CITY OF SAMMAMISH
WASHINGTON
RESOLUTION NO. R2022-981

A RESOLUTION OF THE CITY OF SAMMAMISH, WASHINGTON, ADOPTING A MASTER PLAN FOR KLAHANIE PARK

WHEREAS, Klahanie Park is a 64-acre park comprised of two parcels in the southeast section of the City, between SE 32nd St and SE Klahanie Blvd; was annexed to the City of Sammamish from King County on January 1, 2016, and

WHEREAS, the City's Model Master Plan Process was conducted for the Klahanie Park Master Plan from March 2019 to December 2019 to identify priorities for future park improvements in a comprehensive manner through a process that involved the community; and

WHEREAS, following one stakeholder meeting, three public meetings, and corresponding updates to the Parks and Recreation Commission and to the City Council, a final preferred alternative for the Master Plan was completed and presented to the City Council;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SAMMAMISH, WASHINGTON, DO RESOLVE AS FOLLOWS:

Section 1. Adoption of the Klahanie Park Master Plan: The City Council hereby adopts the Klahanie Park Master Plan, attached hereto as Attachment A and incorporated herein by reference.

Section 2. Severability: Should any section, paragraph, sentence, clause or phrase of this Resolution, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason, or should any portion of this Resolution be pre-empted by state or federal law or regulation, such decision or pre-emption shall not affect the validity of the remaining portions of this Resolution or its application to other persons or circumstances.

Section 3. Effective Date: The Klahanie Park Master Plan is hereby adopted and shall become effective immediately.

ADOPTED BY THE CITY COUNCIL AT A REGULAR MEETING THEREOF ON THE 6TH DAY OF DECEMBER 2022.

CITY OF SAMMAMISH

Kali Clark, Mayor

ATTEST/AUTHENTICATED:

Lita Hachey, City Clerk

Approved as to form:

Kari Sand, Interim City Attorney
Ogden Murphy Wallace PLLC

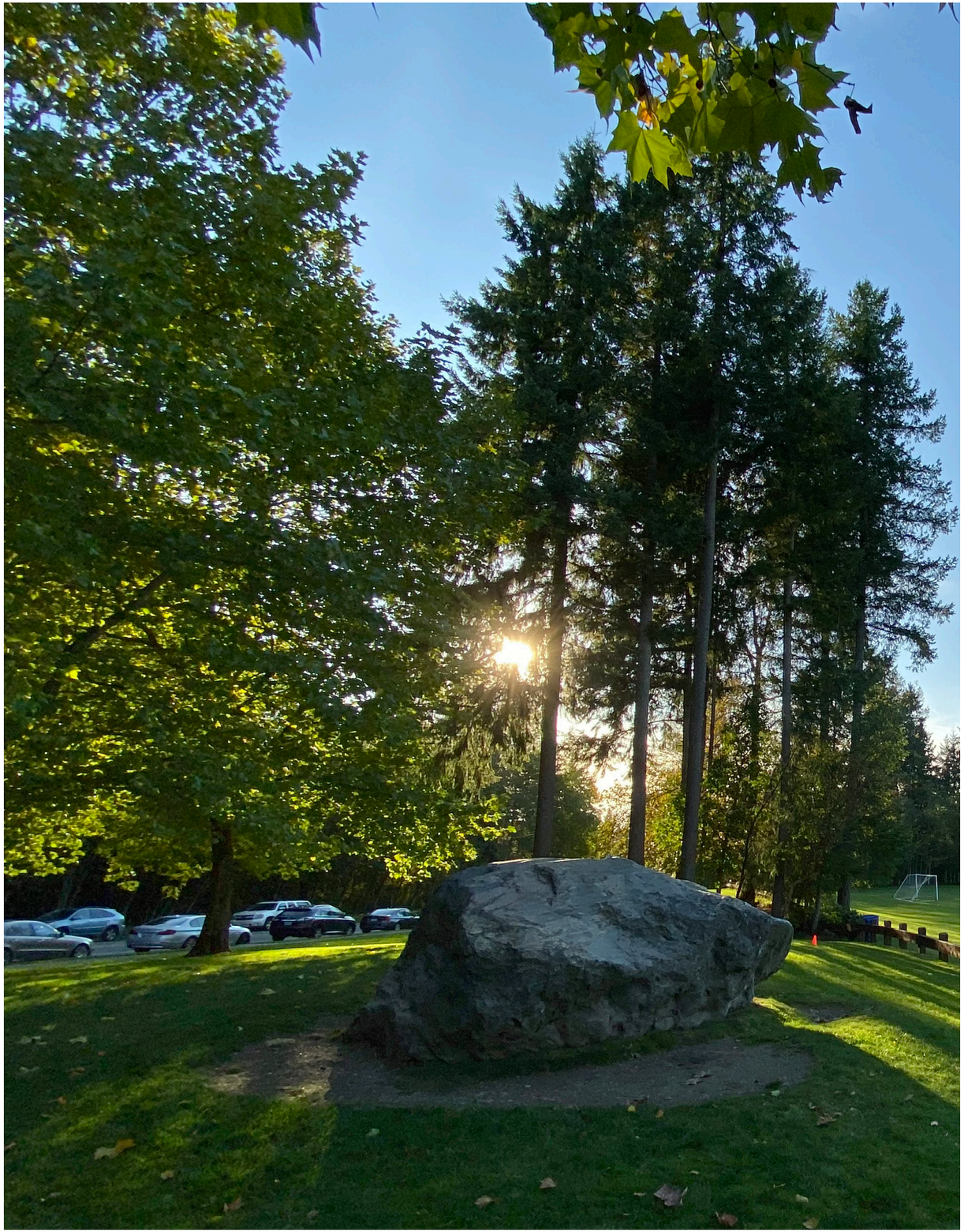
Filed with the City Clerk: November 17, 2022
Passed by the City Council: December 6, 2022
Resolution No.: R2022 - 981

KLAHANIE PARK

Master Plan | December 6, 2022

Sammamish Parks and Recreation

CITY OF SAMMAMISH | PARKS, RECREATION & FACILITIES



Acknowledgments

CITY OF SAMMAMISH |
City Council

Kali Clark, Mayor
Amy Lam, Deputy Mayor
Roisin O'Farrell
Rituja Indapure
Kent Treen
Pamela Stuart
Karen Howe

CITY OF SAMMAMISH |
Parks & Recreation Commission

Nancy Way, Chair
Tracey Smith, Vice Chair
Emily Snyder
Cheryl Wagner
Sid Gupta
Henry (Hank) Klein
Melanie Kelsey
Ms. Deena Anne
Mark Perry

CITY OF SAMMAMISH |
Parks, Recreation & Facilities

Anjali Myer, Director
Kevin Teague, Deputy Director
Shelby Perrault, Project Manager
Mike Keller, Parks Maintenance Superintendent
Becky Smith, Parks Planner

CONSULTANTS

HBB Landscape Architecture
D.A. Hogan & Associates, Inc.
Environmental Science Associates

Executive Summary

Klahanie Park sits in an active, vibrant, and engaging community in the southeast corner of Sammamish. Originally built as a community park with the development of the Klahanie planned community, the park was transferred from King County to the City in 2016 as part of the neighborhood's annexation into the City. With Queen's Bog in the heart of the park, the natural character and protection of the ecological value of the bog and its natural surroundings became a primary focus of the master plan and a core value of the community members who live, work, or play in and around the park.

The master plan focuses on the protection of Queen's Bog while still allowing for a diverse range of recreational opportunities, from picnicking and hiking, to playgrounds, community gardens, and athletic fields. Existing park improvements will be enhanced, the natural systems more actively protected and restored, and new opportunities created for the community to explore and engage.

Support facilities for the park are expanded and family activities are more centrally located to provide the greatest flexibility and safety to park users. The park will also support a variety of community events.

Implementation of the master plan will occur over time as amenities reach the end of their life cycle and as funding allows, focusing on three key areas or phases of improvements: the trail system, the multi-purpose field improvements, and relocation of the play area and ballfield. Support facilities for stormwater, parking, and restrooms will need to occur with the multi-purpose field improvements or the relocation of the play area and ballfield improvements, whichever occurs first.

The final master plan creates a new, vibrant, well-balanced park offering the community all the activities they currently enjoy with expanded capacity, diversity, and flexibility of uses, and a greater focus on family gathering and play than the existing park currently offers.

Contents

PROJECT BACKGROUND

Introduction

A total of $250,000 was allocated in the Parks Capital Improvement Plan (Parks CIP) for the Klahanie Park Master Plan. In 2018, a Request for Proposals (RFP) was published for consultant services to complete the master plan for Klahanie Park. A total of four firms responded. City staff evaluated the statements of qualifications received based on criteria outlined in the RFP and invited two firms to interview. HBB Landscape Architecture was selected for the project.

Project Goals

The Klahanie Park Master Plan is the result of a multi-step process led by the Consultant team and City staff. With input and direction from the public, the City Council and the Parks & Recreation Commission, the goals of this master plan were developed and are as follows:

1. **Protect Queen's Bog** and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

2. **Gather and Celebrate** to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

3. **Balance passive and active activities** recognizing the park serves a larger community need but should still retain its scale and character.

2018 Parks, Recreation & Open Space (PRO) Plan

The 2018 Park, Recreation & Open Space Plan is a long-term planning document used to guide the development of the overall park system city-wide, including Klahanie Park. The Klahanie Park master planning process builds on this previous planning effort and furthers the vision and goals outlined in this document.

The overall vision for the City of Sammamish Park & Recreation system sees parks as an integral part of the City's healthy and sustainable community by connecting people to nature, play, and culture. The goals set forth in the PROS Plan include:

- *Conservation of natural resources.*
- *Opportunities to improve health and wellness.*
- *Create social equity in access to parks and recreation for all residents.*

The Klahanie Park Master Plan meets these goals with the conservation of Queen's Bog, wetlands, and forested areas of the park; the active recreation opportunities and programming proposed for the park; and the gathering places where residents can come together as a community.

[1] *Source: www.wikipedia.org/wiki/Klahanie,_Washington*

Site History

The original park was built by the Klahanie Homeowner's Association as part of the planned community development in 1990. Ownership of the park was transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation.

Following annexation, minor improvements were made to the park which included drainage modifications to the baseball field, installation of the city's first cricket pitch, turf aeration of the two multi-purpose sports fields, and minor renovations to the restrooms. Having been in use for nearly 25 years with only minor improvements, park features were nearing the end of their life cycle or needing repair. Prior to commencing extensive development or improvement on parkland, the City needed to consider how a previous County park would best incorporate into Sammamish's overall park system by completing a master plan and following the City adopted master plan process.

1990 *Original park construction.*

2016 *Ownership transferred to the City.*

Site Context

Vicinity Map - City of Sammamish

Klahanie Park is a 64-acre park located in the heart of the Klahanie Neighborhood in the southeast section of Sammamish. The majority of the park is a natural area centered around Queen's Bog with other wetlands and trails around the edges of the Bog. Recreation amenities are located in the southeast corner of the park. The park is surrounded by residences and open space to the north, west, and south, and to the east is Challenger Elementary School and Beaver Lake Middle School.

Context Map - Klahanie Community

THE PLANNING PROCESS

Planning Overview

The park master planning process began with a detailed analysis of existing site conditions. This stage included an assessment of existing park amenities and a review of the following: current maintenance practices, overall site drainage, critical areas, vegetation, utility infrastructure, and topography. Existing easements and other known site encumbrances were documented to the extent available. Park users and organizations that regularly utilize the existing park facilities were invited to participate in a Focus Group to better understand the current challenges and opportunities associated with the current use of the park.

A Wetland Study Report was developed to document the existing environmental features within the site and its immediate adjacencies (see Appendix A). An Environmental Analysis (see Appendix B) was also developed to reflect proposed park improvements and potential mitigation and/or enhancement of critical areas on the site.

An extensive public outreach process was implemented to ensure the park master plan represented community interests. The outreach process is described in greater detail in the next section of this report, and included meetings or events for each major stage in the park master planning process:

PHASE 1 | Investigation & Analysis (February - May 2019)
This phase began with a detailed analysis of existing site conditions, park programming and establishing overall project goals for the park to determine the hopes, dreams, and concerns of the community related to the park.

PHASE 2 | Park Program (May - August 2019)
Master plan alternatives for the park were developed based on the results of Phase 1 and presented back to the community, the Parks and Recreation Commission, and City Council to voice their preferences, likes and dislikes for each alternative presented.

PHASE 3 | Master Plan Development (August - December 2019)
Comments from Phase 2 were reviewed and a preferred master plan developed, keeping what people liked most about the concepts presented, and changing what they didn't like to create a single preferred master plan concept. A separate Athletic Field Study was developed in 2020 to help the City determine the overall inventory and needs for athletic fields and programming in the City. This study was used to help inform the final Master Plan proposed for Klahanie Park.

PHASE 4 | SEPA Review & Adoption (January 2021 - December 2022)
The final phase of the project incorporated feedback received on the preferred master plan from the community, the Parks and Recreation Commission, and City Council. Comments received during the SEPA process and all other comments received on the park master plan were also reviewed. The final master plan and a summary of the planning process was documented in this report and presented for final adoption by City Council.

Site Inventory & Analysis

Both paved and unpaved trails surround Queen's Bog and connect the adjacent neighborhoods to the park. There are a variety of natural grass sports fields: two multi-purpose fields with soccer and lacrosse overlay, a cricket pitch that is located in between the two multi-purpose fields, and a baseball field. Poor drainage on the site has impacted overall use of the fields during inclement weather. The playground area primarily serves children ages 2 - 5 and is not fully accessible from the adjacent sidewalk or parking area. It is also relatively close to SE Klahanie Boulevard with little to no existing buffer. A parking lot is located within the site, and on-street parking along SE Klahanie Boulevard is readily available. The restroom is in reasonable condition, though showing signs of age and is not centrally located.

