

Balance ecological integrity with park amenities, usage and programming

PROPOSED HIGH AND LOW USE AREAS



COMMUNITY FEEDBACK / Designate areas of zero public access to satisfy ecological objectives. - David R

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-9

PROVIDE A LIMITED NUMBER OF MINOR STRUCTURES AND FURNISHINGS IN THE MAJORITY OF THE PARK.

Use sustainable, recyclable and easily maintainable materials and integrate art into all elements, to provide:

- Universally accessible pathways under the bridges: Hwy 99, King George, and 152 Street, for park users and wildlife;
- Universally accessible boardwalk loops in the Bluff and Ravine zones;
- Small universally accessible bridges over Elgin and Barbara Creeks, and the Amphibian Pond in the Floodplain zone (for pedestrians, cyclists and small maintenance vehicles);
- Possible universally accessible structure up steep bank at 152 Street bridge;
- Strategy for operational access (not public access) to the habitat islands;
- Universally accessible boat launch/docks at the Oxbow and Hadden Mill zones and a dock in the Ravine, with furnishings/elements to support fishing;
- Upgraded boat launch at the Kensington Launch zone;
- Universally accessible cantilevered view points at the Bluff zone and Elgin Creek and other site elements to experience views;
- Stand alone art and heritage elements, including Indigenous elements;
- Wayfinding elements and signage at all primary and secondary park entrances throughout the park and integrated with Semiahmoo Trail and community wayfinding signage;
- Natural playground and amphitheatre in the Hadden Mill zone;
- Dog off leash area in the Meadow zone;
- Park shelters and/or picnic tables at Oxbow, Hadden Mill and Kensington Launch zones; possible inclusion of a larger park shelter for use of outdoor programs; all shelters to be universally accessible (structure and access);
- Floodable parking lots at Kensington Launch, Oxbow, Hadden Mill and Hadden House zones including wayfinding signage to nearby off-site parking lots at Elgin Centre, Elgin Hall and Elgin Heritage Park. (The parking lots at Hadden Mill and Kensington are both 0.5 M below the road elevation and are subject to flooding; Design each parking lot to accommodate flooding and continue to function after inundation without significant repair);
- Park entrance gates at seven locations (review in Wayfinding strategy);
- Accessible washrooms in Hadden Mill, Oxbow & Kensington Launch zones; and
- Water fountains and bicycle racks in strategic locations.

PROPOSED STRUCTURES & BUILDINGS



*Integrate art and heritage interpretive elements (i.e. First Nation History Interpretive Kiosk) into structures and buildings

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES



Fig. 52. Information kiosk above Horseshoe Bay along the Sea-to-sky Highway (Tad McIlwraith).



Fig. 53. Berkshire Boardwalk (Andrea Jones).



Fig. 54. Residence 10 (David Swift).



Fig. 55. National Tourist Route Trollstigen (Reulf Ramstad Architects).



Fig. 56. The Scott Arboretum of Swarthmore College (Swarthmore College).



Fig. 57. The Wetlands, Wakehurst (Royal Botanic Gardens Kew).



Fig. 58. Hazelgrove Park Washroom Building (City of Surrey).



Fig. 59. Signage and Wayfinding for Tehaleh (Newland Communities).



Fig. 60. St. Vital Park Pavilion, Winnipeg (Lisa Stinner-Kun).



Fig. 61. Die Timmelsjoch Erfahrung (Werner Tscholl Architekt).



Fig. 62. Terra Nova Adventure Playground (Kinsol Timber).



Fig. 63. The Midden Garden Pavilion (Wieland Gleich).

DI-10 CO-DEVELOP A 'DESIGN CHARACTER' FOR PARK AMENITIES, FURNISHINGS, SIGNAGE AND WAYFINDING ELEMENTS.

A number of site amenities, furnishings and fixtures are proposed to support the range of programs and activities in the park. The architectural language for these structures should be unified throughout the park with a simple, contemporary expression. Include design details of appropriate park entry gateways at the primary access points.

Work with stakeholders and First Nations representatives to develop this design character. Engage First Nations in the preparation of artwork, signage, plant selection as well as construction methodologies. Incorporate First Nation inspired features, constructed by Indigenous artists (e.g. cedar hat kiosks like those on the Sea to Sky Highway was suggested by Semiahmoo First Nation) in various locations throughout the park; explore the opportunities for 'stations' or 'stops' for cultural interpretation. **Explore Goal #32 from the [All Our Relations Strategy](#), "Build an appropriate space (or spaces) [in parks] for the Aboriginal community to gather" and "increase indigenous art [on park buildings and public spaces."**

Prepare interpretive signage using information that communicates Indigenous traditional way of life, respectful relationship to the environment, their world view and demonstrates the diversity among First Nations. Include traditional Indigenous languages on signage. Design signage to be updated as new Indigenous stories and histories are shared.

DI-11 PROVIDE A DOG OFF-LEASH AREA.

Unleashed dogs have a documented negative impact on wildlife which is inconsistent with the overarching objective at Nicomekl Riverfront Park to provide recreational access in a manner that has minimal impact on the natural environment. People are welcome to walk their leashed dogs along primary and secondary paths. One off-leash area is provided in the Meadow Character zone, east of highway 99. As per city bylaws, dogs must be under control at all times.

DI-12 PROVIDE MINIMAL LIGHTING.

In accordance with the Parks Bylaw access to the park is limited to daylight hours, from dawn till dusk. The park should remain dark at night to avoid the negative effects of night lighting on birds, insects and animals. Lighting should be kept out of the majority of the park.

OBJ-7 Engage First Nations and the public to work toward reconciliation

COMMUNITY FEEDBACK / Off-Leash dog park please. - Karthik K

5.1 PARK CONCEPT PLAN & OVERALL DESIGN INITIATIVES

DI-13 MANAGE STORMWATER FOR INFILTRATION.

Adopt best management practices related to reducing, using and filtering all stormwater. Avoid the use of storm sewers in favour of bioretention and infiltration strategies. Incorporate rain gardens and biofiltration swales in detailed design drawings. Design all gathering spaces, parking lots and pathway surfaces for permeability.

DI-14 COORDINATE PROTECTIVE DYKE ELEVATIONS WITHIN THE PARK WITH OTHER DEPARTMENTS AND SENIOR LEVELS OF GOVERNMENT.

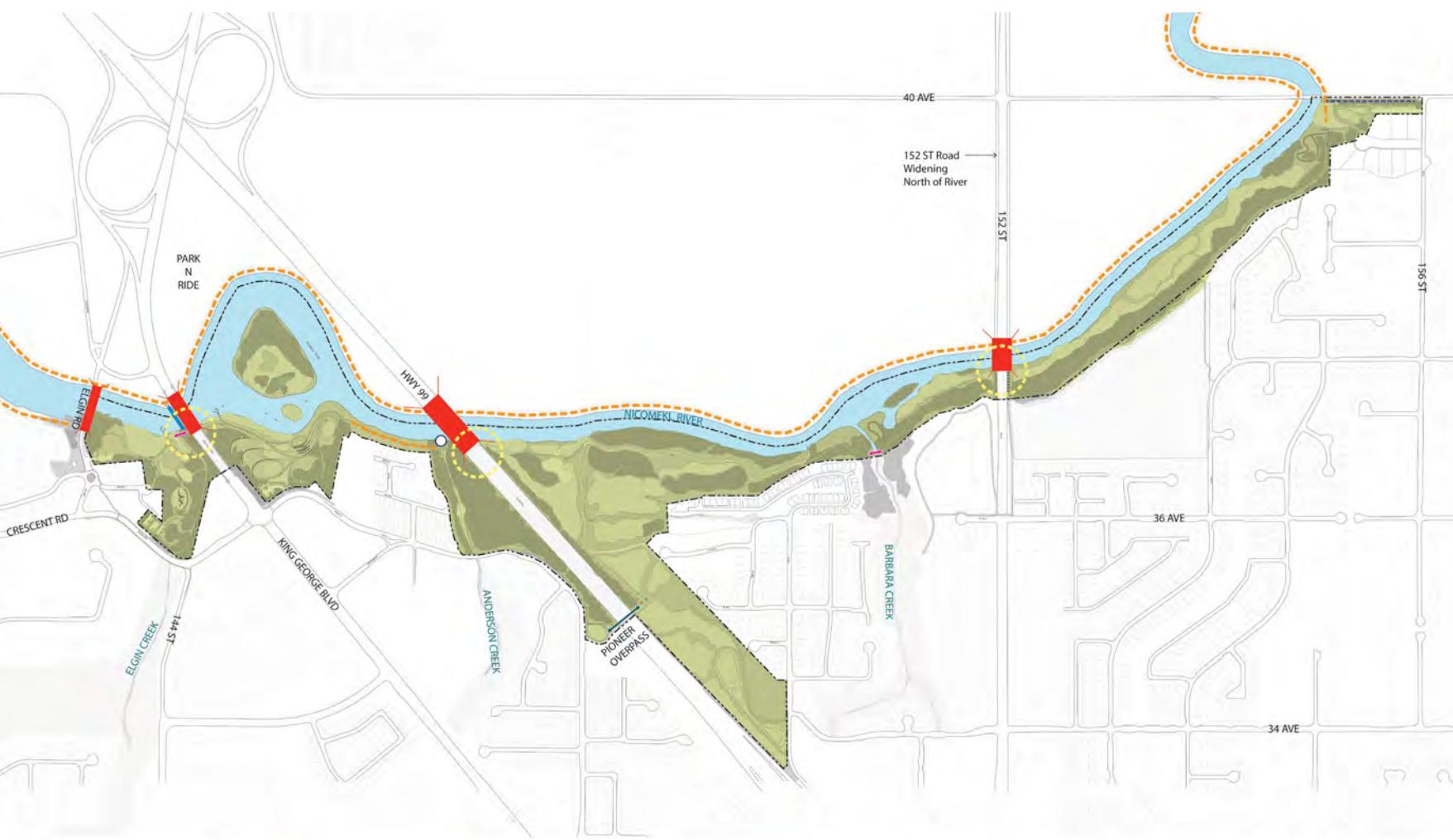
Currently, the Province of British Columbia advises municipalities to plan for 1 metre of sea level rise over the next 80 years, and 2 metres by 2200. However, local studies of the Nicomekl floodplain recommend this number be even higher, as land subsidence and wave effects play a role. East of the Sea Dam, the current dyke construction elevation (DCE) is 3.4 m, while the 2100 DCE is 4.3 m. These values include riverine flooding combined with high ocean levels. West of the Sea Dam, the current DCE is 2.7 m, and 3.65 m in 2100 (Closer to the ocean, the DCE is 3.53, while the 2100 DCE is 4.29 m). These values include variable subsidence, wave effects and storm surge.

Any development adjacent to an existing formal dyke must be independent from, and not disturb the structure of, the dyke so that the integrity of the dyke is maintained.

OBJ-9

Address sea level rise with multifunctional and adaptive management approaches that can change and evolve over time

INFRASTRUCTURE (EXISTING & PROPOSED)



*Integrate art and heritage interpretive elements (i.e. First Nation History) into infrastructure.