1 Queen's Bog

2 Trails

3 Stormwater Ponds

4 East Plateau Trail

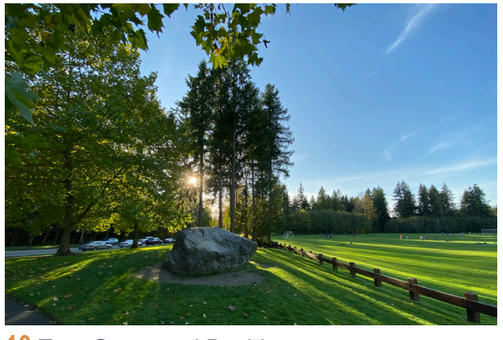
5 Ballfield

6 Multi-Purpose Fields

7 Parking

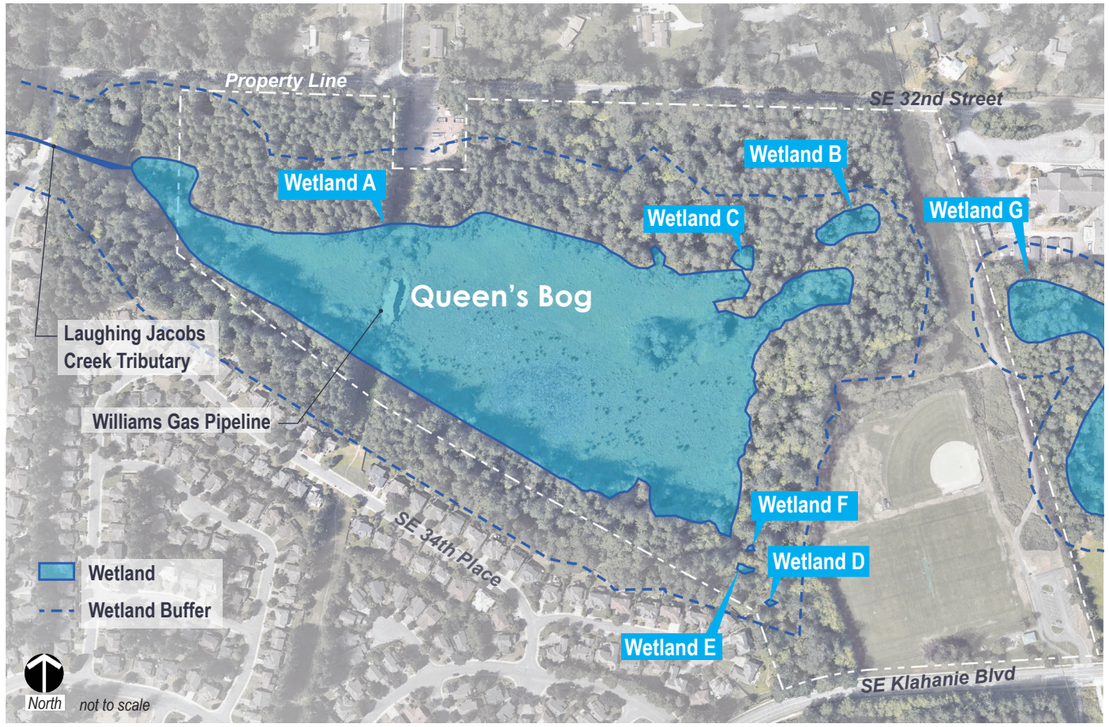
8 Restrooms

9 Play Area, Picnic and Seating



10 Tree Grove and Boulder

Critical Areas



Wetlands

Klahanie Park lies within the Laughing Jacobs Basin. Queen's Bog (Wetland A) is a 19-acre palustrine scrub-shrub and palustrine forested depressional wetland. The Williams Gas pipeline bisects the western portion of the wetland. Queen's Bog is one of Sammamish's most valued Sphagnum Bogs. It is an example of a unique habitat type rarely found in the region. Bogs are rare, peat-dominated wetlands that are considered difficult to replace, sensitive to disturbance, and require the largest protective measures. According to the Laughing Jacobs Basin Plan, adopted by the City in May 2022, vegetation encroachment and open water regions of Queen's Bog indicate that degradation of the bog habitat may be occurring. Urbanization of the surrounding area has resulted in greater runoff and altered water chemistry impacting the Bog. The Basin Plan also includes goals, objectives, and recommendations for reducing the impact of urbanization effecting Queen's Bog.

Five additional wetlands (Wetlands B – F) occur on the park property. These smaller wetlands are approximately 0.1 – 0.3-acres and are considered depressional, palustrine scrub-shrub wetlands.

Wetland G is located on the adjacent School District property. A wetland reconnaissance was completed for this off-site wetland. The reconnaissance conducted indicates it is a palustrine scrub-shrub and palustrine forested depressional wetland.

Further information on the wetlands identified in the study area is included in Appendix A of this document.

Wetland Buffers

There is a 215-foot buffer around Wetland A and 50-foot buffers around Wetlands B - F which are encompassed by the Wetland A buffer. These buffers are limited to the forested area and do not extend into the developed portion of the park. Wetland G has a 100-foot buffer, which extends into the park and overlaps the East Plateau Trail and BPA easement.

Streams

Queen's Bog is drained by the East Tributary to Laughing Jacobs Creek in the northwest corner of the park. This tributary is mapped as an intermittent stream. The East Tributary flows east and south, before joining Laughing Jacobs Creek and eventually discharging into Laughing Jacobs Lake. A standpipe with a debris rack controls the flow of water from Queen's Bog west into the upper reaches of Laughing Jacobs Creek. Per the Laughing Jacobs Basin Plan, completed by the City in 2022, the barrier status of this crossing has not been assessed by the Washington Department of Fish and Wildlife (WDFW), but the structure is a fish barrier due to the standpipe. The Basin Plan applied a uniform buffer distance of 150 feet to each side of the tributary.

Upland Areas

Outside of the developed portion of the park, upland areas are primarily mature forest. Forested areas surrounding Queen's Bog are dominated by Douglas Fir. Understory vegetation consists primarily of native plants including Sword Fern and Salal. Invasive vegetation, including Himalayan Blackberry and Scotch Broom, is limited to areas disturbed by trails and other site improvements.

Queen's Bog (Wetland A)

Forested Area

Athletic Programming

The natural grass athletic fields at Klahanie Park include one Baseball/ Softball field, two multi-purpose fields with soccer and lacrosse overlay, and a cricket pitch that is located in between the two multi-purpose fields. There is also a cricket practice pitch to the west of the multi-purpose fields. The athletic fields are available to rent from March through October and are utilized primarily for community sports practices and games, with a small percentage of reservations for summer youth camps and city events. The multi-purpose fields at Klahanie Park are the highest used natural grass fields in the City, with hours rented nearly at capacity for natural grass fields. Of these hours rented, cricket accounts for approximately half; Klahanie Park is the only city park with a cricket pitch.

Condition & Orientation

A city-wide athletic field study was completed in 2020. As part of this study, an assessment of the existing field inventory was completed to identify deficiencies and provide recommendations for improvements to remedy deficiencies and add capacity while emphasizing cost saving measures. In reviewing the service life of the three fields, the baseball field was observed to be declining in performance, specifically the infield, with observable corrective maintenance and/or repairs required. The two multipurpose fields are nearing the end of their service life; they require continual attention, have consistently substandard performance largely due to the natural accumulation of organic material over time and excessive maturation of the grass, resulting in poor drainage that affects the ability to use the fields.

The Baseball / Softball field is oriented northwest which is a typical orientation, but east-northeast is preferred. The bleachers, storage facilities, backstop, and access paths are visibly aging, and are not fully accessible. The Cricket / Soccer fields are oriented north-south which is the ideal orientation. The size of this multipurpose field accommodates two U12 level full size soccer fields, however, they are undersized for an official cricket field.

Support Facilities

There are 2 small storage sheds to support the fields, one for the City staff and one is shared by the Little League and cricket user groups. There are 2 sets of bleachers for spectator seating at the Baseball / Softball field. The Cricket / Soccer fields do not have designated player or spectator seating. The sloped lawn on the southern edge of the field often serves as informal seating. The seating is not accessible from the parking lot and there are no gathering areas, benches, picnic tables or other amenities near the fields. The nearest picnic table and bench are at the playground in the south end of the site.

Cricket Grounds

- Natural grass infield and outfield.
- 12’ x 110’ synthetic turf pitch (longer than typical); indoor/outdoor carpet over concrete.
- Irregular / non-standard outfield dimensions; exact stumps / wicket layout is unknown.
- Standard outfield size cannot be accommodated due to ballfield and southern slope.
- Batting in only one direction (south) due to paths and adjacent softball field.
- Games require occupying both soccer fields.
- Automatic irrigation.
- Aging underdrainage system.

Soccer Fields

- Natural grass surface, generally worn, very high organic content to 8” depth over heavy soils.
- Automatic irrigation.
- Aging underdrainage system .
- 180’ x 300’ nominal field markings support play for ages 13-14 and is minimum size for adult recreational play.
- Multiple youth field layouts can be accommodated.
- No fixed improvements, surface size can support larger field dimensions.

Baseball / Softball Field

- 2017 Drainage Improvements: underdrainage renovated, irrigation modifications, installation of new sod and crushed rock warning track.
- Natural grass outfield with skinned (sand / silt) infield with crushed rock warning track.
- Automatic irrigation.
- 250’ outfield fence and 60’ base path supports U12 Little League and 13+ fast-pitch softball.

Cricket Practice Pitch

- Installed in 2019.
- 11’ x110’ synthetic turf pitch; indoor/outdoor carpet over concrete.
- Portable frame and netting.

Easements

Williams Gas Line

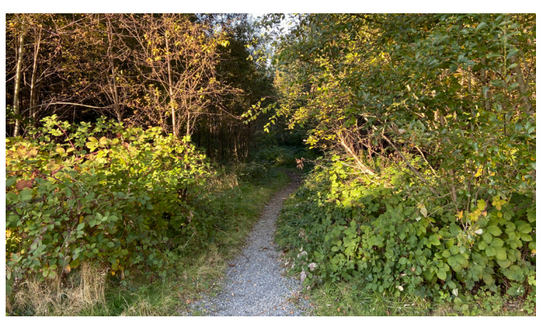
The gas line runs north-south under Queen's Bog. Any permanent improvements would need to be approved by Williams Gas Line.

Puget Sound Energy (PSE)

The PSE easement runs parallel to SE Klahanie Boulevard to accommodate underground utilities. Typical offsets for trees and structures and access to underground utilities apply.

Bonneville Power Administration (BPA)

The BPA easement runs north-south along the east property line. Active recreation use within this easement is limited to transitory, short-term use. Athletic fields and support facilities are not allowed. No permanent structures are allowed. Access to the towers and transmission lines must be maintained with a 50' clear zone required around the transmission towers.



Williams Gas Line Easement

BPA Easement

Stormwater

Stormwater Facilities

There is one stormwater facility that serves as filtration and detention located at the north end of the park improvement area, just north of the Baseball / Softball field. This facility receives stormwater from surface flow across the fields and direct discharge from the parking lot. The pond also appears to serve as an overflow to the wetland system on the adjacent Issaquah School District property with a mapped pipe connecting the two facilities (Storm Bandit, 2019).

Based on the Laughing Jacobs Basin Plan, two stormwater outfalls on the south side of the bog convey stormwater from the residential development into the bog. Two additional drainage easements are mapped on the southwest side of the bog. However, no pipes or flow are mapped. An additional stormwater detention area is east of the bog within Klahanie Park (Storm Bandit, 2019). During site visits as part of the Basin Plan and the park plan, no connection between this pond and the bog was observed, which is supported by existing as-built plans from the City. There are also four additional stormwater outfalls from the surrounding subdivisions and surface streets that discharge into Queen's Bog (Storm Bandit, 2019).

Site Drainage

Surface water generally flows across the improved portion of the park site from south to north towards the stormwater pond. Surface drainage from the trails around the rest of the park site flow into the adjacent forested areas and infiltrate into the ground plane. Surface flow from the larger drainage basin is generally directed toward Queen's Bog. The eastern half of the park is a mapped critical aquifer recharge area and approximate extents will need to verified (Sammamish Property Tool, 2022).

Trails

The park includes both paved and unpaved trails. A multi-use trail, the East Plateau Trail, runs along the BPA powerline from SE 32nd Street to SE Issaquah-Fall City Road and provides the main north-south trail connection through the park and to the Klahanie community beyond. The only other paved trail runs parallel to SE 32nd Street along the north property boundary, meandering through the forested area and connecting directly to the street right-of-way at 244th and 247th Avenue SE, and to the Klahanie HOA Open Space Tract at the western park edge. There is an existing sidewalk on both sides of SE Klahanie Boulevard connecting into existing trails in the park.

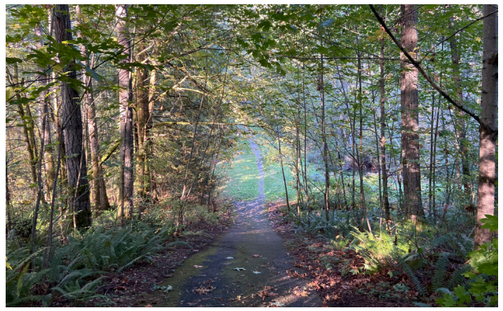
Informal, unpaved trails meander through and cross over the East Plateau Trail within the BPA easement area and a series of informal trails connect the parking lot to other recreation amenities within the developed area of the park. There are also a series of informal, mulch or dirt trails that meander through the forested area of the park, some looping back into the main paved trail and others creating a dead-end where the brush gets too dense or the surroundings too wet to continue.

Accessibility

Accessible walking trails are limited to the multi-use path for the East Plateau Trail, the sidewalk along SE Klahanie Boulevard, and a portion of the paved trail that runs parallel to SE 32nd St. There is also a limited amount of paved paths within the park to access the restroom and a picnic table. Access to the fields is not currently fully accessible. Access to the restroom and play area is accessible, but fully accessible play components within the play area is currently limited.

Park Pathway

Paved Forest Trail



Informal Forest Trail

East Plateau Trail

OPPORTUNITIES & CONSTRAINTS

Following the site inventory and analysis phase of the master plan, several opportunities and constraints were identified and are noted below. These items were further explored with stakeholders and the community during the visioning phase.

Opportunities

- Redirect stormwater through raingardens, biofiltration swales, and infiltration areas so it is treated before it reaches Queen's Bog.
- Reduce impact on Queen's Bog by keeping proposed improvements out of wetlands and minimizing impact to wetland buffers to the greatest extent feasible.
- Improve buffers with understory vegetation, support natural tree succession.
- Educate about the importance of the bog and the habitat / ecosystems they support.
- Improve connectivity through the site and community.
- Balance active and passive recreation.

Constraints

- Limited space for recreation.
- Active and passive recreation compete for space in the park.
- Space dedicated to easements and the restrictions on how the spaces can be used.