COMMUNITY FEEDBACK / Tackle dyke erosion and plant trees on the dyke for shade. - Richard K

5.2 HADDEN MILL ZONE 1 CONCEPT & DESIGN INITIATIVES

The Hadden Mill zone of Nicomekl Riverfront Park is one of two zones where the majority of the amenities for public use are concentrated. Park amenities include: the possible relocation of the Billy Hadden House, trails of several types that lead in several directions, parking lots, benches, a natural playground (play-in-nature), an outdoor teaching plaza, a picnic area as well as several overlooks and boardwalks for public use. In addition, there are a number of habitat restoration areas within the Hadden Mill zone including the potential re-routing and improvements of Elgin Creek and renovation of the existing, inactive hatchery ponds. The Hadden Mill zone interprets the rich history of the Hadden family, the Ramsell/RESCUE (Residents of Elgin Saving Creeks from Urban Effects) Salmon Hatchery, and a return to estuarine habitat with the sea dam relocated to King George Boulevard. The following concept plan and **Design Initiatives** for Hadden Mill will guide its development.



- Existing Path
- Proposed Path



5.2 HADDEN MILL ZONE 1 CONCEPT & DESIGN INITIATIVES

DI-15 DESIGN INITIATIVES - HADDEN MILL BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE HADDEN MILL ZONE.

ECOLOGY

The removal of the sea dam and construction of a new sea dam and King George Bridge will affect the riparian ecology by creating more estuarine conditions upstream of the old sea dam. The sea dam project is moving forward on a priority basis as a component of the City's CFAS projects funded by DMAF (Disaster Mitigation Adaptation Fund). The new sea dam will not only provide much better upstream flood protection and floodplain benefits but will also provide improved fish passage to upstream habitat and incorporate passage for pedestrians and cyclists in the area.

The relocation of the sea dam will change the area downstream drastically. Reintroducing riparian marsh with plants tolerant of the new brackish water conditions will require careful design and project management. Additional incidents of flooding in the area between the old and new sea dam locations will need to be monitored and managed. Interventions related to stabilizing the bank and improving plant survival in this area may need to be adopted as this environment matures.

Elgin Creek is currently in need of rehabilitation for many reasons: channel depth is poor, heavy shading exists and it enters the Nicomekl River quite close to the proposed new location of the sea dam (at King George). The many potential habitat improvements that could be undertaken at Elgin Creek need to be explored in more detail and coordinated with the sea dam project.

Examine the upland ponds in greater detail before preparing a specific rehabilitation plan. The existing upland ponds are above the elevation of the

Nicomekl River. They may have some potential for use as upland wetland features for broader biodiversity values. Carefully consider whether or not to proceed with a project to reinstate these ponds as hatchery ponds. Before proceeding: determine if there is potential to provide a separate fresh water source for these upland ponds; explore the feasibility of the many details associated with creating a successful hatchery; and determine if there is a community organization with the skills and commitment to develop and manage a hatchery.

Prepare design details and provide an off-channel habitat area if supported through the environmental permitting process.

SEA LEVEL RISE & CLIMATE CHANGE

Presume that the Hadden Mill zone will be subject to frequent flooding events. Design all elements to withstand and recover from flood events with minimal intervention. Design for resiliency. Collaborate with the design of the new bridge and sea dam at King George Boulevard regarding the inclusion of a pedestrian pathway under the bridge, fish corridor through the sea dam, multi-use pathways across the bridge, and a viewpoint on the bridge. Explore impact of new sea dam and bridge on the outflow of Elgin Creek. Explore improvements to Elgin Creek, including the widening and lifting of the creek bed, and improvements to weirs for salmon migration.

Be prepared to accommodate flood protection measures on site for adjacent residential and other land uses.

PEDESTRIAN ACCESS & CIRCULATION

Two sinuous primary pathways intersect with secondary pathways looping from them. The pathway from under King George Bridge leads around the wet meadow to the historic location of the Hadden House now proposed as an interpretive, weather protected plaza which connects to Elgin Road. Layout this east-west path to intersect with a north south path winding around two old salmon ponds, around the natural playground, and up a sloped pathway to the

COMMUNITY FEEDBACK / Improve fish habitat with natural features and new sea dam design. - Stakeholders

new location for the Billy Hadden house. Ensure that all pathways are universally accessible where feasible. Coordinate pathways with the Engineering project at King George Boulevard to ensure that pedestrians and wildlife are able to cross.

PARKING & VEHICULAR ACCESS

Provide a small parking lot right beside the newly located Hadden House, for people working at the house, or for drop offs and deliveries. Provide a larger 15 spot parking lot with access off Elgin Road. This location serves as potential flood storage in an area that is already disturbed, allows for good pedestrian connections and has minimal neighbourhood impact. When needed, direct users to off-site public parking lots at Elgin Centre, Elgin Hall, Elgin Heritage Park (max, 1.5km away).

BOATING

Provide a dock at the location of the Historic Hadden Mill, as an interpretive opportunity and a spot for canoes, kayaks and paddleboards to access and disembark from the river.

WAYFINDING & VIEWS

Provide three (3) park maps in the Hadden Mill zone located at: the parking lot (historic location of the Hadden House); where people enter the park from the west, at the proposed Hadden House location off Crescent Road; and at the entrance to the Hadden Mill Zone from under the King George bridge.

PROGRAMS & ACTIVITIES

Prepare design details for gathering spaces in Hadden Mill that are able to accommodate gatherings and events.

CULTURE & HERITAGE

The Hadden Mill area and the Oxbow area should both become primary sites for

the culture and heritage activities and interpretive program initiatives. Refer to the Park Management Strategies in a later section of this report. The Hadden house is proposed to be relocated in response to sea level rise. The house is proposed to be repurposed as a community amenity space for community events, educational opportunities and an artists/writers in residence program, possibly Indigenous. Prepare design details associated with the relocation of this important old house with consideration of erosion control, etc.

Retain and enhance the area around the existing Semiahmoo trail terminus and cairn.

SITE AMENITIES

Provide a natural playground (and potentially a play-in-nature area) that integrates well with the natural setting in the Hadden Mill zone. Refer to the City's Nature Play Guidelines.

Provide an outdoor gathering place adjacent to the Hadden House for events.

Provide a washroom and take steps to ensure that the design of and access to the washroom is universally accessible to people of all ages and abilities.

Design the dock just downstream of the new sea dam location at King George Boulevard in a manner that recognizes its important location where park users will be attracted to the water's edge. It is intended to serve pedestrian users as well as waterway users. Allow for multiple uses including boat pull-out, nature viewing, sitting, park interpretation and people watching.

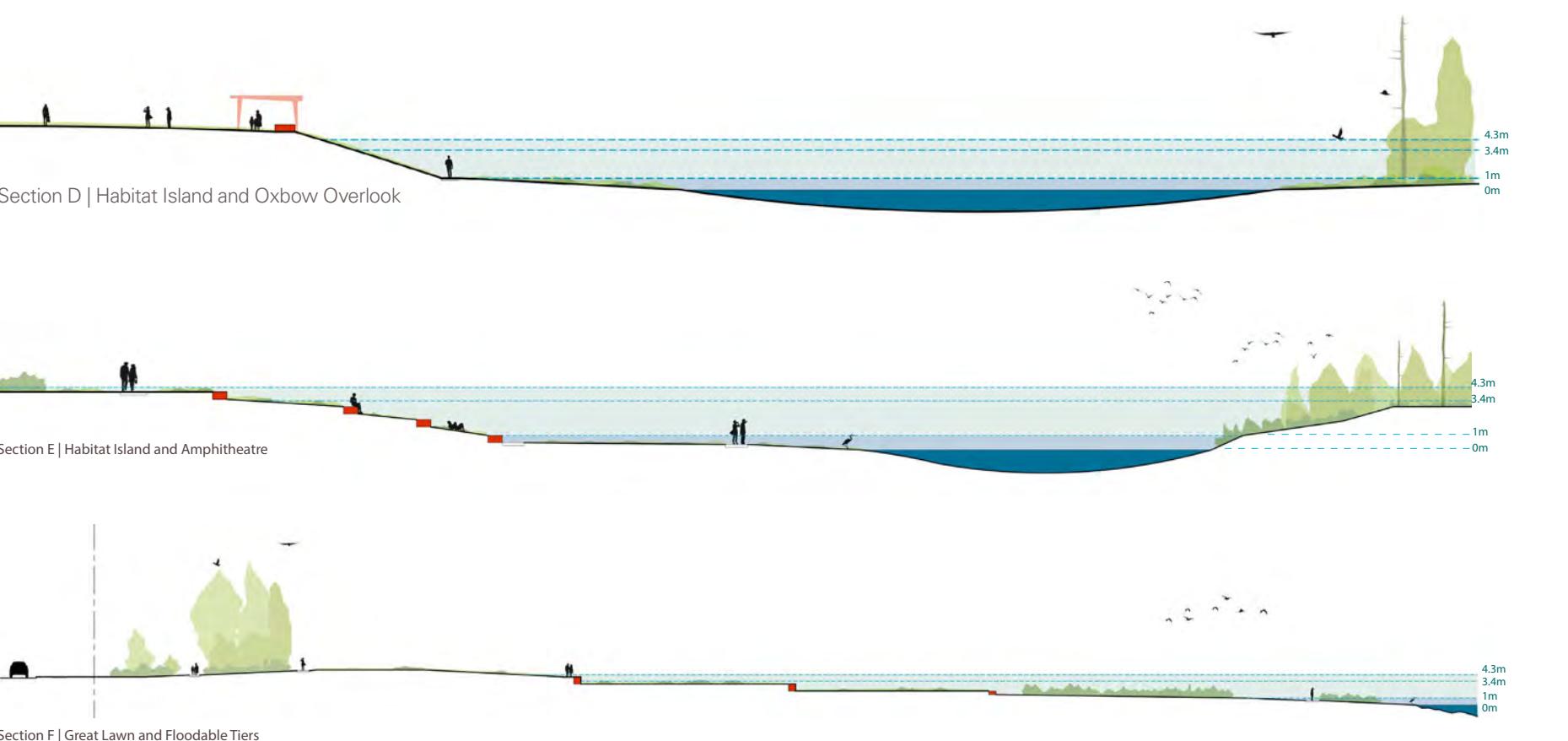
SITE STRUCTURES & FURNISHINGS

Prepare construction details for an entry gate, picnic shelters, benches and bicycle racks using visual images and symbols that reflect and communicate the complex, interwoven histories of the people and cultures that have made the Nicomekl such a significant area. Refer to the overall **Design Initiatives**.

5.3 THE OXBOW ZONE 2 CONCEPT & DESIGN INITIATIVES

The Oxbow zone of Nicomekl Riverfront Park is one of two areas where the amenities for public use are concentrated. The Oxbow Zone has historically been a floodplain. The concept for the Oxbow Zone is inspired by a suggestion within the Environmental Assessment Report (Appendix I Companion Documents) that "the [site] could be fragmented by a channel to create an island that could be naturalized for wildlife." The concept addresses sea level rise by creating more room for the river and a new habitat island, and by sculpting the land into terraces

with perched floodable tiers and an amphitheatre with performance space. Other amenities may include: a small parking lot, a canoe and kayak access/launching dock, a great lawn, a teaching circle, a toilet facility and viewpoint. Significant habitat improvement projects are proposed, with looping pathways for public use. The following concept plan and **Design Initiatives** for The Oxbow zone will guide its development.



- 1 Parking Lot W/ Drop Off Zone
 - 2 Future Under-Bridge Pedestrian, Wildlife, Cycling Crossing
 - 3 Canoe/Kayak Dock
 - 4 Habitat Island
 - 5 Off Channel Habitat - Room for the River
 - 6 Pond
 - 7 Amphitheatre
 - 8 Bluff Viewpoint
 - 9 Teaching/Celebration Circle with Picnic Shelter
 - 10 Demonstration Crops/ Floodable Tiers
 - 11 Great Lawn
 - 12 Ethnobotanical Walk (Park Wide)
 - 13 Toilet Facility
 - 14 Road Buffer
 - 15 Existing Bus Stop
- Existing Path
— Proposed Path



Fig. 70. Hudson River Estuary (NOAA).



Fig. 71. The Scott Arboretum of Swarthmore College by Thomas W. Sears (Swarthmore College).



Fig. 72. MPavilion (Design Boom).



Fig. 73. Floyd's Fork Wetlands (The Parklands).

5.3 THE OXBOW ZONE 2 CONCEPT & DESIGN INITIATIVES

DI-16 DESIGN INITIATIVES - THE OXBOW BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE OXBOW ZONE.

ECOLOGY

The Environmental Assessment Report (Appendix I Companion Documents) suggests that the creation of a habitat island in the Oxbow zone would "provide a highly valuable natural area for wildlife" (pg 54). The report suggests that the habitat island could be created by excavating "the naturally flooding area in the golf course site." (pg 55) These lowland areas in the Oxbow zone "are disturbed and dominated by invasive species" and, thus, provide an excellent opportunity to create an off channel pond.

Coordinate the design and construction of the new river channel and habitat island in the Oxbow with the Engineering Department and with senior government agencies as one of the 13 projects in the City's [Coastal Flood Adaptation Strategy \(CFAS\)](#) funded through the Disaster Mitigation and Adaptation Fund (DMAF). The Oxbow zone not only achieves a number of [Park Objectives](#) but also adds wildlife habitat and creates additional flood storage capacity in the river as well as improved flood protection in upland areas.

Excavation of wetted soils will create some challenges. Explore design solutions that examine and determine the most appropriate ways to use the excavated soils on site.

APPROVALS

The land in the Oxbow zone (unlike other zones) is in the Agricultural Land Reserve. Engage the Agricultural Land Commission in a discussion related to the project prior to undertaking detailed design; pursue ALC approvals as necessary.

SEA LEVEL RISE & CLIMATE CHANGE

Presume that the Oxbow zone will be subject to frequent flooding events. Design the amphitheatre and other site amenities to withstand and readily recover from frequent flooding events. Design for resiliency. Collaborate with the design of the new bridge and sea dam at King George Boulevard regarding the inclusion of a pedestrian/wildlife pathway under the bridge, fish corridor through the sea dam, multi-use pathways across the bridge, and a viewpoint on the bridge.

Be prepared to accommodate flood protection measures on site for adjacent residential and other land uses.

PEDESTRIAN ACCESS & CIRCULATION

Provide primary and secondary pathways that loop through the Oxbow zone to provide pedestrian access along the base of a new sculptural landform or 'occupiable dyke' and up to the crest to overlook the new habitat islands. These pathways intersect and loop to create multiple ways of moving through and experiencing the park.

PARKING & VEHICULAR ACCESS

Provide a small parking lot in the disturbed area where the former driving range parking lot was situated with vehicular access off Winter Crescent. Examine the feasibility of increasing the size of this lot without compromising the flood plain habitat.

MAINTENANCE ACCESS

Explore design solutions and provide maintenance access to the habitat island while limiting public access.

COMMUNITY FEEDBACK / Investigate creative parking solutions, e.g. drop off zone. - Stakeholders

BOATING

Provide for a dock between King George Blvd and the Oxbow habitat island for canoes or kayakers to put in or get out. Connect dock to Oxbow parking lot and portage route under King George Blvd and sea dam via the primary pathway.

WAYFINDING & VIEWS

Provide intermittent views out over the Nicomekl River and surrounding landscape from the high points in the pedestrian circulation system for overall user orientation. Locate a park map at the top of the amphitheatre where the two primary pathways intersect.

PROGRAMS & ACTIVITIES

Prepare design details for gathering spaces in the Oxbow, including gathering spaces that are able to accommodate larger gatherings, performances and events.

CULTURE & HERITAGE

The Oxbow zone is the site of the existing bailey bridge which crosses King George Boulevard, an early transportation route. Interpretation in the Oxbow is proposed to relate to the cultivation of native plants, early farms, gardens and orchards, harvesting, retail, sharing and barter. Interpretation and conservation at the Oxbow may address:

- Exploring native plant material for its ethnobotanical value and establish new ethnobotanical material where required by a new use;
- Understanding early transportation routes and infrastructure; and
- Information about the bailey bridge prior to its demolition to make way for the new sea dam.

Like the Hadden Mill Zone, the Oxbow should become a primary site for the culture and heritage activities and interpretive program initiatives indicated in the Heritage Plan (Appendix I Companion Documents).

SITE AMENITIES

- Design the amphitheatre as a natural bowl that defines the new river channel. The series of seating levels can act as a datum for long term water levels, while accommodating lectures, performances, and other events;
- Provide a picnic shelter at the top of the earthwork to provide shade and weather protection and a perch to enjoy the view;
- Create a series of stone walls that loop and trace the curves of the park, creating seating walls, retaining walls, pathways and gateways into the park;
- Provide a great lawn that provides a space for informal ball games, frisbee, kite flying, sunbathing, first nations' gatherings, or other performances and celebrations; and
- Locate a washroom facility between the parking lot and the picnic shelter. Take steps to ensure that the design of and access to the washroom is accessible to all members of the community.

SITE STRUCTURES & FURNISHINGS

Prepare construction details for an entry gate, picnic shelters, benches and bicycle racks using visual images and symbols that reflect and communicate the complex, interwoven histories of the people and cultures that have made the Nicomekl such a significant area. Refer to the overall [Design Initiatives](#).

5.4 THE CREEK ZONE 3 CONCEPT & DESIGN INITIATIVES

The Creek zone is predominantly a natural space, protecting Anderson Creek while allowing some public access next to and eventually across the creek itself. Anderson Creek is an important fish bearing tributary that flows north into the Nicomekl River. The concept proposes to enhance the riparian area of Anderson Creek with native planting and off-channel aquatic habitat. A public access trail runs along the western edge of the creek with future public access across the creek and under Hwy 99 proposed as the ultimate long term connection along the riverfront. The following concept plan and **Design Initiatives** for the Creek zone will guide its development.

DI-17 DESIGN INITIATIVES – THE CREEK

BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE CREEK ZONE.

ECOLOGY

Fish and wildlife habitat in the vicinity of the mouth of each creek, including Anderson Creek, is of crucial importance. Undertake vegetation management and habitat improvement projects at the mouth of Anderson Creek. Examine the details associated with the potential removal of the culvert where Anderson Creek enters the Nicomekl River. A relatively new culvert exists; there may be little or no benefit of replacement.

Examine the Anderson Creek corridor in detail and undertake habitat improvements in and adjacent to the creek as needed to ensure adequate shade and cover and appropriate in stream environments. Explore connecting the creek as identified in the Environmental Assessment Report (Appendix I Companion Documents).

PEDESTRIAN ACCESS & CIRCULATION

Provide pedestrian and wildlife access under Highway 99.

Examine the existing trail to the west of Anderson Creek for potential surfacing, width and accessibility improvements.

Due to it's location between the Creek and Meadow Zones, more specifically Anderson Creek and the Pioneer Pedestrian Overpass, consider the existing Winter Crescent Park as a component of this park. Winter Crescent park is primarily a playground. Provide signage to direct people towards Winter Crescent Park.

CULTURE & HERITAGE

Heritage values associated with the Creek zone centre primarily on the cultural and natural history values of both Anderson Creek and the Nicomekl River itself, as well as the economic values associated with logging in the area. Provide interpretation opportunities in the Creek zone that address:

- Indigenous names for rivers, creeks and other geographical features;
- Habitation of the land for millennia;
- Associated understandings, significance and world view of natural and cultural places; and
- Impacts of the logging and related infrastructure such as skid road.



5.5 THE MEADOW ZONE 4 CONCEPT & DESIGN INITIATIVES

The Meadow zone is within a BC Hydro right-of-way (ROW) running parallel to and east of Highway 99. A number of existing trails within the ROW provide connections from the neighbourhood to the Nicomekl River and across the highway at the Pioneer Pedestrian Overpass. Review the condition of existing trails, upgrade their widths and surfacing as required. Provide a new pathway linkage from the neighbourhood into a new, fenced dog-off-leash area that is separated from sensitive habitat. While dogs on-leash are permitted throughout the riverfront park, the fenced off-leash area in the Meadow is designed for residents and visitors to allow their dogs space to run without disturbing the important riverfront environment.

The Meadow consists primarily of invasive non-native species, mainly Himalayan blackberry and reed canary grass. There is one small thicket of dense shrubs and willow in the northern portion of the Meadow zone that provides high value habitat for wildlife. The following concept plan and **Design Initiatives** for the Meadow will guide its development.

DI-18 DESIGN INITIATIVES - THE MEADOW BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE MEADOW ZONE.

ECOLOGY

The presence of power lines in the Meadow precludes the establishment of any large trees. Vegetation management within the ROW is the responsibility of BC Hydro who are guided by procedures that protect the power grid. Examine a potential partnership with BC Hydro to introduce greater plant diversity in the ROW.

PEDESTRIAN ACCESS & CIRCULATION

Although the Meadow is a heavily disturbed landscape with overhead wires, the dog-off-leash park in this zone will generate a number of visits, particularly from the adjacent neighbourhood. Update the detailed development plan for the area. It will perform an important function as an access point, gateway, and staging area for public access to the more natural areas of the park.

PARKING & VEHICULAR ACCESS

There may be demand for more parking than is currently shown on the concept plan, specifically in the centre of the park near the Floodplain, Ravine and Meadow zones. Revisit discussions with internal (Transportation Planning) and external stakeholders (BC Hydro) to explore opportunities for parking (on-site or street parking on 150th Street or 35th Avenue) in the Meadow zone near the dog off-leash area. Consult with Transportation Planners on road network analysis to understand the impact that park use will have on the street parking in the neighbourhood, specifically Rosemary Heights West which has been identified as a potential issue.