Public Outreach Overview

An extensive public outreach process was implemented to ensure the park master plan represented community interests, and included opportunities for public comment and feedback in every phase of the project. The results of the outreach process is described in greater detail in the next section of this report.

The public outreach process included the following meetings or events for each phase of work:

PHASE 1 | Investigation & Analysis (February - April 2019)
- Parks & Recreation Commission Meeting #1: March 6, 2019
- City Council Meeting #1: March 12, 2019
- Focus Group Meeting: March 14, 2019
- Focus Group Survey: March 12 - March 20, 2019
- Community Survey #1: March 13 - April 21, 2019
- Public Meeting #1: March 21, 2019

PHASE 2 | Park Program (April - August 2019)
- Public Meeting #2: May 23, 2019
- Community Survey #2: June 3 - June 23, 2019
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019

PHASE 3 | Master Plan Development (August - December 2019)
- Public Meeting #3: October 10, 2019
- Parks & Recreation Commission Meeting #3: November 6, 2019
- City Council Meeting #3: December 3, 2019

PHASE 4 | SEPA Review & Adoption (January 2021 - December 2022)
- Parks & Recreation Commission Meeting #4: October 6, 2021
- City Council Meeting #4: January 11, 2022
- City Council Meeting #5: January 18, 2022 (SEPA Authorization)
- Non-Project SEPA Application Submitted: March 22, 2022
- Non-Project SEPA Determination of Non-Significance Issued: May 27, 2022
- City Council Meeting #6: December 6, 2022 (Final Master Plan Adoption)

Investigation & Analysis

The first phase of the master planning process establishes the overall vision for the park, focusing on the hopes, dreams and concerns of the community as they consider the existing or proposed improvements for Klahanie Park. This process included a Focus Group, where park users, key stakeholders, and organizations that currently have programs at the park come together to discuss the current and future use of the park.

The Focus Group was followed up with a community survey and public meeting. The public meeting was held at the adjacent school so participants could walk the site with city representatives and talk about their hopes, dreams and concerns in the context of the existing park. A more interactive working session followed at the adjacent school to support the discussion in the park and accommodate anyone who wasn't able to or interested in participating in the site walk.

The results of this first phase of the park master planning process were used to establish the overall park goals and guide the development of different concept alternatives for park improvements.

Site walk-n-talk with community members led by the park consultant team and City staff during Public Meeting #1.

Community members review concepts and ideas for the park during Public Meeting #2.

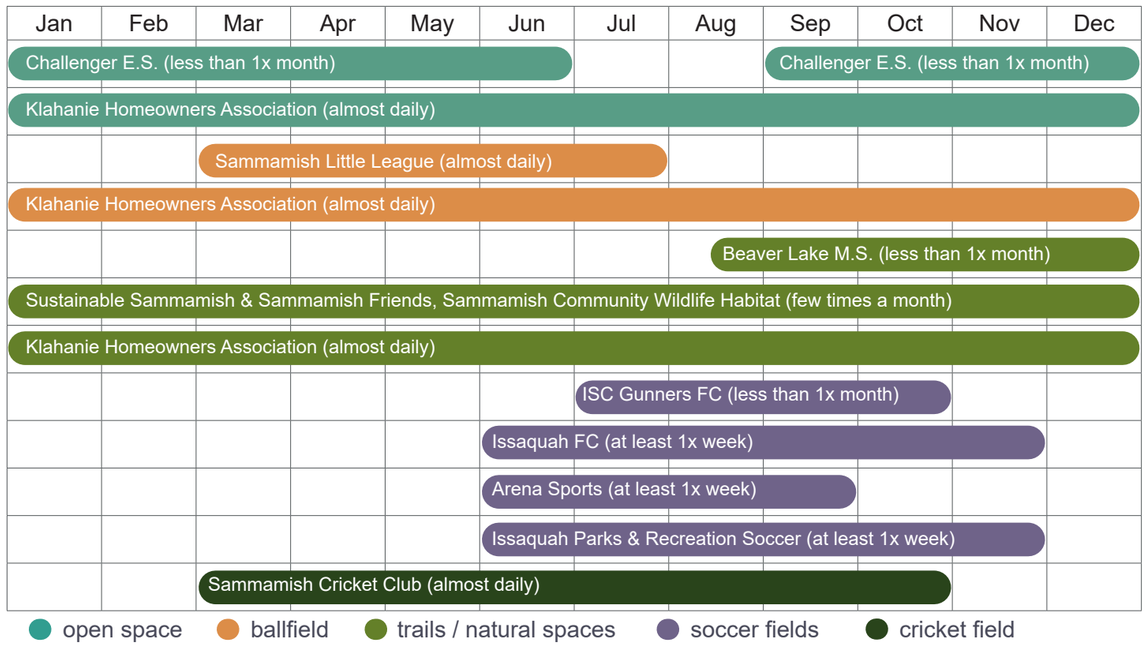
Focus Group Meeting & Survey

The design process included a focus group meeting and on-line survey. The focus group included stakeholders using the park for active and passive recreation, Issaquah School District, the Klahanie Homeowner's Association, and three utility companies that have easements through the park. The survey was conducted from 03/12/2019 through 03/20/2019 and the focus group meeting was held on 03/14/2019. 18 participants took the survey, 26 people were invited to the meeting and 11 people attended. The feedback received in both the survey and meeting was essential in creating an initial menu of programming options for review by the larger community in Public Workshop #1. All three utility companies provided feedback and guidance for ensuring the final master plan remains compatible with their access and maintenance requirements. However, they are excluded from the data shown here because they have no recreation demands or requests. This was not a statistically valid survey.

The focus group participants included:

- Sammamish Little League
- Challenger Elementary School
- Beaver Lake Middle School
- Klahanie Homeowners Association
- Sustainable Sammamish
- Sammamish Friends
- Sammamish Community Wildlife Habitat
- ISC Gunners FC
- Issaquah FC
- Arena Sports
- Issaquah Parks & Recreation Soccer
- Sammamish Cricket Club
- Williams Gas Company
- Bonneville Power Administration
- Puget Sound Energy

Of the groups and individuals who currently use the park for active recreation, the following chart shows who uses the various areas of the park throughout the year and how frequently the areas are currently being used.



Estimated size of the groups using the park and their average annual growth...

Sammamish Little League
800 - 900 / ~5% annual growth

Challenger Elementary School
570 / 3% - 4% annual growth

Beaver Lake Middle School
1,000 / ~less than 1% growth

Klahanie Homeowners Association
12,000 / ~1% annual growth

Sustainable Sammamish
10 - 15 / growth unknown

Sammamish Friends
10 - 15 / growth unknown

Sammamish Community Wildlife Habitat
15 -20 / ~5% annual growth

Issaquah P&R Soccer
3000+ / ~5% annual growth

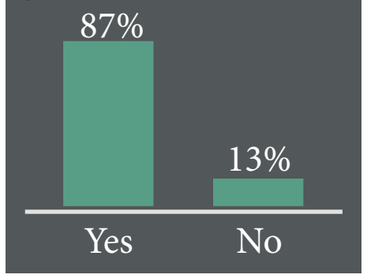
Arena Sports
150 / ~5%- 10% annual growth

ISC Gunners FC
2000 / ~5% annual growth

Sammamish Cricket Club
300 / ~30% annual growth

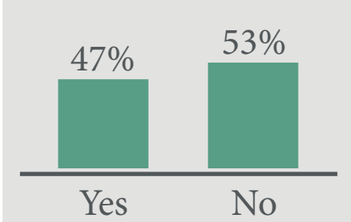
Issaquah FC
700 / ~5%-7% annual growth

Is the park sufficient for your current use?



The "No" responses are related to the ballfield and soccer fields.

Is the park sufficient for your desired / future use?



The "No" responses are related to all park areas (see right).

Wish List...

From the groups or individuals whose recreation needs are not met in the park, the following wish list of improvements was requested in order to meet their desired or future use:

Ballfield:
- Artificial turf
- Field lighting
- Picnic shelter / bbq pits
- Playground
- Covered dugouts
- Improved fencing / backstop
- Spectator seating
- Accessible, shorter path from parking to field
- 1 additional ballfield
- Serve all ages

Overall:
- Improved drainage in open space and fields
- Increase parking
- Improve safety near the roadways
- Synthetic turf & light pollution are a concern

Open Space:
- Outdoor classroom
- Accessible play area
- Zipline
- Access to restrooms
- Community kiosk
- Gathering space
- Covered picnic shelter
- Family friendly activities

Soccer Fields:
- Preserve 2 soccer fields
- Artificial turf
- Field lighting
- Adequate parking
- Playground

Cricket Field:
- All natural grass, mowed short
- 2 practice wickets
- Seating
- Maintain or expand field size
- Lighting

Trails / Natural Spaces:
- X-Country course
- Boardwalks
- Preserve nature & bog
- User-friendly paths
- Connect the loop trail
- Don't add trails
- Interpretive signage
- Bog viewing area
- Emergency access
- Clear noxious weeds
- Native plant & pollinator garden
- Celebrate & educate about the bog and natural spaces without negative impacts
- Stewardship opportunities

Community Survey #1 - Hopes, Dreams, and Concerns

The vision and programming survey was available on-line and open to the public from 03/13/2019 through 04/19/2019 and worked in tandem with the feedback from Public Workshop #1 to kick-off the design process. This was not a statistically valid survey.

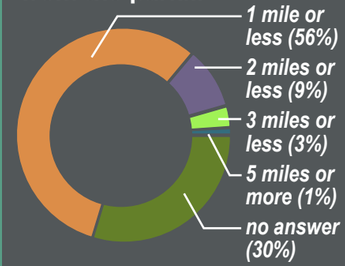
The survey asked how people felt about the current park. In general, the community enjoys the park's location and its small-scale park character, the flexible open space, and current activities including the sports fields, the natural spaces, and trails. The survey results also showed that the community didn't like that the existing fields are often too wet to play on or are so heavily programmed that there isn't space for informal activities to occur. Some respondents felt the current playground structure was limited in its age and interest, and the restroom felt unsafe. While many people responded in the survey that they liked the trails, there were also a number of responses that indicated a concern there were too few trails or that the trails felt unsafe. Additional written comments received included:

- Increased traffic and safety concerns.
- Impact on the environment.
- Concern with adding field lighting.
- Concern with using artificial turf.
- Keep the big boulder by the playground.
- Concern with the park becoming crowded with large groups / leagues.
- Desire to keep the park as-is.

The survey also asked what one word or phrase could be used to describe the ***vision for the future*** of Klahanie Park. A word cloud was prepared to highlight the responses. The larger the word, the more often it was mentioned in survey responses.

677
Survey Participants

Distance participants live from the park...



Average age of participants ...

2% under 25 years
41% 26 - 45 years
46% 46 - 65 years
11% over 65 years

The majority of survey participants live a short distance from the park and visit weekly or more.

Vision & Mission
Conservation of natural resources:

86%
agreed or strongly agreed

Vision & Mission
Opportunities to improve health and wellness:

70%
agreed or strongly agreed

Vision & Mission
Create social equity in access to parks and recreation:

45%
agreed or strongly agreed

Above is the % of survey participants who agreed that Klahanie Park should support the City's mission to create a legacy of diverse and quality parks, exceptional recreation programs, and protected natural resources.

Top Perfect Fit Features...

#1 Restrooms
#2 Natural surface trails
#3 Playgrounds /natural play elements

Other perfect fit features included boardwalks, flexible space, picnic areas, and multi-purpose fields.

Top Non-Suitable Park Features...

#1. Skate park / skate features
#2. Frisbee golf course
#3. Amphitheater / stage
#4. Art murals & sculptures
#5. Single purpose sport fields

Other less desired features: zipline, climbing walls, parkour, sports courts, off-leash area, spray park.

Top Guiding Principles...

#1 Sustainable design
#2 Ecological restoration / enhancement
#3 Efficiency / ease of maintenance

Other guiding principles for the park design included connections to trails, schools, and residences.

Park Program

Three master plan alternatives were developed for trails and park improvements based on the site analysis, environmental documentation, and the results of the Hopes, Dreams, and Concerns phase of the planning process. The alternatives developed during this phase of the design are shown below and included in Appendix D.

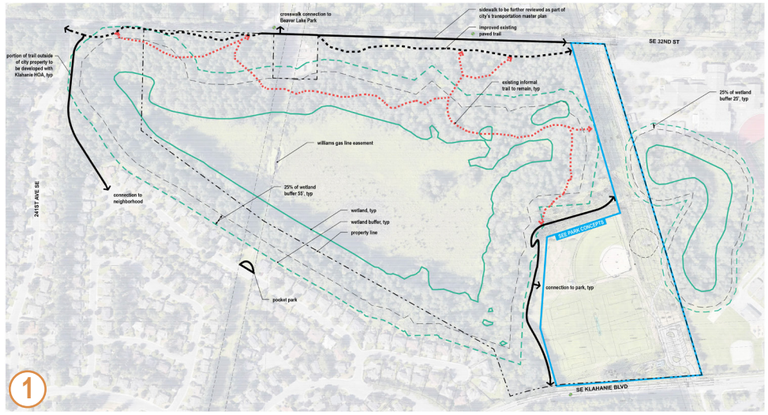
The master plan alternatives are based on the following overall project goals for park improvements.

1. **Protect Queen's Bog** and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

2. **Gather and Celebrate** to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

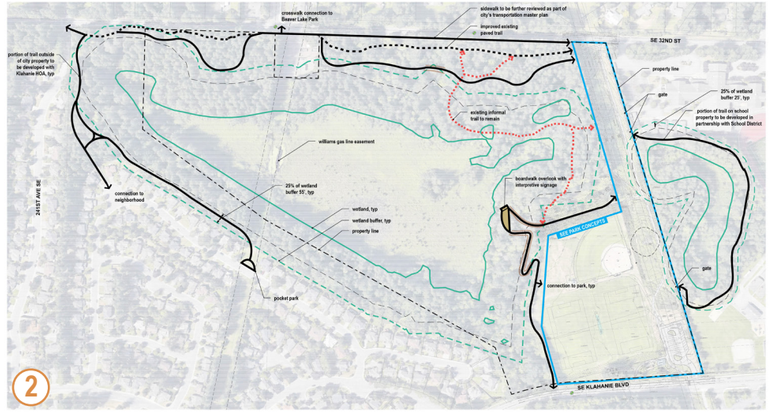
3. **Balance passive and active activities** recognizing the park serves a larger community need but should still retain its neighborhood scale and character.

Trails Concept 1



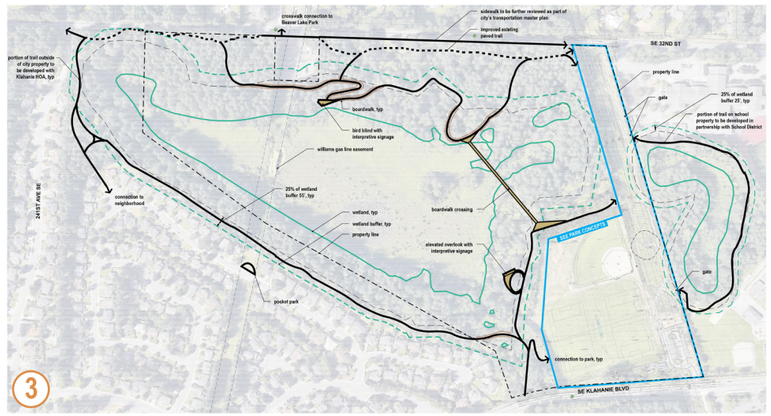
Provides improvements to the existing paved trail and allows the existing unpaved trails to remain in place. The existing trails would also connect to the loop trail around the park open space. The western trail is relocated to be in the outer 25% of the wetland buffer and this would require partnership with the Klahanie Homeowner's Association since this trail is located within their Native Growth Protection Area. The existing open space at the south end of the gas line adjacent to SE 34th Place would be improved as a pocket park with picnic and seating areas.

Trails Concept 2



Same as Concept 1 with additional connections to the surrounding neighborhood, schools, and park open space. Includes a boardwalk in the forested area to overlook Queen's Bog and may include interpretive or educational signage or other features. New trails are located in the outer 25% of the wetland buffers to comply with code requirements. Any new trails over steep slopes will be designed as boardwalks to minimize disturbance and impact on the existing vegetation. Trail relocation outside the park property would require partnership with the Klahanie Homeowner's Association since this trail is located within their Native Growth Protection Area.

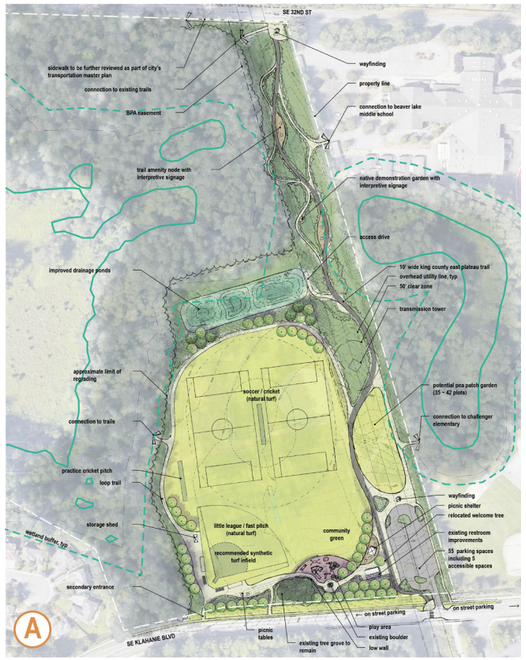
Trails Concept 3



Same as Concept 2 with additional trails through the forested areas, overlooks, and connections to the Klahanie community. This concept includes a variety of boardwalk features in the forested area which can overlook Queen's Bog and may include bird blinds, interpretive or educational signage, and seating. Additionally, this concept adds a direct boardwalk/bridge connection across a portion of the bog and incorporates a complete loop around the forested areas. Any new trails located in areas outside of the park property would require a partnership with the Klahanie Homeowner's Association since this trail is located within their Native Growth Protection Area.

Open Space Concept A

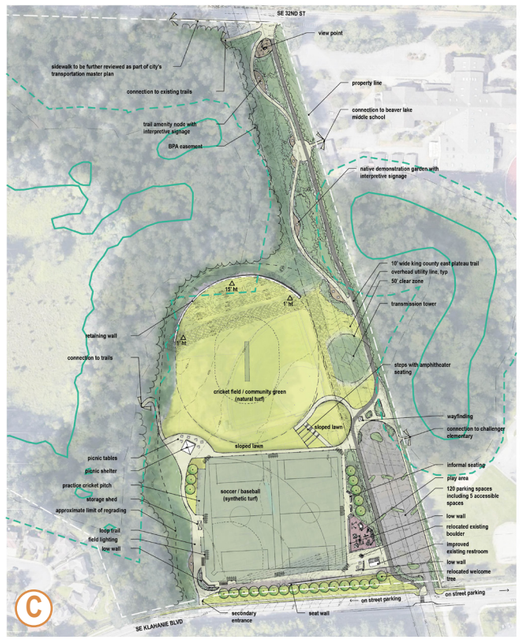
Relocates the existing soccer and cricket fields to the north, moving the existing ballfield to the southwest corner of the site. This configuration would allow the slope by the existing restroom to be smoothed out and would open up the central area of the park for more unstructured, flexible open space. It would also allow the playground and picnic areas to be expanded, and create more terraced seating to better support community events. This concept creates a full adult size cricket pitch and outfield by utilizing the space more efficiently. The parking lot is reconfigured to increase capacity within a similar footprint as the existing parking lot and would add a drop-off area. The existing grove of trees west of the restroom would also remain.



Open Space Concept B

Generally keeps the existing soccer and cricket fields in their current location but moves the existing ballfield and expands the area around the cricket pitch so that a full-size adult and youth cricket match can be accommodated. Moving the existing ballfield allows the play area to be relocated away from the road and parking, and expands it to include multiple ages and play features. This configuration creates a central open space that can accommodate more unstructured activities, picnic areas, and a series of event spaces, large and small. The restroom is relocated to the central area of the park as well.

A loop trail would surround the open space and connect into the larger trail system throughout the park. The parking lot is expanded to the north to increase capacity (nearly doubled in size) and a drop-off area is added. The existing grove of trees west of the restroom would be impacted with this concept, and a stormwater vault would be needed under the north edge of the cricket field.



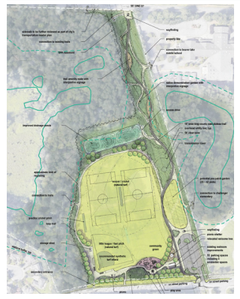
Open Space Concept C

Combines the existing ballfield and soccer fields into one large multi-purpose area with synthetic turf with an opportunity for field lighting. This allows for a separate full-size cricket pitch and outfield that could accommodate adult and youth matches, while providing a community open green when cricket is not in play. To accomplish this, the existing stormwater pond area would need to be converted into field space. The new cricket field would be at a lower elevation to work with site topography. The slope between the cricket field and the ballfield/soccer fields would be used to support community gathering and offer semi-structured seating for larger events. The play area is moved away from the road but is still near the parking lot and expanded to include multiple ages and play features. A series of new picnic areas would be located near the playground and as a central gathering area between the fields.

A loop trail would surround the open space and connect into the larger trail system throughout the park. The parking lot is expanded to the north to increase capacity (nearly doubled in size) and a drop-off area is added. The existing grove of trees west of the restroom would be impacted with this concept, and a stormwater vault would be needed under the north edge of the cricket field.

Community Survey #2 - Master Plan Alternatives

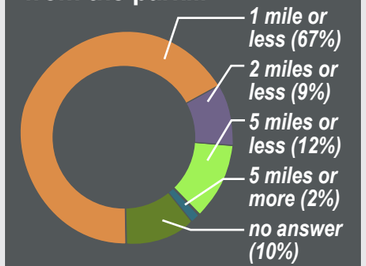
The second Community Survey was used to evaluate and provide feedback on the master plan alternatives. It was available on-line and open to the public from June 3, 2019 through June 23, 2019 with the second Public Meeting occurring while the survey was active. This was not a statistically valid survey. The following tables include the feedback received for each Open Space and Trails alternative shown. 354 people participated in the survey.

	Likes	Dislikes / Concerns	Desired Changes
Open Space A			
	• unprogrammed open space • community gardens • big rock and trees remain • loop trail • meandering trail with amenities • natural grass	• fencing along SE Klahanie Blvd is less welcoming entrance	• move fields away from SE Klahanie Blvd • larger playground • switch the location of the cricket/soccer fields and the ballfield • more picnic/seating • natural infield • add fencing at cricket field extents
Open Space B (preferred)			
	• similar efficiency of fields to the existing • natural grass • natural stormwater treatment • central play area and restroom • ballfield fences are out of the way	• community open space is too small • distance of the play area to parking	• keep the existing trees along SE Klahanie Blvd • add pea patch instead of sensory garden • add more picnic areas • remove outdoor classroom • add lawn
Open Space C			
	• artificial turf • field lighting • full adult softball field • cricket field separation	• artificial turf & field lighting • loss of neighborhood character and nature • too much impact • stormwater redesign • expanded parking • fencing along SE Klahanie Blvd is less welcoming entrance	• Add unstructured community space • larger playground • more seating and shade around the fields

	Likes	Dislikes / Concerns	Desired Changes
Trails 1 (preferred)			
	• removal of trails behind homes • minimum impact to the bog and natural space • improves existing trail along SE 32nd Street	• proximity of trail to SE 32nd Street • non-loop trail and very minimal improvement or new trails added	• add unique or interpretive features • add trails, or a looped trail • remove trails • add trail connection to pocket park
Trails 2			
	• overlook, but it needs to consider safety/ security and impact on the environment • school wetland trail	• trail behind homes • bog / wetland viewing platforms • encroachment into natural areas	• remove new trails and focus on improving existing trails • add trails or a looped trail
Trails 3			
	• seating • trail connections and the looped system • overlooks and other trail amenity areas	• trail behind homes • full loop trail has too much impact on bog • bridge over bog is too invasive • too much access to the bog	• eliminate improvements within the wetland buffers • balance soft surface with paved trails to minimize impact

345
Survey Participants

Distance participants live from the park...



Average age of participants...

2% under 18 years
1% 18 - 24 years
6% 25 - 34 years
36% 35 - 44 years
26% 45 - 54 years
18% 55 - 64 years
11% over 65 years

58% of respondents visit the park at least weekly on average.

Top Play Area Preferences

Nature Play

Adventure Play

Top Garden Preferences

Native

Pollinator

Top Shelter Preferences

Rustic

How important is it to provide an overlook to Queen's Bog?

30% not important at all
30% somewhat important
18% no preference

How important is it to provide an overlook to the wetlands?

30% not important at all
30% no preference
23% somewhat important

How important is it to provide trails/boardwalks in the wetland buffers?

44% not very or not important at all
12% no preference
44% somewhat or very important

Community Feedback

Following Public Workshop #2 and the Community Survey, the Master Plan Alternatives were presented during a joint meeting with City Council and the Parks & Recreation Commission on June 11, 2019. Comments continued to be received through June and July of 2019 and focused on keeping the neighborhood feel of the park, balancing active and passive recreation, and ensuring minimal impact to the natural spaces. Some representative comments are included here:

*"We have severe **shortage of athletic fields** in this city. Hopefully this will help a lot to cater most of the needs. The **best part of this park is cricket field**. It's the only park in this region which helps lot of kids in this sport."*

*"It's important that any enhancements to this park take into **consideration the impact on existing native areas, wildlife habitats, and surrounding neighborhoods**... Klahanie has always been an appealing place to live because of all the natural beauty and the vision of the original developers to create a lot of natural space for resident's enjoyment. Klahanie Park should continue to reflect this vision."*

*"I am against Option C for the park and trails. Homes back onto the park and trails, **artificial light and the increase in traffic is not wanted at night** for the Klahanie community. Please consider Option A or B, and remove Option C from consideration."*

*"Please support a configuration that **allows for artificial turf and lighting**. This would increase usage substantially. The field should include lacrosse markings."*

*"This park is really awesome just as it is. The only option that I would consider is option B. The baseball diamond needs to stay in the back. **Keep as much green space as possible for free play and family activities.** Do not increase parking and do keep our lovely trees intact. A huge parking lot does not make a park more appealing. In fact, it is offensive."*

*"All three plans have strengths and weaknesses and look good. I see the value of providing fields, but I would also like to **ensure that there is natural space maintained.**"*

*"The most important thing to have is open, natural (no artificial turf) **unstructured place to play.**"*

*"Klahanie Park is one of the best parts of our community. It's a gathering place on weekends and after school for everyone in Klahanie -- and some of the surrounding Sammamish communities. **I'm not in favor of large-scale change to the existing site**. If pressed, I think Park Plan B makes the most sense (because it would get cricket balls away from Klahanie Drive). I think Trail Plan 1 would be my favored alternative."*

*"I want to see the park **improved and maintained without destroying the natural beauty** and simplicity of the park."*

*"As an almost 30-year resident of Klahanie, I am writing to strongly voice my opinion that we **leave Klahanie Park as close to what it is as possible**. Please do not use artificial turf and big lights. We spent years driving to soccer fields and understand the push there, but there are plenty of alternatives that worked great and will continue to. There are few places that offer natural open spaces."*

*"I am hoping that the **play area is inclusive of kids of all ages**, not just the tots."*

Master Plan Development

A preferred master plan was developed based on the feedback received during the public outreach process, including comments received from the Parks & Recreation Commission and City Council. The preferred master plan direction included:

- Keeping the multi-purpose field for cricket and soccer in its current location, and adjusting the topography and other site improvements to get as close to full-size fields as possible.
- Shift the baseball/softball field to the west to allow for a more centralized playground and gathering space that is in close proximity to the parking lot.
- Keep the trails around the perimeter of the site - do not extend trails further into the critical area buffers and keep any overlooks or boardwalks within the outer 25% of the buffer limits, to the greatest extent feasible.
- Keep the pocket park adjacent to SE 34th Place, recognizing this would need to be developed in partnership with the Klahanie Homeowner's Association (HOA).
- Consider alternate educational opportunities regarding the bog, such as signage, live cams, and other material available virtually. Develop a partnership with schools and the community to continually highlight the critical nature of the bog.
- Explore options for synthetic and natural field materials to ensure a decision will be based on the best available information and the entire life-cycle of the materials being considered. This includes the long-term maintenance, with a specific focus on maintaining the overall health and function of the adjacent Queen's Bog.
- Keep some informal, unprogrammed open lawn for flexible activities and to still have a place for families to gather and play when the fields are programmed by other uses.
- Include a variety of picnic and seating areas.
- Include a community garden.
- Expand the parking lot to the extent feasible and locate the restroom close to the parking for ease of maintenance.
- Keep all improvements, except trail connections, outside of the existing forested buffer areas. Improve the buffer where needed for added protection to the environmentally sensitive areas.
- Continue to allow the school easy access to the park to support their classroom programing and educational activities.
- Provide the ability to hold high school cross-country practices and meets in the park as part of the final design of the trail system.
- Show the full extent of a future trail system circumnavigating the park, but clearly indicate the park limits versus those portions of the trail that will need to be developed as part of a future partnership with the Klahanie HOA. The trail system should connect to the SE 34th Place right-of-way, it should not extend into the buffer area between the existing residences and the Bog.
- Design to not preclude a future opportunity for lighting the athletic fields if continued community growth, interest, and need results in a greater demand for use than currently anticipated, and as technology improves to ensure no adverse impact to the adjacent Queen's Bog.