Explore joint-use agreements with adjacent property owners/businesses to use their parking lots for park use during non-business hours (weekend).

WAYFINDING & VIEWS

Ensure that intermittent views out over the Nicomekl River and surrounding landscape from the Hydro ROW above are provided for overall user orientation.

Provide a park map at the base of the Hydro ROW slope, where the new path intersects with the maintenance road, and at the Pioneer Pedestrian Overpass.

UNIVERSAL ACCESSIBILITY

The existing maintenance road/multipurpose trail is steeper than 8%. Consider taking steps to make this trail more accessible by adding switchbacks and seating areas for resting and enjoying the view.

CULTURE & HERITAGE

In light of the views of current agricultural activity to the north, introduce an interpretation and conservation program in the Meadow Zone that may address:

- The retention and rejuvenation of existing vegetation patterns, such as agricultural shelterbelts, hedgerows, meadows and fallow fields;
- The history of agriculture and the Agricultural Land Reserve in Surrey; and
- The importance of retaining agricultural land for food security.

DOGS

Provide for a fenced, off-leash dog park in the Meadow. Design the off-leash area to comply with current park design standards as per the Surrey Dog Off-Leash Strategy.

Design and provide multiple signs that emphasize that dogs are not permitted in certain areas of the park and outside the dog-park must be on a leash at all times.

Consider the realignment of the Pioneer Greenway to provide more space for the dog off-leash area.

WASHROOMS

Explore the feasibility of a washroom near the dog off-leash park. Meet the requirements established by BC Hydro and secure the appropriate permits for any structure within the ROW. Take steps to ensure that the design of and access to the washroom is accessible to all members of the community.

TENURE

Since some pathways are located within the Highway 99 ROW and the Hydro ROW, ensure that agreements are in place that ensure long-term access.



5.6 THE FLOODPLAIN ZONE 5 CONCEPT & DESIGN INITIATIVES

Ecological enhancement and connectivity are design priorities in the Floodplain zone. This zone should be designed and managed as a Natural Area. Public access to the Floodplain is limited to a single pathway. Habitat enhancements are proposed in order to create a more complex riparian edge. Invasive species management procedures are proposed as is the re-establishment of native ecologies (including an amphibian pond) along the Floodplain. A continuous pathway provides pedestrian access along the length of the river with a boardwalk circuit through the floodplain. The following concept plan and **Design Initiatives** for the Floodplain zone will guide its development.

DI-19 DESIGN INITIATIVES – THE FLOODPLAIN BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE FLOODPLAIN ZONE.

ECOLOGY

Prepare design details associated with a number of habitat improvement projects including: the removal of invasives and re-establishment of native species and; the construction of a wetland (amphibian habitat pond) with bridge in the low area which is already flooding. Consider the introduction of more extensive habitat improvements in this zone possibly including additional channels and ponds.

Prepare details associated with shoreline stabilization measures. Include the use of overhanging riparian and pond edge planting to reinforce against shoreline erosion, and to provide shade protection over fish and amphibian habitat

PEDESTRIAN ACCESS & CIRCULATION

Continue the design and construction of the primary gravel pathway (3m+ wide, where possible), along the shoreline and over a newly introduced amphibian pond and under Highway 99. Consider undertaking trail improvements where sections already exist. Prepare design details associated with the bridge across the amphibian pond. Coordinate pathway alignment and details with the Engineering Department to ensure that pedestrians and wildlife can safely negotiate their way across the highway. Provide a secondary pathway connection from the river to the hydro corridor and on into adjoining neighbourhoods.

UNIVERSAL ACCESSIBILITY

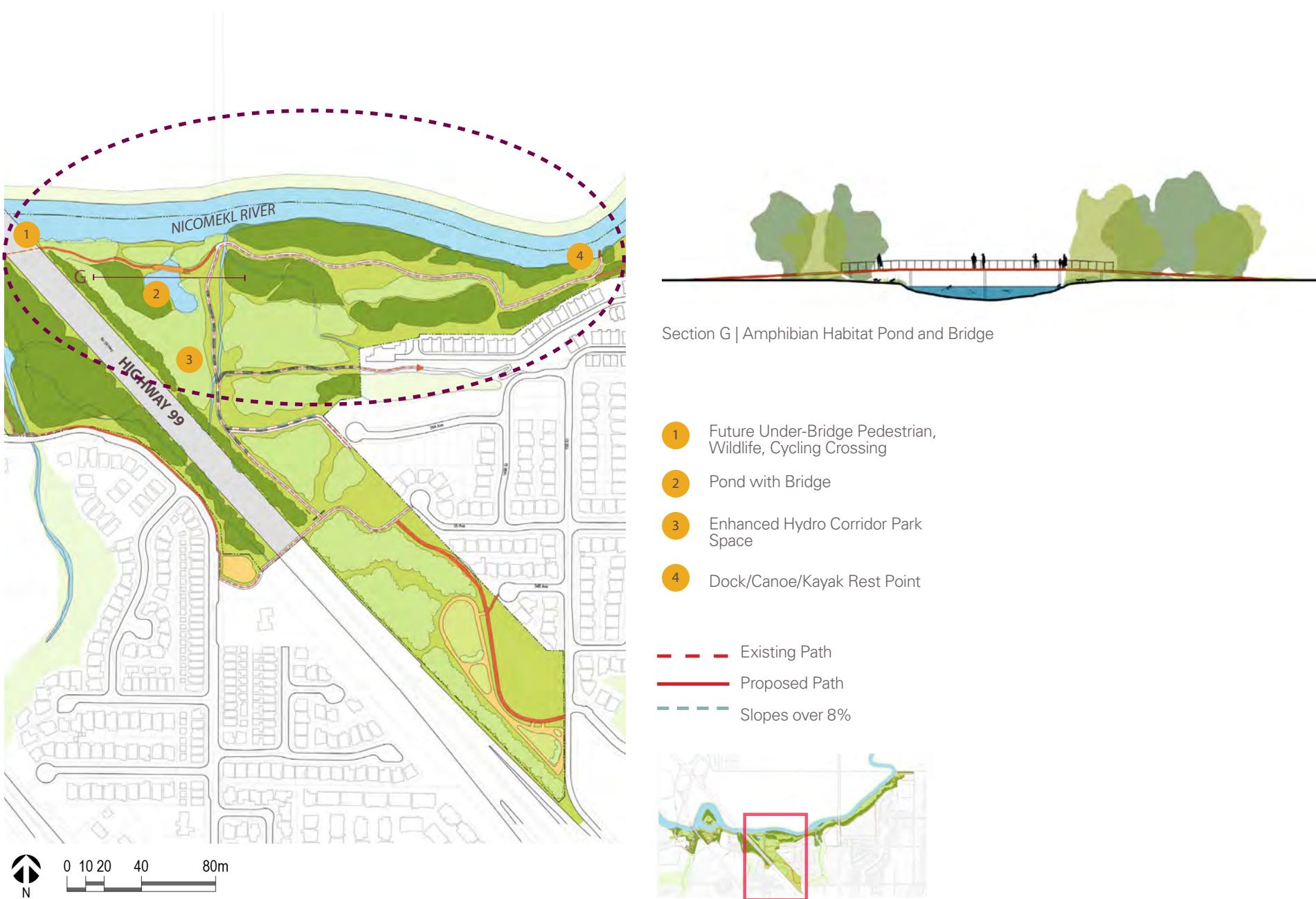
The existing maintenance road/multipurpose trail that provides access down to the river's edge from the neighbourhood is steeper than 8%. Consider taking steps to make this trail more accessible by adding switchbacks. Aspire to achieve universal access in all new pathways.

Provide several seating areas along the trail system for resting and enjoying the view.

CULTURE & HERITAGE

The Floodplain zone represents the historic importance of quality clean water in the river, in fishing and shellfish and other sea product harvesting, and First Nations use of the river as an important trading and transportation route. Introduce interpretation and conservation elements in the floodplain that address:

- How the Nicomekl River has been used over time as a transportation corridor;
- The complex narrative about territory and land as it relates to the Nicomekl River; and
- Retain historical stumps.



5.7 THE RAVINE ZONE 6 CONCEPT & DESIGN INITIATIVES

Ecological enhancement and connectivity are design priorities in the Ravine zone. This natural zone is intended for passive use. Public access in the Ravine includes a new bridge across Barbara Creek for the primary pathway and a boardwalk loop out and back from the river's edge. Habitat enhancements are proposed in order to create a more complex riparian edge at Barbara Creek. Invasive species management procedures are proposed. The following concept plan and **Design Initiatives** for the Ravine zone will guide its development.

DI-20 DESIGN INITIATIVES – THE RAVINE BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE RAVINE ZONE.

ECOLOGY

Coordinate the design and construction of a new river channel and habitat island just east of Barbara Creek with the Engineering Department and with senior government agencies to add shoreline diversity, add wildlife habitat and create additional flood storage capacity in the river.

Design shoreline improvements using overhanging riparian planting to reinforce against shoreline erosion, and to provide shade to enhance fish habitat.

PEDESTRIAN ACCESS & CIRCULATION

The Ravine is intended for passive recreation, focusing on walking and ecological interpretation. Continue the design and construction of the primary gravel pathway (3m+ wide, where possible) along the river and through the newly restored ecological area within the Ravine zone. Locate benches intermittently along the path to allow rest and contemplation. Introduce a boardwalk loop by the mouth of Barbara Creek with views out to the new habitat island.

The boardwalk loop is intended as a interpretive path through wet meadow vegetation. Boardwalk design must allow for it to be flood resistant or seasonally inundated. Provide several interpretive panels that interpret both ecology and flooding.

Provide a dock and connection to the boardwalk adjacent to Barbara Creek where boaters can pull out of the river temporarily to rest and explore the park and where pedestrians can make their way to enjoy the water's edge.

UNIVERSAL ACCESSIBILITY

The Ravine contains slopes steeper than 8%. Consider taking steps to make this trail more accessible by adding switchbacks. Aspire to achieve universal access in all new pathways. Provide several seating areas along the trail system for resting and enjoying the view.

MAINTENANCE ACCESS

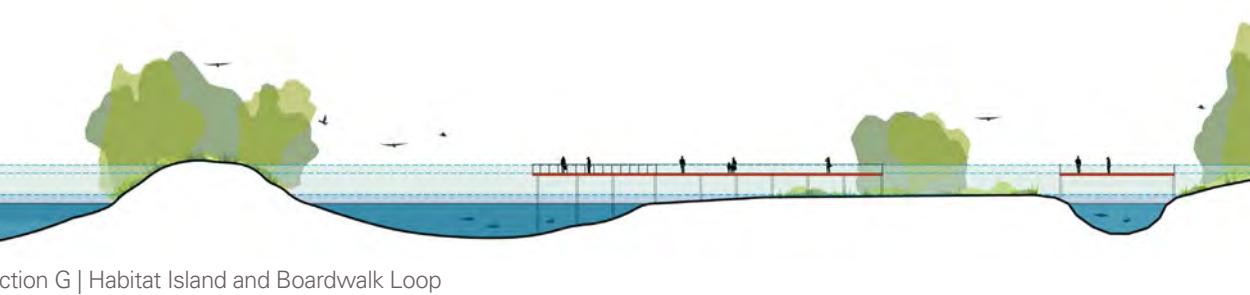
Explore design solutions and provide maintenance access to the habitat island while limiting public access.