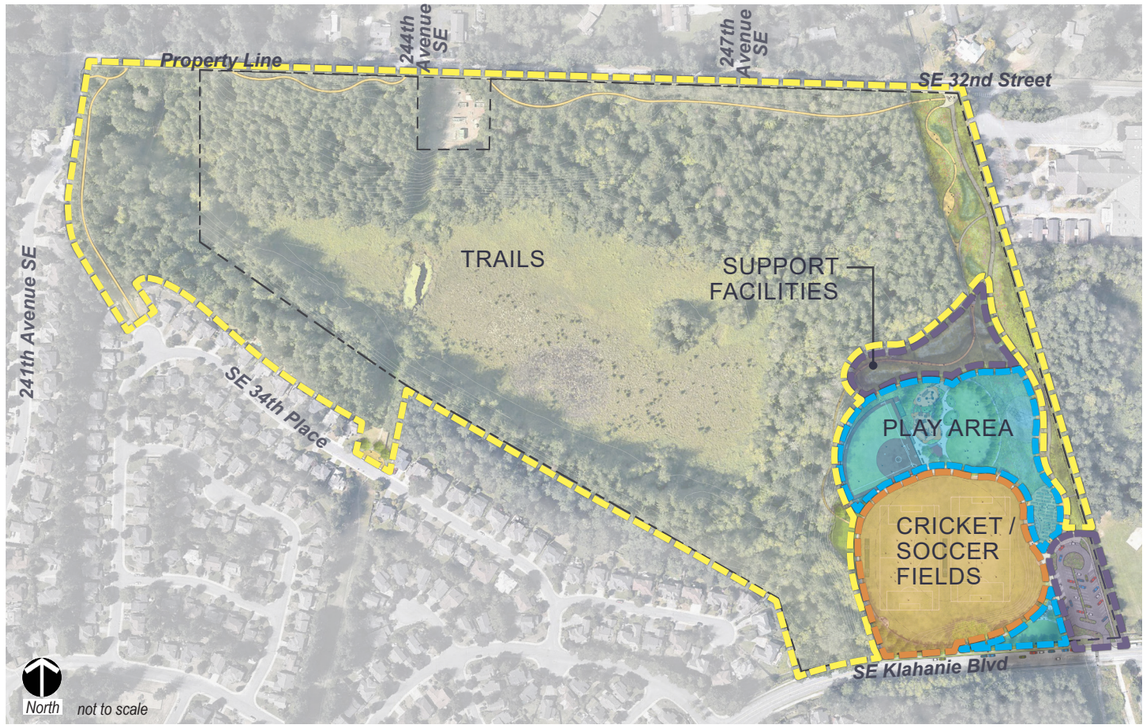
Preferred Master Plan

1 Entrance & Parking
2 Community Garden
3 Multipurpose Field (cricket / soccer)
4 Softball / Little League Field
5 Play Area
6 Community Green
7 Restroom
8 Paved Trail
9 Boardwalk Trail
10 Stormwater System
11 Regional Trail
12 Pocket Park

The preferred master plan, along with supporting graphics, sections and potential phasing was presented during Public Meeting #3 on October 10, 2019.

The plan was also presented to The Parks & Recreation Commission on November 6, 2019 and to City Council on December 3, 2019.

Preferred Implementation Phases



TRAILS PHASE

- Removal / replanting of informal trails for buffer mitigation.
- Relocate asphalt / gravel trail near SE 32nd Street to the neighborhood west of the site.
- Improve existing asphalt trail near SE 32nd Street.
- BPA easement trails and East Plateau Trail improvements.
- Boardwalk trail near the bioretention / stormwater area.

CRICKET / SOCCER FIELDS PHASE

- Natural grass cricket and soccer fields.
- Synthetic turf cricket pitch and practice pitch.
- Accessible loop trail.
- Picnic and seating areas around the loop trail.

Community Feedback

- **Concerns:** *community garden location under the BPA utility lines. Concerns that more parking is not needed.*
- **Requests:** *several comments requested to keep the existing trails, especially those that are used for cross-country. Likewise, there were also comments that said no new trails, protect the bog, and leave the park as-is.*

Public Meeting: There was overall support for the preferred plan and the overall layout of the various spaces expressed during the Public Meeting #3 on October 10, 2019. Participants were pleased that the preferred master plan responded to their desire to keep the natural feel and included a variety of community spaces.

Parks and Recreation Commission: Feedback during the regular meeting on November 6, 2019 included a preference for the Cricket and Soccer Fields phase being constructed first. There is an identified need for community gardens and the location under the power lines makes the best use of the space available. There is no known negative effects of gardens and food production within proximity to power lines. The Commission also supported a larger parking lot as shown in the preferred plan, recognizing that on-street parking directly adjacent to the park is limited and many visitors need to cross SE Klahanie Blvd. to visit the park.

City Council: comments received during the December 3, 2019 regular meeting generally aligned with the Parks & Recreation Commission, with concerns for timing and overall cost of the proposed improvements. As part of this meeting, City Council paused the master plan project to complete a city-wide Athletic Field Study to look at the city fields comprehensively and ensure the preferred alternative for the fields was meeting the needs of the community. The results of that study are summarized in the following section.

PLAY AREA PHASE

- Play area, community green, overlook, community garden, restroom, picnic shelters, pedestrian entrance improvements.
- Relocate little league / softball field; natural grass outfield with synthetic infield including seating and storage.

SUPPORT FACILITIES

- Bioretention / stormwater area to the north of the open space.
- Parking lot and main entrance improvements to the southwest of the site.
- Support facilities would be included in either the Cricket / Soccer Fields Phase or the Play Area and Ballfield Phase; whichever is constructed first.

Athletic Field Study

A separate Athletic Field Study was conducted separate but concurrent with the Klahanie Park Master Plan process. The findings of this study were reviewed and integrated into the park plan where applicable. A summary of the study findings is shown below.

Existing Conditions

In reviewing the service life of the 3 fields, the baseball field was observed to be declining in performance, specifically the infield, with observable corrective maintenance and/or repairs required.

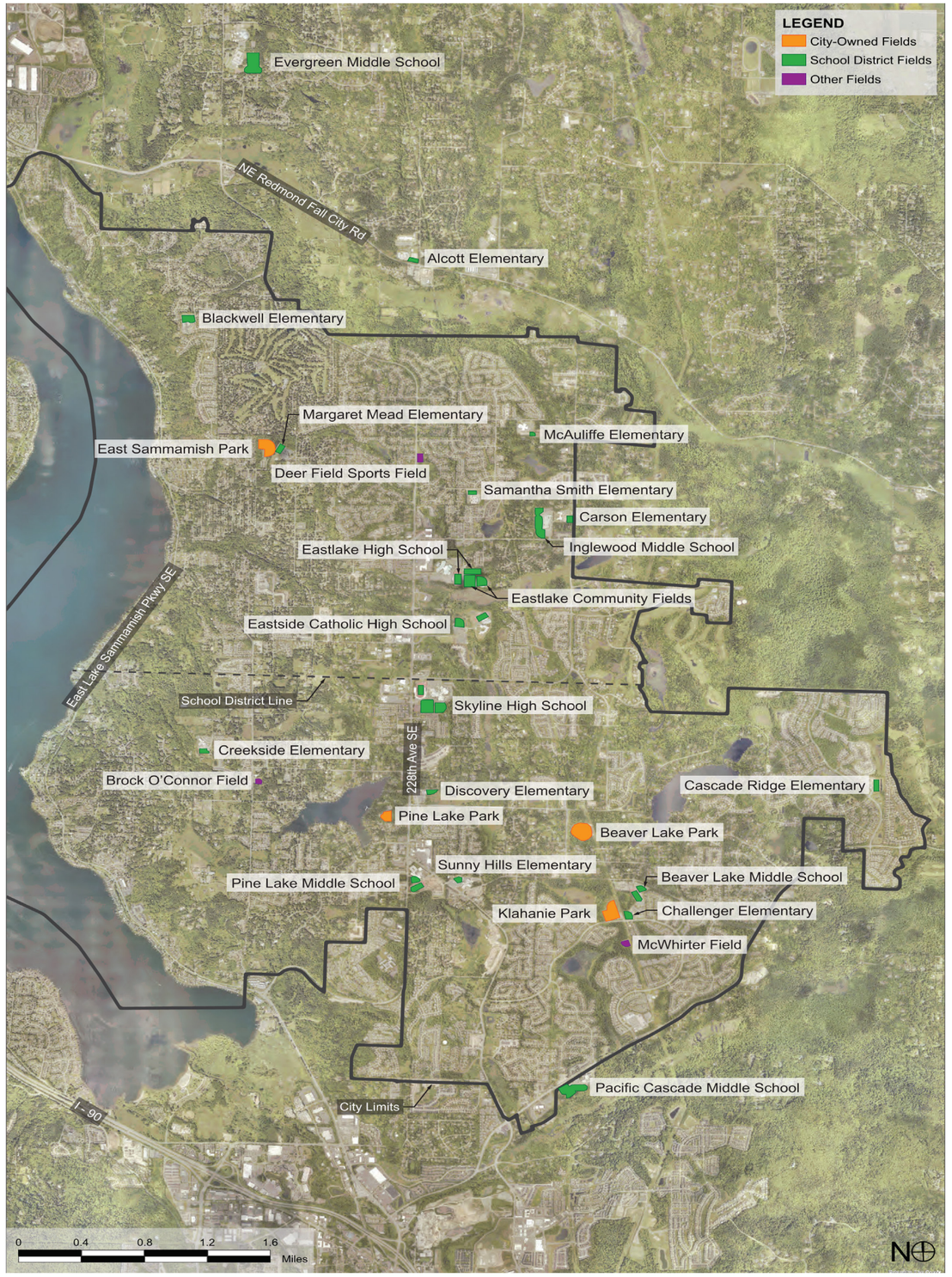
The two multipurpose fields are nearing the end of their service life; they require continual attention, have consistently substandard performance largely due to the natural accumulation of organic material over time and excessive maturation of the grass, resulting in poor drainage that affects the ability to use the fields.

In regards to usage, the multi-purpose fields at Klahanie Park are the highest used fields after the synthetic turf at Eastlake High School, with hours rented nearly at capacity for natural grass fields. Of these hours rented, cricket accounts for approximately half; Klahanie Park is the only city park with a cricket pitch.

Recommendation

Upgrading these existing natural grass fields per the Preferred Plan would not likely increase capacity in terms of scheduled hours rented, but it would improve the overall quality, performance, and more importantly the reliability of the fields. A complete renovation would also better equip the fields to tolerate heavy use while reducing the frequency of maintenance and repairs. Options were explored to convert the multipurpose fields to synthetic turf with lights, which would increase capacity in terms of usable hours. This option is preferred by the soccer leagues but is not preferred by the cricket league, who represent the biggest user group. Furthermore, converting these fields to synthetic turf with lights was widely opposed by the community during the outreach process of the master plan. Therefore, the consultant recommended proceeding with the preferred plan as fields reach the end of their life.

Multi-Purpose Fields



Athletic Field Study Field Map

FINAL MASTER PLAN

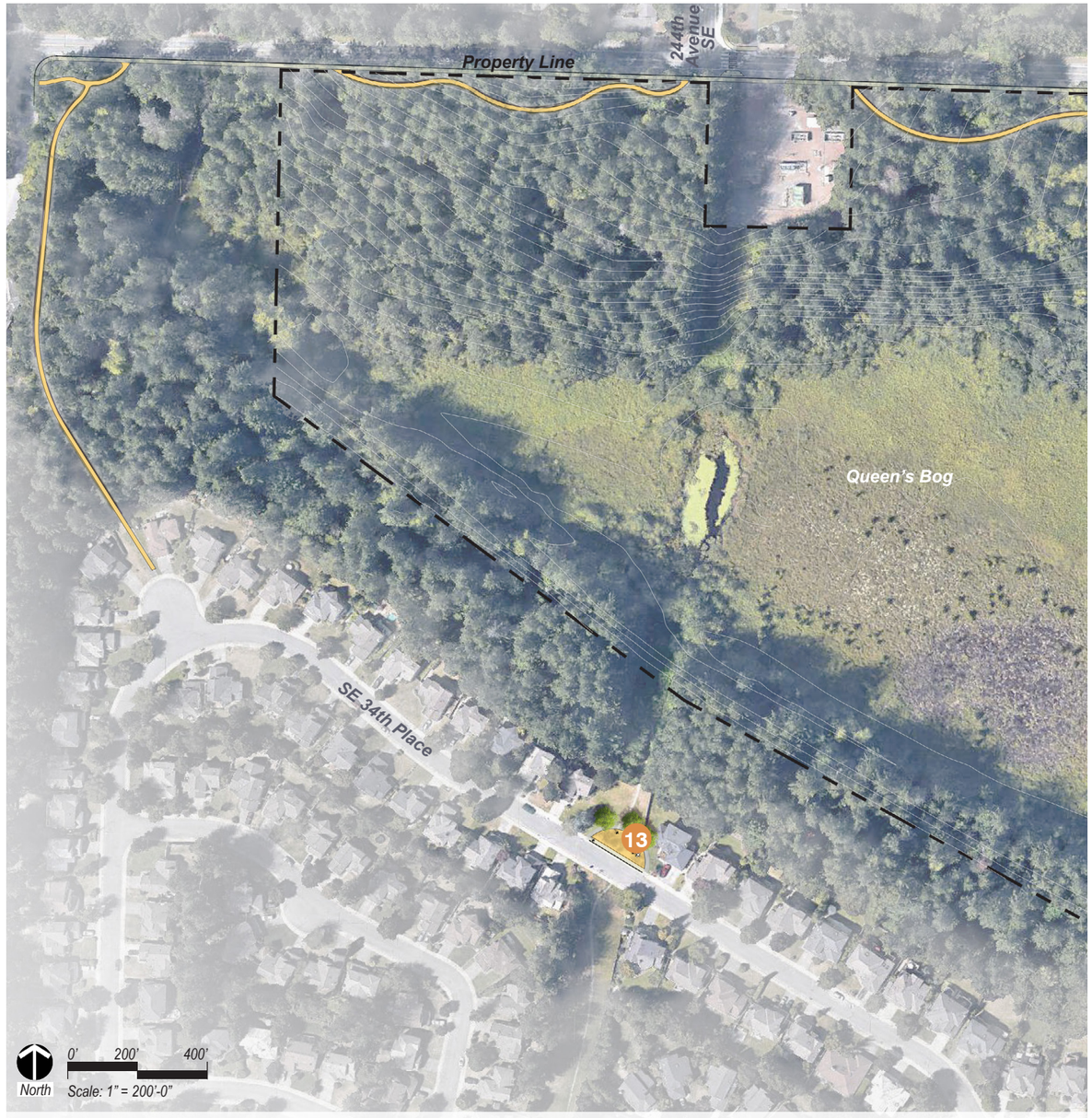
Process Overview

The final Master Plan was developed based on feedback received during the public outreach process. The estimated cost of construction was refined, and the implementation plan updated to reflect the final Master Plan. A draft of the Master Plan, with implementation phases and cost estimates, was presented to the Parks & Recreation Commission on October 6, 2021. A number of questions were raised around the need for athletic fields, the current maintenance practices, and the effect of those practices on the long-term health of Queen's Bog and other adjacent wetland systems. The opportunities and constraints of different field materials options was also discussed. The opportunity to light the fields, potential grading limits, and stormwater implications of the proposed improvements was also discussed at length.

Comments from the Parks & Recreation Commission were integrated into the plan, additional information on the field maintenance and surfacing was provided, and the final Master Plan was recommended for action to the City Council. The Commission recommended the plan be approved to proceed through the State Environmental Protection Act (SEPA) with the preparation of a Non-Project SEPA Checklist. On January 11, 2022, the City Council approved the Master Plan to proceed through the SEPA process.

A SEPA Checklist was developed based on the master plan elements proposed for the park. Upon careful review and an open public comment period, a determination of non-significance was issued by the City of Sammamish on May 27, 2022 (see Appendix C).

Final Master Plan



1 Entrance & Parking
2 Community Garden
3 Multipurpose Field (cricket / soccer)
4 Softball / Little League Field
5 Play Area
6 Community Green
7 Restroom
8 Paved Trail
9 Boardwalk Trail
10 Picnic Areas
11 Stormwater System
12 Regional Trail
13 Pocket Park

Plan Elements

1. **Entrance & Parking.** The main entrance into the park remains in its current location, and the parking lot is expanded to increase capacity and to include a formal drop-off area

2. **Community Garden.** A new community garden is proposed to include 35-45 garden plots, including ADA accessible plots, within close proximity to the parking and drop-off area. A tool and storage shed is located within the community garden area. A picnic and seating space is also provided to facilitate gathering, social events and work parties in support of the community garden.

3. **Multipurpose Fields.** The final master plan generally keeps the multi-purpose field for cricket and soccer in their current location while expanding the cricket field limits. The cricket and soccer fields are unlit and are comprised of natural grass surfacing, with synthetic surfacing at the cricket pitches only. The southern edge of the cricket outfield will stop at the bottom of the sloped lawn. This configuration does not accommodate a full, adult-size outfield, but it does preserve the existing grove of trees and allows park visitors to use the sloped lawn for seating. The field extents are delineated with a split rail fence along the loop trail. A second practice pitch is also provided.

4. **Softball / Little League Field.** The little league / softball field is relocated to the west, opening up a centrally-located community green space, picnic plaza, and play area. The little league / softball field is also unlit and includes a natural grass outfield with a synthetic infield, spectator seating, covered dugouts, and other field amenities.

5. **Play Area.** The large play area is centrally located, close enough to the parking and restroom for easy access, but far enough away to provide a safe, welcoming play space for all ages and abilities. The play area includes a formal play space with accessible and inclusive play equipment designed for ages 2-5 and 5-12; a sloped play area with slides that will also be accessible through a small path looping around the slide; and a natural play space with climbing rocks, boulders, and other play elements inspired by nature.

6. **Community Green.** The community green is a flexible open space that can be utilized for unstructured recreation, picnic areas, and events.

7. **Restroom.** The restroom is relocated near the community green for easy access from all the park activities and spaces.

8. **Paved Trails.** An accessible paved loop trail meanders around the athletic fields, connecting to the play area, community green, restroom, community garden, and parking area. A small overlook near the north side of the open space serves as a trailhead to the boardwalk and trails along the utility corridor. Several amenity nodes are provided along these trails for native plant demonstration gardens, seating, wayfinding, and interpretive education.

   The forested area includes improvements to the existing paved trail near SE 32nd Street and the western trail is relocated to be in the outer 25% of the wetland buffer. The western trail is outside of the park boundary but within Klahanie's Native Growth Protection Area (NGPA); development of this portion of the trail would require partnership with Klahanie HOA. Connections to all other existing trails in the forested area and wetland buffers will be planted with native wetland species for mitigation.

9. **Boardwalk Trails.** A boardwalk trail is proposed through the stormwater system to facilitate educational programming and interpretive signage about natural drainage practices utilized at the park, and the relationship of stormwater systems to the overall health of the wetlands and bog that the systems drain into. Boardwalks are also provided along steeper slopes in the buffer areas to help reduce the overall impact of trails and provide easier access in these areas.

10. **Picnic Areas.** The main picnic shelter and picnic area is centrally located between the fields, play area, loop trail, and community green. The loop trail around the fields also includes picnic nodes with small shelters, picnic tables, and other amenities.

11. **Stormwater System.** The existing stormwater ponds will be redeveloped to include a more natural approach with cascading bioretention cells which will be planted with native species and small ornamental trees. These bioretention cells will capture site stormwater and allow it to infiltrate and any overflow will utilize the existing or improved catch basin and stormwater system. Stormwater from pollution-generating surfaces such as the parking lot, the athletic fields, and vehicular paving will drain to the bioretention cells, constructed wetland cells, and/or other similar systems.

12. **Regional Trail.** The regional trail along the powerline remains as a paved shared-use path. A series of secondary, more informal and soft surface trails weave around and connecting into the regional path. These secondary trails provide a more natural alternative to the regional trail with opportunities to experience the more natural vegetation and views into the park.

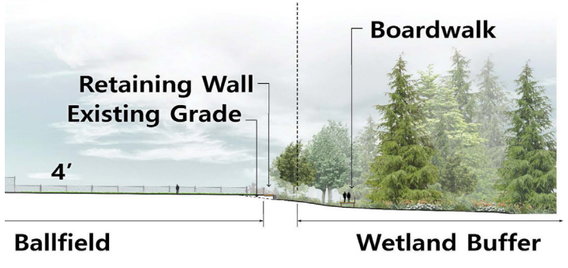
13. **Pocket Park.** The pocket park provides a small passive recreation area within the existing open space along the Williams Gas easement for seating, picnicking, and a small grass lawn. The development of this pocket park would require partnership with Klahanie HOA and Williams Gas Line.

Enlarged Final Master Plan

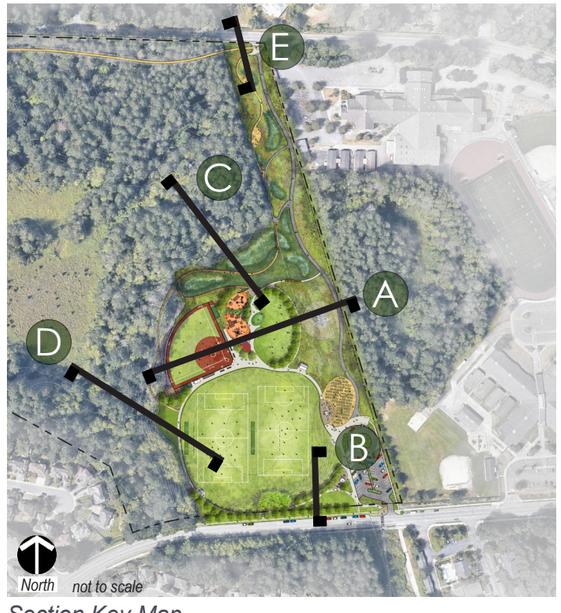
1. Entrance & Parking
2. Community Garden
3. Multipurpose Field (cricket / soccer)
4. Softball / Little League Field
5. Play Area
6. Community Green
7. Restroom
8. Paved Trail
9. Boardwalk Trail
10. Picnic Areas
11. Stormwater System
12. Regional Trail

Site Sections

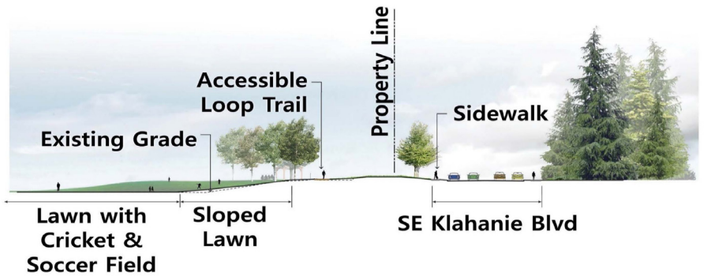
Section A



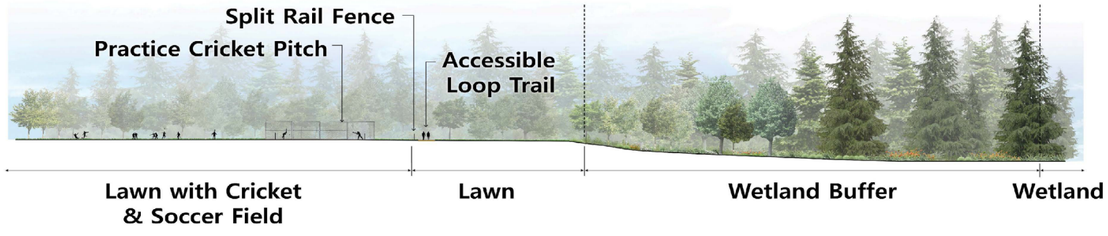
Section A continued



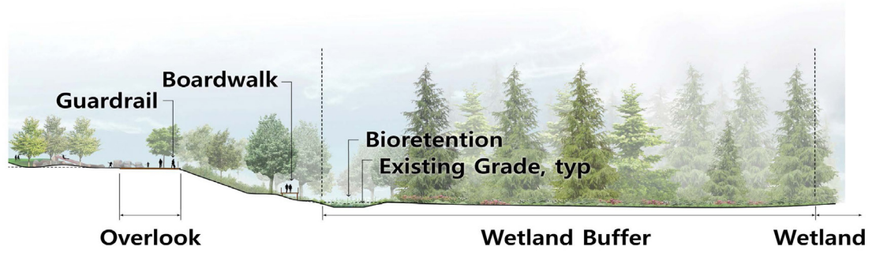
Section Key Map



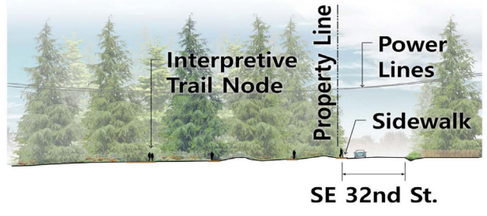
Section B



Section D



Section C



Section E

IMPLEMENTATION

Phasing Plan

Cost Estimates

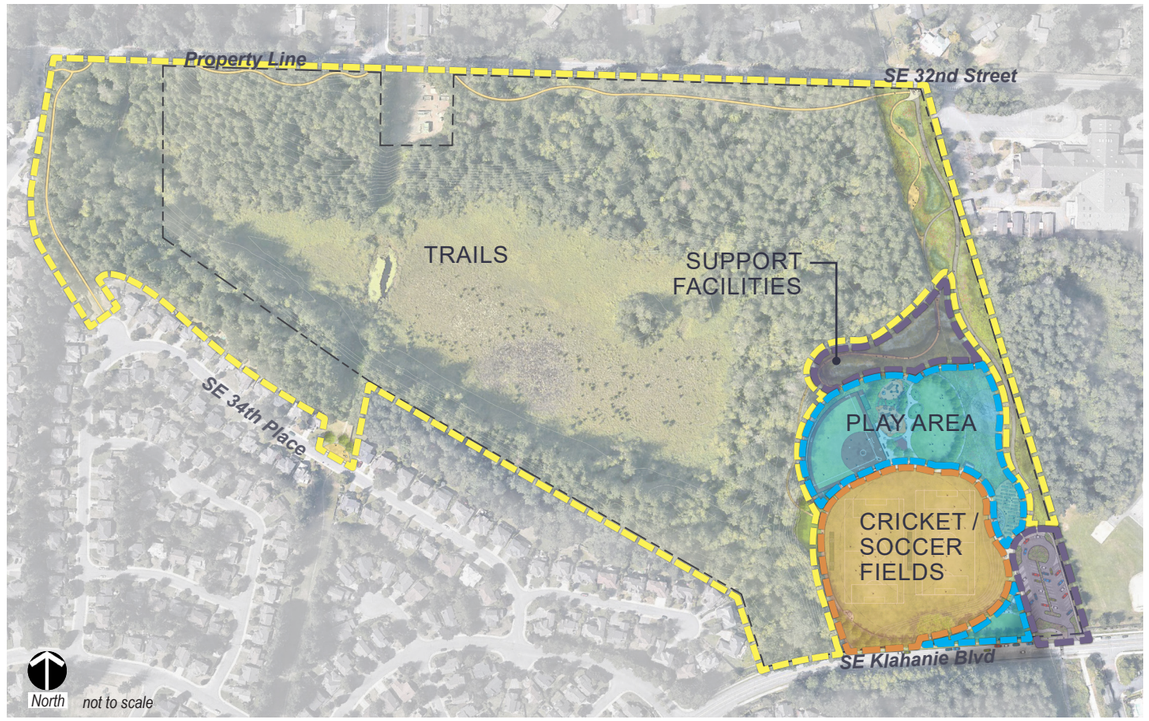
- Estimated Cost of Construction
- Athletic Field Operations & Maintenance Costs

Permitting

Grant Funding

Phasing Plan

This diagram shows the overall phased development plan with three different phases of construction. The cost estimate for each phase of construction is included in the following pages.