CULTURE AND HERITAGE

In addition to its natural heritage features, the Ravine is adjacent to the original Johnston Road, now 152nd Street and Nicomekl Bridge. It is also the location of two historical cedar stumps and a burned-out historical cedar stump, representative of the area's use for logging.

Introduce interpretation and conservation elements in the Ravine Zone that address:

- The use of the Nicomekl River over time as a transportation corridor;
- Identification of Indigenous medicinal, traditional and food plants such as bullrush, devil's club and others;
- First Nations technologies such as fish weirs etc. developed and used over millennia; and
- Retain and interpret historical stumps.



5.8 THE BLUFF ZONE 7 CONCEPT & DESIGN INITIATIVES

The steep embankment and distinct slope break between the floodplain and developed lands above dominate the Bluff zone. A continuous walking path on the top of the slope allows the bluff and floodplain to remain intact as a wildlife corridor. Cantilevered overlooks at the edge of the bluff forest allow visitors to get a view out over the river within a room of trees. The following concept plan and **Design Initiatives** for the Bluff zone will guide its development.

DI-21 DESIGN INITIATIVES - THE BLUFF BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE BLUFF ZONE.

ECOLOGY

Densely planted shrubs should be planted on the north side of the path to restrict dogs and people from entering the steep slope to preserve the wildlife movement corridor along the steep bluff slope. Limit shrub height to protect views out over the bluff. Remove invasive species on easternmost end of the Bluff.

PEDESTRIAN ACCESS & CIRCULATION

Improve the existing pathway at the top of the bluff to become a primary gravel pathway (3m+ wide, where possible). Provide some separation between the pathway and adjacent residences using a vegetated buffer of shrubs and intermittent trees while maintaining visual surveillance safety. Extend a pedestrian pathway west past the old Rosemary Heights Retreat site to connect underneath 152nd Street bridge linking to the rest of the park and coordinate with Engineering. The current Rosemary Retreat site development plan provides for a public pathway along the bench at the top of the slope to enable the continuous pathway.

UNIVERSAL ACCESSIBILITY

The existing pathway that travels up the bluff slope from 40th Ave is steeper than 8%, and does not have a handrail. Examine this pathway for opportunities to improve accessibility. The flatter path is accessible via a public path accessed from the cul de sac at the end of 154th Street. Consider the provision of a switchback accessible ramp or alternative in order to achieve universal access underneath the 152nd bridge. Provide several seating areas for resting and enjoying the view.

WAYFINDING & VIEWS

Design for the provision of intermittent views out over the Nicomekl River and ALR lands to serve as larger orientation for trail users.

CULTURE AND HERITAGE

The Bluff contains heritage values related to the natural environment and provides prominent views to the current agricultural activity on the opposite side of the river.

Introduce an interpretation and conservation program in the Bluff zone that may address:

- The complex web of natural history in the park and region through interpretation at the various proposed outlooks; and
- The retention of historical stumps.

SITE AMENITIES

Provide two view point perches that are cantilevered over the bluff in each of two forest types: coniferous and deciduous. Carefully site each outlook to take advantage of the views over the ALR lands, up the river, and over the floodplain below. Locate benches at the top of both steep slopes, at the boat launch, on the boardwalk, and on both of the cantilevered view points.



Section I | Upper Ridge Path and Boardwalk Loop



Section J | Upper Ridge Path and Cantilevered Overlook

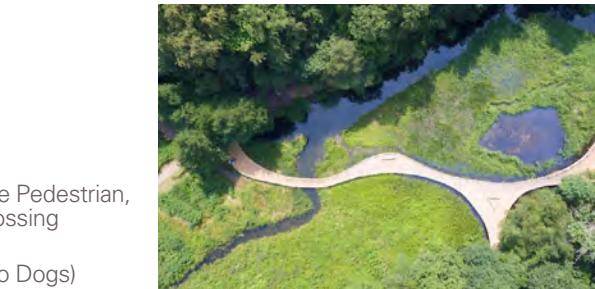


Fig. 77. The Wetlands, Wakehurst, Sussex UK (Royal Botanic Gardens Kew).



Fig. 78. The Sentinel Lookout in Cataract Gorge (Stuart Tanner Architect + Tangent Structures).



Fig. 79. Walkway-lookout at Las Minas de Rioseco (IMAGENSUBLIMINAL).

5.9 KENSINGTON LAUNCH ZONE 8 CONCEPT & DESIGN INITIATIVES

The character and accessibility of the Bluff Zone changes significantly at the northeast edge of the park where the 'bluff' transitions down to grade at 40th Avenue. This area, named Kensington Launch, will become a significant access point for the Nicomekl Blueway. A parking lot and accessible composting toilet are proposed in the Kensington Launch zone as well as an improved launch point for non-motorized boats and stand-up paddleboarders. An interpretive trail along a boardwalk allows exploration of a segment of the floodplain while being sensitive to the riparian habitat. The following concept plan and **Design Initiatives** for the Kensington Launch zone will guide its development.

DI-22 DESIGN INITIATIVES - KENSINGTON LAUNCH BUILDING ON THE CONCEPT PLAN AND THE DESIGN CONSIDERATIONS BELOW, UNDERTAKE FURTHER STUDIES AND PROCEED WITH DESIGN DEVELOPMENT OF THE KENSINGTON LAUNCH ZONE.

ECOLOGY

Prepare design details associated with a habitat improvement project and re-establishment of native species in the riparian area in the vicinity of the existing boat launch dock.

PEDESTRIAN ACCESS & CIRCULATION

Prepare a conceptual and detailed development plan for the Kensington Launch zone. This zone will perform an important function as the primary access point, gateway, parking area and staging area for public access to the east side of Nicomekl Riverfront Park. Provide a rooftop boat unloading area (a boat drop area). Provide convenient pedestrian access path from the parking lot to the boat drop area and renovated boat launch dock.

Once access to the riverfront park is provided in this zone, block off access from the existing pathway onto 40th Ave where pedestrian traffic is not safe. Provide a boardwalk loop through the wet meadow vegetation area just south of 40th Ave. Design the boardwalk so that it is able to accommodate changing water levels over time. Incorporate several interpretive panels in the boardwalk structure to interpret both ecology and sea level rise.

PARKING & VEHICULAR ACCESS

Provide for a 30 to 40 stall parking lot that can accommodate seasonal flooding. Coordinate with the Engineering Transportation Section on vehicular access in the area.

UNIVERSAL ACCESSIBILITY

Provide several seating areas for resting and enjoying the view. Provide a convenient, clearly signed, accessible pathway from the parking area into the boat drop area and beyond into the park.

BOATING

Make improvements to or replace the aging existing boat launch area to allow access by paddlers. Potentially connect the new boat launch to the proposed boardwalk loop.

WAYFINDING & VIEWS

Provide a distinctive gateway feature as well as clear signage and wayfinding that identifies this as a major access point for pedestrians and paddlers to Nicomekl Riverfront Park. Provide an overall park map at the eastern entrance to the park close to the existing boat launch.

COMMUNITY FEEDBACK / Concerned about trespassing and vandalism at the farms around the park. - Mike N

SITE AMENITIES

Provide an accessible toilet facility adjacent to the parking lot and boat launch. Take steps to ensure that the design of and access to the washroom is accessible to all members of the community.

STORMWATER

Coordinate with the Engineering Drainage Section regarding the design of a widened drainage ditch along 40th Avenue from 156th Street to the Nicomekl River.



6 / PARK MANAGEMENT STRATEGIES

- 6.1 PARK MANAGEMENT STRATEGIES
- 6.2 NEXT STEPS

Fig. 80. Existing vegetation in Bluff zone lowland (City of Surrey).



Fig. 81. Elgin Creek natural area in Hadden Mill (City of Surrey).

6.1 PARK MANAGEMENT STRATEGIES

ENVIRONMENT

The Nicomekl Riverfront Park provides a rare and significant opportunity to protect a highly diverse natural area in an urban setting. The park is large in size, is continuous and connected to adjacent natural or semi natural areas, and provides a wide range of habitat features. There are opportunities to enhance existing habitat areas and restore previously disturbed sites.

VEGETATION MANAGEMENT & STEWARDSHIP

The primary vegetation management goal is to protect, preserve and enhance the native vegetation resource. In order to do so, the city must implement a sustainable approach to vegetation management and conduct activities that preserve, protect and enhance the vegetation resource in Nicomekl Riverfront Park on an ongoing basis. This requires efforts and resources for the regeneration of natural vegetation, monitoring the condition of the vegetation and actively pursuing and developing partnerships with other agencies and providing opportunities for community volunteers to assist with vegetation management activities in the park.

OBJ-1

Increase biodiversity and ecological resilience throughout the park by protecting, restoring, enhancing and increasing ecological corridors, patches, tree canopy and shoreline habitat complexity

MS-1

REMOVE INVASIVE SPECIES AND PREVENT FURTHER SPREAD AND ENCROACHMENT USING BEST MANAGEMENT PRACTICES FOR EACH SPECIES.

Manual removal is recommended wherever possible. However, some species, such as Japanese knotweed, do not respond to manual control methods; chemical control methods should be considered. Large areas of reed canary grass can be dug up using an excavator or overplanted with large stock black cottonwood and red alder; increasing canopy cover has been found to be one of the most effective methods to shade out reed canary grass over time. English ivy should be manually removed from the base of all trees. Exact treatment and control methods are dependent on site conditions and the species encountered and may require adapted and site-specific control plans.

Areas with extensive invasive species removal should be replanted as soon as feasible with native plant communities. Follow the best practices associated with invasive species removal outlined in the City's [Natural Areas Management Plan \(NAMP\)](#). Recognize that the management of invasives at this location may be more challenging than in other natural areas. Seasonal flooding may encourage and amplify the spread of invasives along the riverbanks.

Provide operational access but not public access to the habitat islands. Develop a operations strategy to deter from encampments in the park, specifically on the habitat islands.

COMMUNITY FEEDBACK / Bat, bird and owl houses and leave tall stumps for wildlife trees. - Harrison M
/ Mostly forest, some for people but some for animals. - Kids

MS-2

APPLY NATURAL AREA MAINTENANCE PROCEDURES WITHIN THE PARK.

Undertake maintenance activities with little impact on the natural environment.