TRAILS PHASE

CRICKET / SOCCER FIELDS PHASE

PLAY AREA PHASE

SUPPORT FACILITIES

While the trails, cricket / soccer field, and play area / ballfield relocation phases are relatively distinct phases of work that can be developed in any order, the support facilities will need to be developed with either the cricket / soccer field phase or the play area / ballfield relocation phase.

The trails phase includes the pocket park off SE 34th Street and assumes a partnership with the Klahanie HOA for trails outside of the park boundary.

The cricket / soccer field phase includes the loop trail around the fields connecting into the parking area.

The play area and ballfield relocation phase includes the relocation of the softball / little league field and play area, and development of the community green, restroom, picnic area, and community garden.

Cost Estimates

Estimated Cost of Construction

The estimated cost of construction is shown below. The first table shown below represents the total project construction cost if the entire Final Master Plan were developed as a single phase. The second table breaks down the estimated cost of construction into the potential phases previously described (shown in no particular order). The Total Project Costs shown below do not include any field lighting.

Overall / Single Phase	
ITEM	**TOTAL**
Demolition & Site Preparation	$ 290,700
Earthwork	$ 602,600
Site Utilities & Drainage	$ 300,000
Paving & Walls	$ 1,470,200
Parking & Street Frontage	$ 86,400
Site Improvements	$ 1,509,300
Buildings	$ 581,000
Planting	$ 2,407,900
Ballfield Improvements	$ 3,383,700
Escalation 2019 - 2023	$ 2,800,000
Construction Total with Sales Tax, Contingency, and Contractor Mark-ups	**$ 18,500,000**
Total Project Cost with Design and Permitting	**$ 23,200,000**

Phased Implementation	
ITEM	**TOTAL**
Trails Phase Construction Total	$ 4,800,000
Cricket / Soccer Fields Phase Construction Total	$ 5,500,000
Play Area Phase Construction Total	$ 9,850,000
Support Facilities Phase Construction Total	$ 3,000,000
Escalation 2019 - 2023	$ 2,800,000
Total Project Cost with Design and Permitting* *Totals for each segment are inclusive of escalation, soft costs, contingency, and contractor mark-ups	**$ 25,950,000**

Athletic Field Operations & Maintenance Costs

The estimated full time equivalent (FTE) hours shown below are based on similar types of parks and facilities. This cost covers maintenance for the improved athletic fields, play area and trails.

	FTE Hours Per Year (2,031 total hours/year)
Existing Maintenance	831 hours (0.4 FTE)
Proposed Maintenance	1,200 hours (0.5 FTE)
Other staff during games / tournaments	volunteers

Maintenance for Synthetic Infield

The specific maintenance recommendations will vary depending on the synthetic turf manufacturer and the specific type of infill used. Below is a general list of maintenance practices for synthetic field surfacing:

- Field Inspection: This will ensure the infield is in a safe, playable condition and also determine if and when maintenance is needed. Done on a weekly basis or before/after each game.
- Surface Brushing and Raking: levels the infill, refreshes the synthetic turf blades, and removes static from the surface. Done monthly when the field is in use.
- Aerating: loosen the infill to prevent it from becoming compacted. Done 2-3 times per year.
- Sweeping: keeps the field clean and debris-free. Done on an as-needed basis.
- Infill Topdressing: Adding infill to maintain the recommended depth, especially in high traffic areas such as the bases. Done on an as-needed basis.

Maintenance for Grass Fields

Below is a brief outline of typical maintenance practices for grass athletic fields:

- Field Inspection: This will ensure the infield is in a safe, playable condition and also determine if and when maintenance is needed. Done on a weekly basis or before/after each game.
- Routine Mowing: Done weekly during the grass growing season.
- Aerating: loosen the infill to prevent it from becoming compacted. Done 2-3 times per year.
- Litter / Debris Pickup: keeps the field clean and debris-free. Done on an as-needed basis.
- Irrigation: Irrigated daily from March through November.
- Fertilizer/Pesticides/Herbicides: Done on an as-needed basis.
- Overseeding: Done on an as-needed basis.
- Resting / Establishment Periods: Done on an as-needed basis.

Life-Cycle Costs of Synthetic Infield

A typical synthetic turf infield will need to be replaced every 8 to 10 years. This costs approximately $10.00 per square foot and based on 2022 dollars. This includes:

- Contractor mobilization and installation.
- Removal and disposal of synthetic turf and infill.
- Remediation of the base course.
- Replacement of the synthetic turf and infill.

Permitting

The following matrix summarizes potential permits needed for project development including permitting agencies, requirements, and triggers for the master plan including state, federal and local permitting requirements.

Permitting Matrix

Potential Permit	Improvement
Critical Areas Study	Trails or boardwalks within the outer 25% of the wetland buffers
Site Development Permit - Department of Community Development	Cricket / soccer fields phase, play area phase, potentially trails phase
Building Permit - Department of Community Development	Guardrails, boardwalks, timber stairs, handrails, and retaining wall
Building Permit - Department of Community Development	Shelters, storage sheds, restroom building
Plumbing / Mechanical Permit - Department of Community Development	Restroom building (if not pre-fabricated)
Electrical Permit - Department of Community Development	Restroom
Sign Permit - Department of Community Development	Park standard monument sign at entrance
Demolition Permit - Department of Community Development	Existing restroom
SEPA Review Process	Any new development
Utility Permits / Approvals - PSE, BPA and Williams Gas	Obtained through each utility company, including approval process for any work within utility easements

The final Master Plan was reviewed with the utility and easement agencies with no concerns raised and general agreement with the improvements shown in the master plan. This review included BPA, King County, Williams Gas, and Eastside Fire & Rescue.

Grant Funding

Below is a matrix listing a selection of grant opportunities available to this park development. This is not a list of all of the options, as there are many grants for smaller items such as the playground equipment but this shows some of the larger grants that could help fund the major components of the park improvements.

Grant Matrix

Grant / Agency	Funding	Schedule	Funded Element
Youth Athletic Facilities / Washington State Recreation & Conservation Office	Grant Cap: $25,000 - $350,000 Match: 40% (under-served population)	Available in even years / 5-month evaluation process	Develop or renovate athletic facilities
Land & Water Conservation Fund / Washington State Recreation & Conservation Office	Grant Cap: $ 500,000 (state projects) Match: 50%	Available in even years / 13-month evaluation process	Develop or renovate recreation areas including athletic fields
Local Parks / Washington State Recreation and Conservation Office (WWRP)	Grant Cap: $ 500,000 (development) Match: 50%	Available in even years / 18-month evaluation process	Develop or renovate recreation areas and support facilities
Community Development Block Grant / Washington State Department of Commerce	Grant Cap: $ 750,000.00 (development) Match: none required	Available annually	Projects must principally benefit low- and moderate-income persons, or aid in the prevention or elimination of slums or blight
Recreational Trails / Washington State Recreation and Conservation Office (WWRP)	Grant Cap: $ 500,000.00 (development) Match: 50%	Available in even years / 18-month evaluation process	Develop or renovate trails and support facilities
Land & Water Conservation Fund / Washington State Recreation & Conservation Office / Legacy Program	Grant Cap: $ 250,000.00 - $720,000.00 Match: 50%	Available annually / 12-month evaluation process	Develop recreation areas in urban areas with over 50,000 population

APPENDICES

Appendix A: Wetland Study Reports

November 12, 2018

Shelby Perrault
Park Project Manager, City of Sammamish
801 228th Avenue SE
Sammamish, WA 98075
Via email: SPerrault@sammamish.us

Re: Klahanie Park, Wetland Study Report

The Watershed Company Reference Number: 161134.11

Dear Shelby:

On October 25th and 26th, 2018, ecologists Nell Lund, Sam Payne, and Alex Pittman visited Klahanie Park (parcels 1124069106 and 1124069013) in Sammamish, Washington to screen for jurisdictional wetlands and streams within a defined study area. This letter summarizes the findings of the study and details applicable federal, state, and local regulations. The following documents are enclosed:

- **Wetland Delineation and Reconnaissance Sketch**
- **Wetland Determination Data Forms**
- **Ecology Rating Forms and Figures**

Figure 1. Delineation study area in yellow, reconnaissance study area in purple.

Methods

Public-domain information on the subject properties was reviewed for this delineation and reconnaissance study. Resources and review findings are presented in Table 1 of the "Findings" section of this letter.

Characterization of climatic conditions for precipitation was determined using the WETS table methodology from the *USDA NRCS document Part 650 Engineering Field Handbook, National Engineering Handbook, Hydrology Tools for Wetland Identification and Analysis, Chapter 19* (September 2015). The Seattle-Tacoma International AP station as recorded by NOAA from 1981-2010 (http://agacis.rcc-acis.org/) was used as a source for precipitation data. The WETS table methodology uses climate data from the three months prior to the site visit month to determine if normal conditions are present.

Wetlands

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). Wetland boundaries were determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along the wetland boundary to make the determination.

Wetlands within the defined area noted above were delineated, and all other areas within the subject parcels were assessed at a reconnaissance level.

Six identified wetlands within the property were classified using the *2014 Update to the Western Washington Wetland Rating System* (Publication #14-06-029) (Rating System). An additional wetland was identified, though not assessed, on the neighboring parcel to the east of the subject property.

Streams

The study area was evaluated for streams based on the presence or absence of an ordinary high water mark (OHWM) as defined by the Revised Code of Washington (RCW) 90.58.030 and the Washington Administrative Code (WAC) 220-660-030. The OHWM edge was located by examining the bed and bank physical characteristics and vegetation, using recent guidance from the Department of Ecology, *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Publication no. 16-06-029).

Findings

The study area is located at Klahanie Park, owned by the City of Sammamish, at 25000 SE Klahanie Blvd, Sammamish, WA 98029. The subject parcels are a combined 64 acres, situated within the Sammamish River sub-basin of the Cedar-Sammamish Water Resource Inventory Area (WRIA 8); Township 24N, Range 06E, Section 11. The eastern park area is comprised of a parking lot, restroom structure, walking trails, and fields for soccer and baseball. The western portion of the property is comprised of undeveloped natural areas including Queen's Bog and surrounding forests. A network of pedestrian trails loop around the perimeter of the forested area.

Land use surrounding Klahanie Park is primarily suburban residential development, with some additional natural features, including Beaver Lake, Laughing Jacobs Lake, Yellow Lake, and Laughing Jacobs Creek.

Public-domain information on the subject properties was reviewed for this study and include the following, as summarized in Table 1.

Table 1. Summary of online mapping and inventory resources.

Resource	**Summary**
USDA Natural Resources Conservation Service, Web Soil Survey (WSS) application	*Alderwood gravelly sandy loam, 8 to 15 percent slopes and Alderwood gravelly sandy loam, 15 to 30 percent slopes, Indianola loamy sand, 5 to 15 percent slopes, Neilton very gravelly loamy sand, 2 to 15 percent slopes.*
U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps	*Palustrine wetland system mapped on subject property. Wetland classifications include PEM1C, PEM1A, PFOC, PSSC, PABH.*
Washington Department of Fish and Wildlife, Priority Habitats and Species (PHS on the Web)	*Freshwater wetlands and, freshwater ponds. Communal roosts for Townsend's Big-eared Bat, Little Brown Bat, and Big Brown Bat are mapped on are mapped at Township resolution. The tributary to Laughing Jacobs Creek, which begins at the western boundary of the subject property, is mapped as occurrence/migration for coastal cutthroat trout.*
Washington Department of Fish and Wildlife, SalmonScape	*Coastal cutthroat trout presence documented just to the west of the project area, beginning at the outlet of the wetland.*

Washington Department of Natural Resources, Forest Practices Application Mapping Tool (FPARS)	*Type F stream beginning at the western boundary of the subject parcel, which coincides with the outlet of a mapped wetland on the subject parcel.*
King County's GIS mapping website (iMAP)	*One large wetland complex (19 acres) mapped on the property. Tributary to Laughing Jacobs Creek mapped at the outlet of the wetland complex, just on the western boundary of the subject property.*
City of Sammamish GIS mapping website (Sammamish Property Tool)	*Mapped wetland: Queen's Bog*
WETS weather conditions based on precipitation from the prior three months	*Drier than normal*

Wetlands

Four wetlands were delineated and flagged in the study area, including Wetland A, D, E, and F. Two additional wetlands (Wetlands B and C) were identified within the subject parcels.

WETLAND A (Queen's Bog) – Assessment Summary

Location:	Klahanie Park – City of Sammamish
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish

Typical wetland vegetation in Queen's Bog.

2014 Western WA Ecology Rating:	Category I
Local Jurisdiction Buffer Width and Buffer Setback:	215 feet + 15-foot building setback line
Wetland Size:	Approx. 19 acres
Cowardin Classification(s):	Palustrine Scrub-shrub, Palustrine Forested
HGM Classification(s):	Depressional
Wetland Data Sheet(s):	DP-1
Upland Data Sheet (s):	DP-2
Flag Color:	Pink-and-black striped
Flag Numbers:	A-1 to A-93

Vegetation	Tree stratum:	Western hemlock, Douglas-fir
	Shrub stratum:	Labrador tea, bog laurel, Douglas spirea, bog cranberry
	Herb stratum:	Sphagnum moss
Soils	Soil survey:	Water
	Field data:	Meets hydric soil indicator Histosol (A1)
Hydrology	Source:	High groundwater table, precipitation, geomorphic position
	Field data:	Saturation (A3)

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	**H**	M	L	H	**M**	L	H	**M**	L	
Landscape Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	**H**	M	L	**TOTAL**
Score Based on Ratings	8			7			6			21

Description and Comments

Wetland is a bog that outlets into a tributary of Laughing Jacobs Creek. The outlet is a man-made high-flow drain that flows through a culvert into a drainage channel modified with angular rock substrate.