- Examine current active parks maintenance procedures and modify them as needed in recognition of the prime importance of the natural environment at Nicomekl Riverfront Park. Develop low impact work procedures for all park maintenance activities, and specific low impact maintenance routines for:
 - Daily washroom access and servicing, as required;
 - Graffiti response;
 - Litter control and collection; and
 - Cleaning and repair of benches, boardwalks, outlooks and other fixtures and furnishings including waste water control.
- Avoid vegetation removal or impacts to sensitive areas during trail maintenance activities;
- Control vegetation encroachment onto trails by means of selective pruning rather than machine mowing wherever possible;
- Only remove trees if they pose a public safety risk;
- Retain stumps and roots of removed hazard trees to prevent soil disturbance and provide other ecological benefits;
- Leave the large woody debris, that result from hazard tree abatements, on site to enhance habitat for small mammals and other species;
- Close trails seasonally to protect aquatic/wildlife habitats during sensitive periods; and
- Monitor public use and take proactive steps to reduce any observed impacts on the natural environment, including:
 - Education on the impact of dumping in natural areas;

- Regular trail and shoreline inspections. Where impacts have occurred, take steps to block access using logs, railings or fences and introduce educational signage; and
- Regular trail inspections and maintenance to ensure that trail use activities are not causing impacts to sensitive habitats or fauna.

MS-3

TAKE STEPS TO INCREASE VOLUNTEER PARTICIPATION IN SOME VEGETATION MANAGEMENT ACTIVITIES.

- Prepare appropriate literature and implement a public and in-house education program focused on identifying, detecting, and reporting invasives in the park;
- Implement measures to develop strong neighbourhood and community relationships for stewardship of natural areas. Work with neighbours to limit encroachment, vegetation maintenance and creating private accesses on parkland. Encroachment along the river often occurs to establish views. Coordinate volunteer vegetation maintenance programs (i.e. nature work parties) to foster relationship with neighbours; and
- Offer various community involvement programs in the park – ReLEAF, Picnic in the Park, etc.

OBJ-11

Actively develop and nurture an effective and ongoing relationship with the local community, encouraging a strong connection and stewardship of the park through volunteer conservation opportunities

6.1 PARK MANAGEMENT STRATEGIES

MS-4 CONTINUE TO DEVELOP STRONG OPERATIONAL RELATIONSHIPS AND PARTNERSHIPS.

There are a variety of government, non-government organizations and other City Departments involved in stewardship of the environment and various related projects.

- Continue to develop the partnerships with the Engineering Department and senior levels of government that have emerged through the Disaster Mitigation and Adaptation Fund (DMAF). Some of the park related projects must be coordinated with and are dependent on one or more of the other DMAF projects. Creation of the park trail crossings require coordination with related projects at King George Boulevard, Highway 99 and at 152nd Street;
- Seek out other potential partnerships, including with Metro Vancouver Regional District and the various provincial ministries involved in the stewardship of the natural environment;
- Develop relationships with the host of local community organizations, such as:
 - Crescent Road Corridor Community Residents Association;
 - Friends of Semiahmoo Bay;
 - Birds on the Bay;
 - Friends of Semiahmoo Heritage Trail;
 - Green Timbers Heritage Society;
 - Historic Stewart Farm;
 - Little Campbell Watershed Society;
 - Nicomekl Enhancement Society;
 - Nicomekl Rowing Club;
 - Semiahmoo Fish and Game Club;

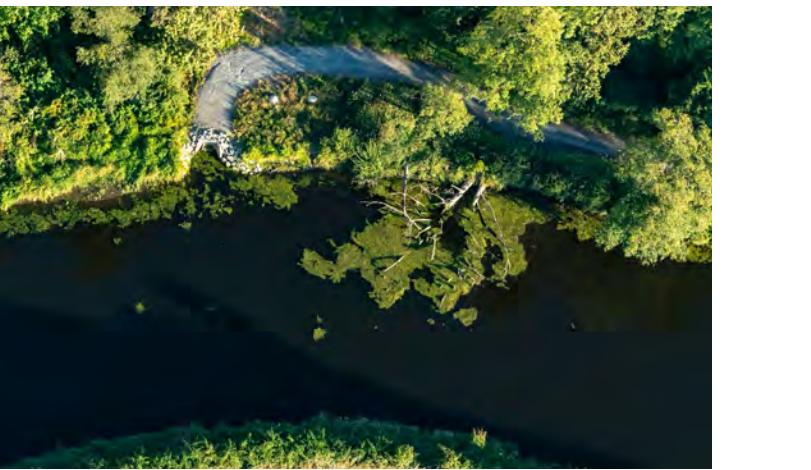
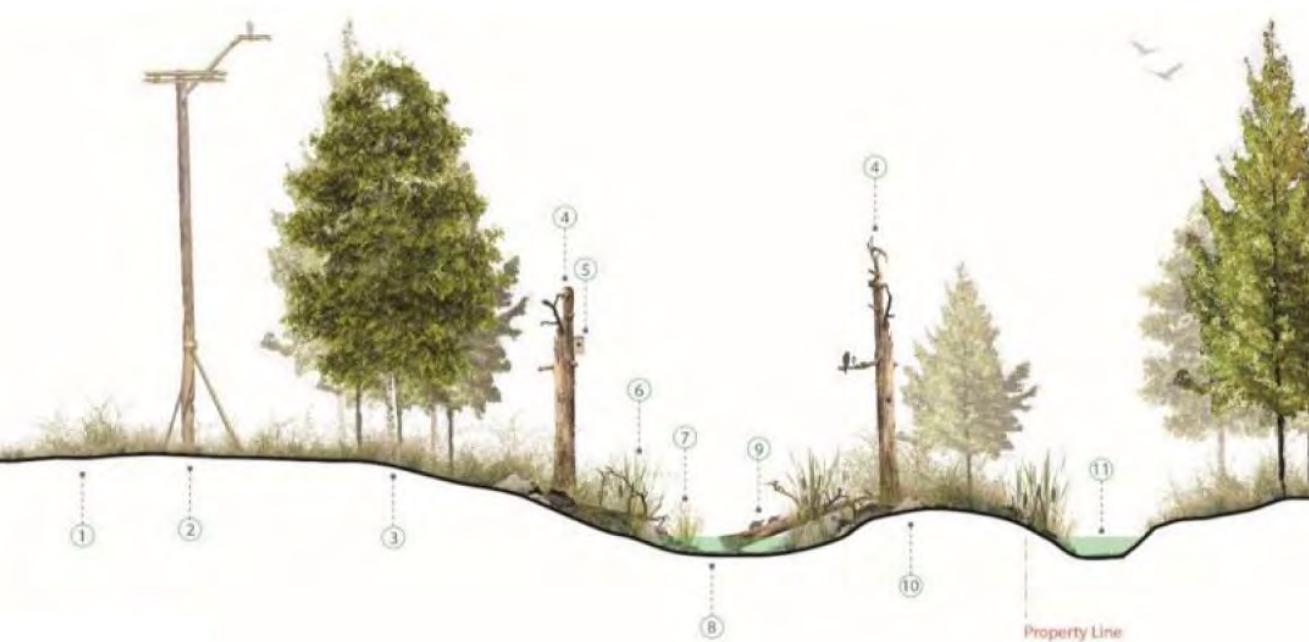


Fig. 82. Nicomekl River and outfall by Barbara Creek (City of Surrey).

OBJ-12

Coordinate all construction and management activities in the park with other departments and levels of government

- Ocean Park Tree Committee (O. P. Beautification Committee);
 - RESCUE (Residents of Elgin Saving Creeks from Urban Effects);
 - Surrey Environmental Partners;
 - Surrey Historical Society; and
 - White Rock and Surrey Naturalists Society.
- Continue to build an operational relationship with the Kwantlen First Nation, the Semiahmoo First Nation and the Katzie First Nation; and
 - Apply to the many private and public agencies, trusts and stewardship groups for grant funding to support natural area initiatives.



HABITAT FEATURES

1. meadow
2. raptor perch
3. forest
4. wildlife trees
5. nest boxes
6. riparian plants
7. aquatic plants
8. pools for amphibians
9. large woody debris
10. habitat islands
11. clean water

Fig. 83. Habitat features to be incorporated into environmental program (Nicomekl Riverfront Park Environmental Assessment Report, Figure 18).

WILDLIFE HABITAT MANAGEMENT

The primary fish and fauna management objective is to improve the long-term viability and diversity of local fish and wildlife resources. This includes the protection, enhancement, and restoration of a range of species and habitats for fish, wildlife and other fauna. Many habitat features and improvements will be incorporated into the environmental program at Nicomekl Riverfront Park.

MS-5 MONITOR THE PERFORMANCE OF EACH HABITAT ENHANCEMENT AND COMPENSATION PROJECTS OVER A PERIOD OF SEVERAL YEARS.

Natural processes combined with sea level rise and climate change may have impacts on the performance of particular projects along the river. Performance must be monitored to ensure that the habitat enhancement features are functioning properly. Adjustments to features may be required over time.

- Long Term Monitoring (LTM). Coordinate with the Engineering Environment group;
- Consider the use of wildlife cameras, wildlife counts and other means to gather data; and
- Fishing restrictions may be required.

OBJ-10

Monitor public use activities and natural systems data over time and adjust the park management strategies as needed

6.1 PARK MANAGEMENT STRATEGIES

MANAGING WATER AND STORMWATER

MS-6 MONITOR, FILTER AND SLOW DOWN STORMWATER FLOW.

Where surface runoff is observed, introduce features such as raingardens and bioswales and other vegetated buffers to intercept and slow down any surface stormwater flow. Enhancing streamside riparian and upland vegetative communities:

- Slows overland flow;
- Increases infiltration;
- Protects streambanks from erosion;
- Cools water entering the river;
- Decreases the volume of stormwater entering pipes;
- Helps prevent sediment and contaminants from entering creeks;
- Recharges groundwater; and
- Creates protective overhanging vegetative cover for fish protection.

OBJ-10

Monitor public use activities and natural systems data over time and adjust the park management strategies as needed

MANAGING FOR CLIMATE CHANGE & SEA LEVEL RISE

MS-7

TREAT THE PARK AS A PILOT PROJECT WHERE ADAPTIVE MANAGEMENT STRATEGIES ARE DEVELOPED, IMPLEMENTED AND MODIFIED AS NECESSARY.

Given the uncertainties surrounding climate change and sea level rise in particular (i.e., it could happen faster or more slowly, it could be more or less severe), it is necessary to adopt an adaptive management approach at Nicomekl Riverfront Park. "This approach recognizes that planning in such a dynamic context needs to be flexible and responsive to new drivers and considerations as they emerge" (CFAS Draft Report, July 2019).

The City is committed to being proactive in integrating climate considerations into the design and management of the park to ensure a resilient and sustainable park is developed. Adaptation is defined as the initiatives or measures to reduce vulnerability to climate change and sea level rise. These adaptation strategies include Resist (creating dykes and barriers), Accommodate (living with flooding), and Retreat (moving to higher ground). The park design initiatives and management strategies employ all three of these adaptation strategies, for example:

- Resist: most of the existing dykes in the park will be maintained with exception of the proposed flood channel which cuts through the existing Oxbow dyke;
- Accommodate: a flood channel is proposed in the Oxbow to accommodate and make more 'room for the river'; and
- Retreat: the existing Billy Hadden House is proposed to move to higher ground to avoid flooding.

CFAS ADAPTIVE MANAGEMENT CYCLE



From CFAS Final Report, Nov 2019.
Modified from Olson, E., Murray C. and Tamburello N. (2017)

OBJ-9

Address sea level rise with multifunctional and adaptive management approaches that can change and evolve over time



RESIST

Landscapes can be designed to resist sea level rise with dykes and other barriers that are increased in height over time in response to rising water and storm effects.



ACCOMMODATE

Landscapes can be designed to accommodate sea level rise by allowing a certain level of flooding to be anticipated and accepted in ways that do not damage valuable infrastructure.



RETREAT

Landscapes can be designed to retreat by decommissioning or moving existing development back from flooding impacts over time.

6.1 PARK MANAGEMENT STRATEGIES

MS-8

MAKE ADJUSTMENTS TO THE PARK MANAGEMENT STRATEGIES AS NEW DATA EMERGES.

This may include the following, thus necessitating a modified design approach:

- new estimates of sea level rise that are significantly different than prior estimates;
- new estimates of rainfall and precipitation amounts;
- hydrologic studies that find that frequency of storms or flows have changed significantly;
- performance of the design elements in the park;
- their resilience to flooding events; and
- extent to which significant damage occurs.

The management strategies used at Nicomekl Riverfront Park should be revisited for effectiveness on an ongoing basis and a formal review undertaken every 5 years.

MS-9

PREPARE A FLOOD RESPONSE PLAN; CLOSE THE PARK AS NEEDED.

Much of the park will be subject to flooding. Flooded areas need to be monitored, designs may need to be reengineered and/or some facilities may need to be relocated. Prepare an operations plan that anticipates the gradual closure of park areas as they flood. Park closures during flood events will be necessary.

FUNDING

MS-10

LOOK FOR FUNDING OPPORTUNITIES FOR LONG TERM OPERATIONS AND MAINTENANCE OF THE PARK.

This park requires a higher level of operational and maintenance funding due to its unique condition/design with floodable lowlands and a significant amount of natural area maintenance:

- Much of the park will endure flooding, and may require re-engineering, reconstruction or relocation. An adaptive management approach requires additional funding, resources and materials above and beyond standard maintenance;
- Temporary site closures for aquatic/wildlife habitat protection or due to flooding will require additional staff resources and materials above and beyond standard maintenance;
- Low impact natural areas maintenance is required above and beyond standard natural area maintenance; and
- Monitoring vegetation condition in this changing environment.



Fig. 84. Existing vegetation in Oxbow wetland area (City of Surrey).

6.1 PARK MANAGEMENT STRATEGIES

PUBLIC USE

OUTDOOR RECREATION

MS-11
INCORPORATE APPROPRIATE PARK PROGRAMS AND ACTIVITIES ALONG THE ENTIRE LENGTH OF THE RIVERFRONT PARK.

The concept plan for the park is intended to accommodate a mix of appropriate interpretive, historic, ecological, art, social and recreational programs for individuals, small and medium sized groups. Explore opportunities for implementation of a range of public program activities such as:

Social/play

- Community celebrations & picnicking;
- Interpretive talks or performances at the amphitheatre; and
- Natural playground activities.

Volunteer

- Neighbourhood programs, stewardship and other volunteer opportunities.

Environmental & Stewardship

- Habitat exploration and interpretation – nature, bird watching, plant identification, or herbalist/herbalist/medicinal plant walks;
- Stewardship programs: tree planting, nature work parties, litter pickup, community cleanups, bin keepers;
- Adaptive strategies for climate change and sea level rise demonstration;

- Salmon hatchery educational activities;
- School programs; and
- Park Ranger Program: The Nicomekl Riverfront Park is a candidate for the future park ranger program. The park ranger program was identified as a long-term objective in the 2018 [PRC Strategic Plan](#) to facilitate enforcement and education for issues relating to public safety and environmental protection.

Art/Culture/First Nations

- Community art/culture/ heritage/Indigenous events, festivals, gatherings, installations (temporary or permanent), and Aboriginal tourism; and
- Interpretive walks (heritage or Indigenous storytelling).

Recreation

- Running and walking programs;
- Recreational cycling along primary pathways;
- Frisbee or informal ball games on the great lawn;
- Off-leash dog park in the Meadow;
- On-leash dog walking on primary and secondary trails;
- Enjoying the views across the river, forests, and agricultural lands at topographic high points across the park;
- Non-motorized boating programs and instructional units including kayaking, canoeing, and paddle boarding; and
- Fishing materials and/or programs.

OBJ-4

Allow the experience of the river to be a primary organizing feature of the park

PROPOSED PROGRAMMING OPPORTUNITIES



6.1 PARK MANAGEMENT STRATEGIES

MS-12 ESTABLISH THE PARK AS A PLACE OF LEARNING.

Explore the opportunity to develop the park as a key destination for learning via programs and interpretation. Develop programs about learning and education of heritage, ecology, environmental stewardship and climate awareness. Foster a holistic experience and education by intertwining topics or developing a program series. Explore partnerships with First Nations to create programs about First Nation world view and respectful relationship with the environment. Provide active learning spaces to support schools and First Nation curricula. Develop interesting and unique ways that users (of all ages and abilities) can connect to the park, i.e. Indigenous history apps: QuestUpon and Whoseland.

CULTURE AND HERITAGE ACTIVITIES

MS-13 CO-DEVELOP FIRST NATIONS PROGRAMMING.

Work with local First Nations representatives to customize certain development areas, prepare source material and develop public use programs and activities to be determined by first Nations. This might include a healing garden, medicinal or herbalist plant programs and Indigenous based environmental stewardship programs. **Implement goal #35 from the All Our Relations Strategy, “[Create a] greater understanding of First Nation and Metis experiences and opportunities to explore the meaning of reconciliation”, i.e. First**

Nation. Foster relationships with First Nations by implementing **Goal #10 of the All Our Relations Strategy**, “consult local Coast Salish First Nations on appropriate ways to recognize their connections to the land.” Conduct research to recover, restore, and preserve traditional Indigenous cultural practices through program opportunities. Look for funding opportunities for Indigenous programming. Encourage collaboration between First Nations and other community groups in creation of programs.

MS-14 DEVELOP ACCESSIBLE AND INCLUSIVE CULTURAL ELEMENTS, INTERPRETATION, PROGRAMS, AND ACTIVITIES.

Examine and incorporate best practices that may include the use of braille, sensory boards, wayfinding, and grade 7 level content, to improve the accessibility of interpretive elements and increase the socioeconomics of the interpretive program. Ensure that all information is accessible and inclusive. Look for funding opportunities for accessible programming and elements.

OBJ-6

Create diverse, high quality and engaging learning opportunities through arts, heritage and cultural experiences for all ages and abilities

MS-15 PROVIDE COMMUNITY EMPLOYMENT BENEFITS (CEB).

Provide Community Employment Benefits (CEB) as per Infrastructure Canada's DMAF funding requirements and the City's Sustainable Procurement Guidelines. Community Employment Benefits aim to promote increased employment opportunities for a broader array of Canadians and leverage infrastructure investments and public procurement for positive social outcomes. Implement the identified DMAF sustainable approaches and provide employment and/or procurement opportunities for some of the identified DMAF target groups (apprentices; Indigenous peoples; women; persons with disabilities; veterans; youth; recent immigrants; and small-sized, medium-sized and social enterprises).

Some opportunities to engage and employ Indigenous peoples are: construction, artists, trades work, archeological assessments, artist or writers-in-residence in the Hadden House, environmental restoration works, etc.



Fig. 85. Fall Colours Kayaking & Canoeing (Toronto Adventures).



Fig. 86. Boardwalk at Huntley Meadows (Fairfax County Park).



Fig. 87. Kids near water (Dimedrol68).



Fig. 88. Alfred Caldwell Lily Pool Council Ring (Lincoln Park Conservancy).



Fig. 89. The San Francisco Botanical Garden (Outlaw Gardener).

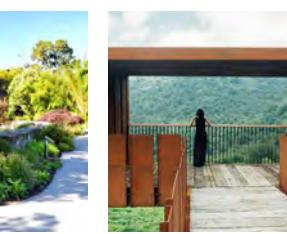


Fig. 90. Walkway-lookout at Las Minas de Rioseco (IMAGENSUBLIMINAL).



Fig. 91. Spring Creek Connector, Howard Beach NY (SCAPE Studio).



Fig. 92. Parc du Mont Evrin (Land8: Landscape Architects Network).



Fig. 93. Cultuurpark Westergasfabriek (Gustafson Porter, Mary Bowman).

COMMUNITY FEEDBACK / History markers explaining the river's use for trading/logging. - Craig M / Signs that tell the stories of nature. - Anita S

6.1 PARK MANAGEMENT STRATEGIES

MS-16 IMPLEMENT THE CONSERVATION AND INTERPRETATION RECOMMENDATIONS CONTAINED IN THE HERITAGE PLAN (APPENDIX I) TO:

- Create an interesting public education/awareness experience;;
- Present the different lifeways, foodways, culture and other aspects of day-to-day living in the area;
- Present information regarding the extent of tree harvesting in the area and the impact of logging on the environment;
- Make the connection to Elgin Heritage Park;
- Present information on the impacts of climate change and sea level rise through the interpretation and measurement of tides, height of water historic flooding; and
- Present the importance of the salmon and other fishery resources in the river.

The Hadden Mill and Oxbow zones should both become primary sites for the culture and heritage activities and interpretive program initiatives indicated in the Heritage Plan (Appendix I). The Hadden Mill zone is important as the location of the Billy Hadden House which is associated with the historical use of the river for transporting logs and as the location of a sawmill, and for its connection to the early development of the Elgin neighbourhood of Surrey. The Hadden House is proposed to be relocated in response to sea level rise and adaptively re-used for an artist-in-residence or similar public use.

The Hadden Mill zone is also significant for its past use as a salmon-rearing operation. It is also the location through which the early Semiahmoo Trail passed, an important early transportation corridor, and as the location of the sea dam which represents the ongoing manipulation of the Nicomekl River.

Engage First Nations representatives and their Archaeologist in the preparation of the details for a heritage information tour experience in and around the Hadden Mill zone. Include Indigenous stories that haven't been told. Educate park goers about Indigenous plant species, and traditional names and uses. Include recent histories as well as long standing or lost Indigenous cultural histories in interpretive elements.

Implement a heritage interpretation program that:

- Communicates the significance of Nicomekl Riverfront Park to visitors;
- Broadens understanding of the Nicomekl Riverfront Park area and includes a multitude of perspectives;
- Shows complex, interwoven histories of people, cultures and places;
- Connects Indigenous and non-Indigenous people and communities;
- Uses interpretation to invite people to interact with each other and with the space;
- Reveals the tangible and intangible heritage of the area and allows the invisible to be made visible; and
- Connects the stories in Nicomekl Riverfront Park to the larger stories of Surrey and the Province.

Base the heritage interpretation program on the eight themes in the Heritage Plan: Naming; Measuring; Logging; Engineering; Growing; Gathering; Crossing; and Living.

Actively seek funding for ongoing cultural interpretation.

OBJ-5

Express multiple histories and stories across the site through public art, interpretation, materials and design elements

POTENTIAL LOCATIONS FOR INTERPRETIVE FEATURES



6.1 PARK MANAGEMENT STRATEGIES

DOGS

MS-17

MONITOR AND ENFORCE THE DOGS ON-LEASH REGULATIONS TO LIMIT THE DAMAGE TO WILDLIFE IN THE PARK.

Nicomekl Riverfront Park is an on-leash park only except in one designated area in the Meadow zone. People are welcome to walk their leashed dogs along primary and secondary paths. However dogs are not allowed in the children's playground or on any of the boardwalks in the park. This prohibition requires ongoing enforcement to ensure compliance.

Many dog breeds love the water and owners may have difficulty preventing these breeds from entering the river, causing negative wildlife and habitat impacts. Inappropriate dog and owner behaviours must be discouraged by means of proactive bylaw enforcement.

MS-18

MANAGE DOG AND HUMAN BEHAVIOR IN THE DOG OFF-LEASH AREA IN THE MEADOW.

Off-leash dog areas are social spaces that allow dog owners to socialize while exercising their dogs. These facilities reduce the incidence of conflicts with other park users. They provide wonderful opportunities for both human and canine social interactions. Occasionally there are behavior issues. Monitor activities in the off-leash area on a regular basis and intervene as needed to minimize conflicts.

OBJ-2

Balance ecological integrity with park amenities, usage and programming



Fig. 94. Ravine, Floodplain and Meadow zones (City of Surrey).

6.1 PARK MANAGEMENT STRATEGIES

PARKING

MS-19
**MONITOR PARKING DEMAND AND EXPLORE
 POTENTIAL PARKING PARTNERSHIP OPPORTUNITIES
 NEAR THE PARK.**

Parking provision is a balancing act between encouraging visitation while avoiding loss of open space. Explore potential joint-use agreements with Translink and other property owners/businesses nearby to negotiate event or weekend parking. Pursue a potential partnership with Translink to provide a free event bus from the Park and Ride or from the existing public lots on Crescent Rd to the bus stop on King George Boulevard at Crescent Road. Pursue potential parking arrangements with nearby businesses (i.e. preschool).

Explore the opportunity for a parking area adjacent to or within the hydro right-of-way near the off-leash dog park in more detail. Place the parking within the ROW if possible in order to reduce the neighbourhood impact of on-street parking. Explore the impact that street parking will have on local neighbourhoods. Contemplate implementing initiatives about parking awareness and wayfinding rather than providing more in-park parking.

CIRCULATION

MS-20
**UPDATE WAYFINDING SIGNAGE AS PATHWAYS AND
 CIRCULATION ROUTES ARE IMPLEMENTED OVER
 TIME.**

Circulation routes must be identified clearly with wayfinding signage. The under bridge multi-use pathways are long-term developments; directions to alternative routes (i.e. the Pioneer Pedestrian Overpass) will be necessary in the short term. Circulation routes may also change due to flooding. Notices regarding routing and route changes should be provided on-site and on surrey.ca.

PARKING (EXISTING & PROPOSED)



* Nearby public parking at Elgin Centre, Elgin Community Hall, and Elgin Heritage Park (max. 1.5 km away)

6.2 NEXT STEPS

The park will be built out over several years in coordination with DMAF and funding availability.

Landscape Architect consulting team to lead design development of Park Phase 1: Hadden Mill and Oxbow zones.

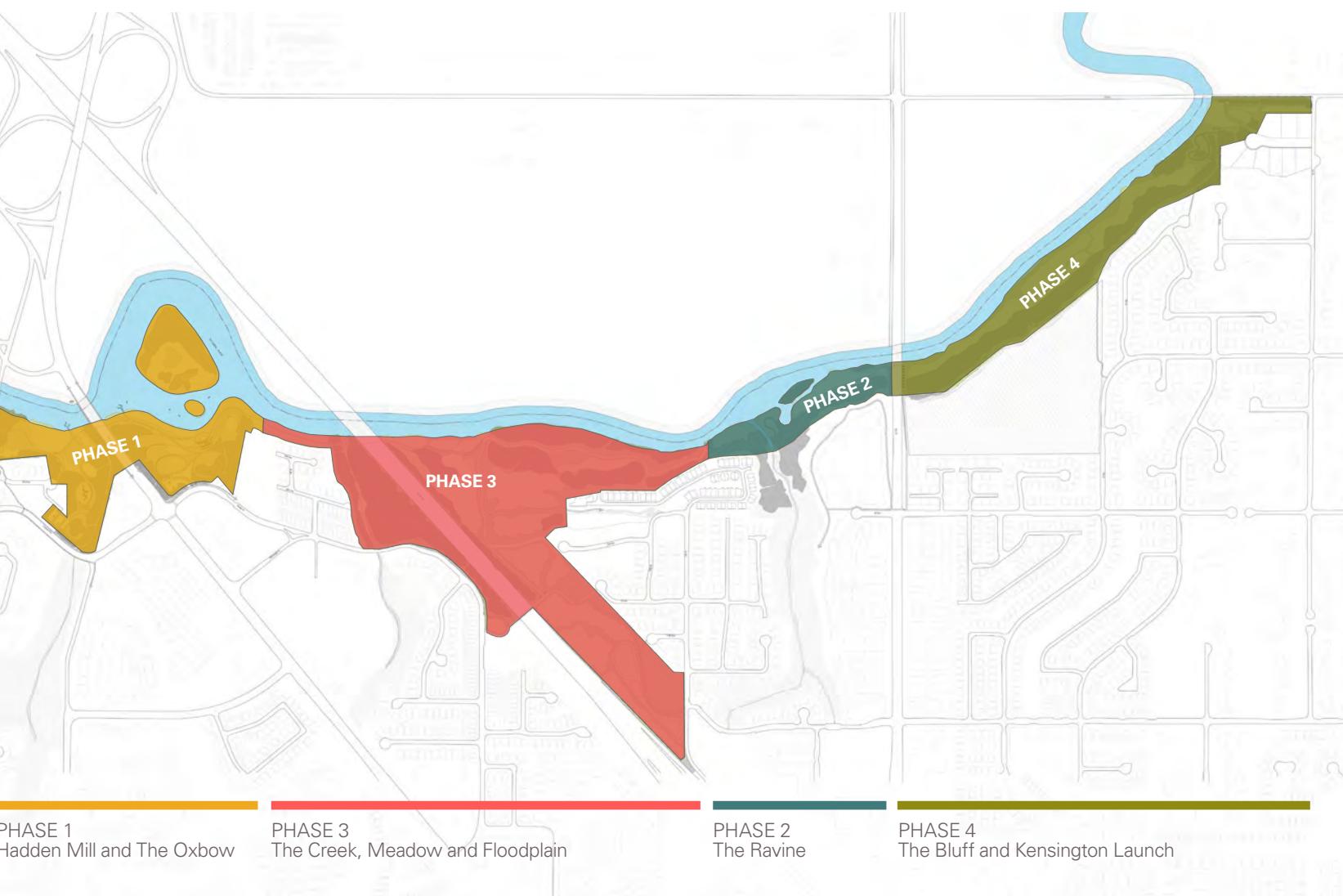
Landscape Architect liaison with the Engineering design teams on:

- King George Bridge and Sea Dam (including collaborative excavation for sea dam and Oxbow channel)
- 152nd Street Improvements, widening and raising
- Other projects funded by CFAS
- Future 152nd Street bridge widening

Proceed with a number of further park studies that will inform detail design:

- Archaeological Study
- First Nations Naming Strategy
- Overall Design character of Furnishings, Structures, etc.
- Detailed Environmental Assessment
- Project Communications & Engagement Plan *First Nations, Urban Indigenous peoples, residents and stakeholders
- Programming strategy
- Wayfinding, access and view strategy
- Flood response plan
- Invasive management plan

PARK PHASING



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APPENDIX I COMPANION DOCUMENTS

Documents A, B, and C were prepared specifically to provide background information to inform this Management Plan.

- A** Environmental Assessment Report, Diamond Head Consulting, November 2018
- B** Heritage Plan, Denise Cook Design, January 2020
- C** Public Art Strategy, Lynne Werker, January 2020

Documents D, E and F were prepared during the course of preparing this Management Plan.

- D** Public Consultation Summary Report, PFS Studio, January 2020
- E** Open House #1 Presentation Boards
- F** Open House #2 Presentation Boards

Document E simply documents the public feedback received during various stages of the consultation process.

- G** Public Engagement Verbatims

The following acronyms are used in this plan.

ALC	Agricultural land commission — Provincial
ALR	Agricultural land reserve — Provincial
BCS	Biodiversity conservation strategy — Surrey
CFAS	Coastal flood adaptation strategy — Surrey
DCS	Dyke construction elevation
DMAF	Disaster mitigation and adaptation fund — Surrey / Infrastructure Canada
RAR	Riparian area regulations — Provincial
RESCUE	Residents of Elgin Saving Creeks from Urban Effects

APPENDIX II RELATED DOCUMENTS

The following City of Surrey documents were prepared separate from this Management Plan but inform the plan's Park Objectives, Design Initiatives and Management Strategies.

All our Relations: Surrey Urban Aboriginal Social Innovation Strategy, April 2017, <https://www.surrey.ca/community/18417.aspx>.

Biodiversity Conservation Strategy (BCS), January 2014, <https://www.surrey.ca/city-services/11565.aspx>.

Blueways Master Plan, March 2001, <https://www.surrey.ca/culture-recreation/6033.aspx>.

Coastal Flood Adaptation Strategy (CFAS), November 2019, <https://www.surrey.ca/city-services/19888.aspx>.

Natural Areas Management Plan (NAMP), 2002, <https://www.surrey.ca/culture-recreation/3443.aspx>.

Parks, Recreation and Culture Strategic Plan, May 2018, <https://www.surrey.ca/culture-recreation/3096.aspx>.

Sustainability Charter 2.0, 2016, <https://www.surrey.ca/community/3568.aspx>.

The following City of Surrey documents were prepared separate from this Management Plan and are referenced or related to topics present in this Management Plan.

Cycling Plan, July 2012, https://www.surrey.ca/files/Surrey_Cycling_Plan_2012.pdf.

Dog Off Leash Area Strategy, https://www.surrey.ca/files/Dog_Off-Leash_Master_Plan_2012.pdf.

Greenways Plan, May 2012, <https://www.surrey.ca/files/GreenwaysPlan.pdf>.

Nicomekl Riverfront Park, Surrey.ca, <https://www.surrey.ca/culture-recreation/24604.aspx>.

Plan Surrey 2013, Official Community Plan, Bylaw #18020, <https://flipbook-surrey-ca.cld.bz/Official-Community-Plan-Flipbook>.

Public Art Plan, <https://www.surrey.ca/files/PublicArtPlan.pdf>.

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NICOMEKL RIVERFRONT PARK

MANAGEMENT PLAN  2020



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Fig. 95. River bend at Oxbow (City of Surrey).