Figure 2. Wetland A Assessment Summary

THE WATERSHED COMPANY

WETLAND B – Assessment Summary

Location:	Klahanie Park – City of Sammamish
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish

2014 Western WA Ecology Rating:	Category III
Local Jurisdiction Buffer Width and Buffer Setback:	50 feet + 15-foot building setback line
Wetland Size:	Approx. 0.3 acre
Cowardin Classification(s):	Palustrine Scrub-shrub, Forested
HGM Classification(s):	Depressional
Wetland Data Sheet(s):	DP-4
Upland Data Sheet (s):	N/A
Flag Color:	N/A
Flag Numbers:	N/A

Vegetation	Tree stratum:	Sitka spruce
	Shrub stratum:	Black twinberry, Douglas
	Herb stratum:	spirea N/A
Soils	Soil survey:	Indianola loamy sand, 5 to 15 percent slopes
	Field data:	Meets hydric soil indicator Depleted Below Dark Surface (A11)
Hydrology	Source:	Geomorphic position, precipitation
	Field data:	Geomorphic Position (D2) and FAC-Neutral Test (D5)

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	H	**M**	L	H	**M**	L	H	**M**	L	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	6			7			5			18

Description and Comments

Reconnaissance only, not delineated. Small depressional wetland just north of the wooded walking trail dominated by black twinberry.

Figure 3. Wetland B Assessment Summary

THE WATERSHED COMPANY

WETLAND C – Assessment Summary

Location:	Klahanie Park – City of Sammamish		
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish		
No photo		2014 Western WA Ecology Rating:	Category III
		Local Jurisdiction Buffer Width and Buffer Setback:	50 feet + 15-foot building setback line
		Wetland Size:	Approx. 0.1 acre
		Cowardin Classification(s):	Palustrine Scrub-shrub
		HGM Classification(s):	Depressional
		Wetland Data Sheet(s):	N/A
		Upland Data Sheet (s):	N/A
		Flag Color:	N/A
		Flag Numbers:	N/A
Vegetation	Tree stratum:	N/A	
	Shrub stratum:	Red-osier dogwood, vine maple, black	
	Herb stratum:	twinberry Slough sedge	
Soils	Soil survey:	Indianola loamy sand, 5 to 15 percent slopes	
	Field data:	N/A	
Hydrology	Source:	Geomorphic position, high water table, precipitation	
	Field data:	Saturation (A3)	

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	**H**	M	L	**H**	M	L	H	M	**L**	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	7			8			4			19

Description and Comments

Wetland is on the periphery of Queen's Bog, but the walking trail and associated fill bisects the two.

Figure 4. Wetland C Assessment Summary

THE WATERSHED COMPANY

WETLAND D – Assessment Summary

Location:	Klahanie Park – City of Sammamish
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish

Wetland dominated by vine maple.

2014 Western WA Ecology Rating:	Category III
Local Jurisdiction Buffer Width and Buffer Setback:	50 feet + 15-foot building setback line
Wetland Size:	Approx. 0.1 acre
Cowardin Classification(s):	Palustrine Scrub-shrub
HGM Classification(s):	Depressional
Wetland Data Sheet(s):	DP-7
Upland Data Sheet (s):	DP-8
Flag Color:	Pink-and-black striped
Flag Numbers:	D-1 to D-4

Vegetation	Tree stratum:	Cascara
	Shrub stratum:	Vine maple
	Herb stratum:	N/A
Soils	Soil survey:	Alderwood gravelly sandy loam, 8 to 15 percent slopes
	Field data:	Meets hydric soil indicator Depleted Matrix (F3)
Hydrology	Source:	Geomorphic position, precipitation
	Field data:	Hydrology presumed based on strong hydric soils and wetland vegetation.

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Landscape Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	7			7			4			18

Description and Comments

Small depressional wetland.

Figure 5. Wetland D Assessment Summary

THE WATERSHED COMPANY

WETLAND E – Assessment Summary

Location:	Klahanie Park – City of Sammamish
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish

Standing water and vegetation.

2014 Western WA Ecology Rating:	Category III
Local Jurisdiction Buffer Width and Buffer Setback:	50 feet + 15-foot building setback line
Wetland Size:	Approx. 0.1 acre
Cowardin Classification(s):	Palustrine Scrub-shrub
HGM Classification(s):	Depressional
Wetland Data Sheet(s):	DP-9
Upland Data Sheet (s):	DP-10
Flag Color:	Pink-and-black striped
Flag Numbers:	E-1 to E-9

Vegetation	Tree stratum:	Red alder
	Shrub stratum:	Salmonberry, vine maple
	Herb stratum:	N/A
Soils	Soil survey:	Alderwood gravelly sandy loam, 8 to 15 percent slopes
	Field data:	Aquic moisture regime present.
Hydrology	Source:	High water table, precipitation
	Field data:	High Water Table (A2) and Saturation (A3)

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	6			7			4			17

Description and Comments

Small depressional wetland with standing water on the north end. Northern boundary is a walking trail.

Figure 6. Wetland E Assessment Summary

THE WATERSHED COMPANY

WETLAND F – Assessment Summary

Location:	Klahanie Park – City of Sammamish
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish

Upland vegetation and depressional wetland.

2014 Western WA Ecology Rating:	Category III
Local Jurisdiction Buffer Width and Buffer Setback:	50 feet + 15-foot building setback line
Wetland Size:	Approx. 0.1 acre
Cowardin Classification(s):	Palustrine Scrub-shrub
HGM Classification(s):	Depressional
Wetland Data Sheet(s):	DP-11
Upland Data Sheet (s):	DP-12
Flag Color:	Pink-and-black striped
Flag Numbers:	F-1 to F-4

Vegetation	Tree stratum:	N/A
	Shrub stratum:	Vine maple
	Herb stratum:	N/A
Soils	Soil survey:	Alderwood gravelly sandy loam, 8 to 15 percent slopes
	Field data:	Meets hydric soil indicator for Depleted Matrix (F3)
Hydrology	Source:	Geomorphic position, precipitation
	Field data:	Hydrology presumed based on strong hydric soils and wetland vegetation.

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	6			7			4			17

Description and Comments

Small depressional wetland.

Figure 7. Wetland F Assessment Summary

Non-Wetland Areas

Areas outside of the delineated and identified wetlands did not meet criteria for wetland vegetation hydric soils, and wetland hydrology. The developed portion of the property includes soccer fields, baseball fields, walking trails, parking lot, and a public restroom structure. Vegetation transitions beyond wetland boundaries to a non-wetland plant community, where prominent upland species include salal, sword fern, Douglas-fir, trailing blackberry, bracken fern, cascara, and lawn grasses.

Streams

No streams were identified within the study area. The property lacked any watermarks, stained leaves, algae, bed, bank, or hydraulically sorted sediments. A stream originating from the outlet of Queen's Bog is mapped on online resources and was observed beyond the western boundary of the subject parcels. The stream is mapped as fish-bearing downstream of the point of observation, although directly adjacent to the subject property there was no observed stream flow and the bed was comprised of angular rock (quarry spalls), suggesting that it primarily functions as a stormwater overflow at that point.

Local Regulations

The City of Sammamish regulates environmentally critical areas, including wetlands, under Sammamish Municipal Code, Chapter 21A.50.

Per SMC 21A.50.290, wetland buffers in the City of Sammamish are based on the wetland category, as determined by the 2014 Ecology rating system. Queen's Bog (Wetland A) is rated as a Category I wetland, based on its special characteristic as a bog, and therefore has a standard buffer of 215 feet. Wetlands B, C, D, E, and F are all rated as Category III wetlands, and therefore have standard buffers of 50 feet, based on the fact that their habitat scores in the rating system are all less than 8. A complete summary of wetland rating scores, categories, and buffer widths for each wetland can be found in Table 2.

The City of Sammamish also requires a building setback of 15 feet from the edges of all critical area buffers. Limited projections and structures are allowed within this setback, as outlined in SMC 21A.50.210.

Sammamish allows for the modification of wetland buffers through averaging and enhancement as outlined in SMC 21A.50.290. Buffer averaging may be allowed if the total buffer area on the subject property is equivalent to the area before averaging, the averaged buffer segments occur on the same wetland unit, and it does not result in a reduction of wetland functions or values. Buffer averaging may allow for a reduction of the buffer of no more than 50% at any one place. Buffer reduction through enhancement

may be allowed if it will provide equal or greater protection of wetland functions compared to the standard buffer width. Buffer reductions through enhancement may reduce a buffer up to 50%.

Table 2. Summary of wetland rating scores, classification, and standard buffer widths per SMC 21A.50.290).

	Water Quality	Hydrologic	Habitat	Total	Category	Standard Buffer Width
Wetland A (Queen's Bog)	8	7	6	21	I	215 feet
Wetland B	6	7	5	18	III	50 feet
Wetland C	7	8	4	19	III	50 feet
Wetland D	7	7	4	18	III	50 feet
Wetland E	6	7	4	17	III	50 feet
Wetland F	6	7	4	17	III	50 feet

State and Federal Regulations

Wetlands and streams are regulated by the Corps under section 404 of the Clean Water Act. Any proposed filling or other direct impacts to Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. Unavoidable impacts are typically required to be compensated through implementation of an approved mitigation plan.

Federally permitted actions that could affect endangered species may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Compliance with the Endangered Species Act must be demonstrated for activities within jurisdictional wetlands and the 100-year floodplain. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology and a cultural resource study in accordance with Section 106 of the National Historic Preservation Act.

Washington Department of Ecology

Similar to the Corps, Ecology, under Section 401 of the Clean Water Act, is charged with reviewing, conditioning, and approving or denying certain federally permitted actions that result in discharges to state waters. However, Ecology review would only become necessary if a Section 404 permit from the Corps was issued. Therefore, if filling activities are avoided, authorization from Ecology would not be needed.

If filling is proposed, a Joint Aquatic Resources Permit Application (JARPA) could be submitted to Ecology in order to obtain a Section 401 Water Quality Certification (WQC) and Coastal Zone Management Consistency Determination. Ecology permits are either issued concurrently with the Corps permit or within 90 days following the Corps permit.

Washington Department of Fish and Wildlife (WDFW)

Chapter 77.55 RCW (the Hydraulic Code) gives WDFW the authority to review, condition, and approve or deny "any construction activity that will use, divert, obstruct, or change the bed or flow of state waters." This provision includes any in-water work, the crossing or bridging of any state waters, and can sometimes include stormwater discharge to state waters. If a project meets regulatory requirements, WDFW will issue a Hydraulic Project Approval (HPA).

Through issuance of an HPA, WDFW can also restrict activities to a particular timeframe. Work is typically restricted to late summer and early fall. However, WDFW has in the past allowed crossings that don't involve in-stream work to occur at any time during the year.

In general, neither the Corps nor Ecology or WDFW regulates wetland and stream buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands and streams may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

Disclaimer

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Sam Payne, WPIT
Ecologist

Alex Pittman
Environmental Planner / Ecologist

Enclosures

THE WATERSHED COMPANY

750 Sixth Street South | Kirkland | WA 98033
p 425.822.5242 f 425.827.8136

Delineation Sketch – Klahanie Park

Site Address:	25000 SE Klahanie Blvd, Sammamish	Prepared for:	City of Sammamish
Parcel Number:	112406-9013 and 112406-9106	TWC Ref. No.:	161134.11
Site Visit Date:	October 25th and 26th, 2018		

Note: Field sketch only. Features depicted are approximate and not to scale. Wetland boundary is marked with pink- and black-striped flags. Data points are marked with yellow- and black-striped flags.

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-1

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-1

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): <5%

Subregion (LRR): A | Lat: 47.578396, | Long: -122.010050 | Datum: -

Soil Map Unit Name: Water | NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes ☒ No ☐**
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Rhododendron groenlandicum*	90	Y	OBL
2. *Kalmia microphylla*	20	N	OBL
3. *Vaccinium oxycoccos*	10	N	OBL
4.			
5.			
	120	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 15%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks: Moss understory – 85% groundcover

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	5YR 2.5/1	100						Peat

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☒ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (in): **0**

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-2

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-2

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): None | Slope (%): 5-10

Subregion (LRR): A | Lat: 47.578398 | Long: -122.009855 | Datum: -

Soil Map Unit Name: Neilton very gravelly loamy sand, 2 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes ☐ No ☒**
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 5-m diameter)			
1. *Frangula purshiana*	10	Y	FAC
2. *Populus tremuloides*	5	Y	FACU
3.			
4.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Gaultheria shallon*	20	Y	FACU
2. *Malus fusca*	10	Y	FACW
3. *Lonicera involucrata*	5	N	FAC
4. *Spiraea douglasii*	5	N	FACW
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Rubus ursinus*	20	Y	FACU
2. *Pteridium aquilinum* var. *pubescens*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 60

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☐ No ☒**

Remarks:

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Sandy loam	
4-8	10YR 3/4 & 10YR 2/1	100					Sandy loam	Mixed matrix
8-14	10YR 3/3 & 10YR 2/1	50 & 50					Sandy loam	Mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric soil present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in): _____

Water Table Present? Yes ☐ No ☒ Depth (in): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-3

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-3

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): A | Lat: 47.578779 | Long: -122.007780 | Datum: -

Soil Map Unit Name: Neilton very gravelly loamy sand, 2 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	70	Y	FAC
2.			
3.			
4.			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 1-m diameter)			
1. *Ranunculus repens*	60	Y	FACW
2. Unknown lawn grass	10	N	FAC*
3. *Rubus ursinus*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 10%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: *Presumed indicator status

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Sandy Loam	
6-16	2.5Y 5/2 & 10YR 4/6	50 & 50					Sandy Loam	Mixed Matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric soil present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in): _____

Water Table Present? Yes ☐ No ☒ Depth (in): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: Klahanie Park City/County: Sammamish/King Sampling date: 10/26/18

Applicant/Owner: City of Sammamish State: WA Sampling Point: DP-4

Investigator(s): Sam Payne, Alex Pittman Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): A Lat: 47.579757 Long: -122.008825 Datum: -

Soil Map Unit Name: Indianola loamy sand, 5 to 15 percent slopes NWI classification: PFOC

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes ☒ No ☐**
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix sitchensis*	25	Y	FACW
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Lonicera involucrata*	70	Y	FAC
2. *Spiraea douglasii*	10	N	FACW
3.			
4.			
5.			
	80	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Sandy Loam	
4-16	2.5YR 5/2	97	2.5YR 4/6	3	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-5

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-5

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): None | Slope (%): ~2%

Subregion (LRR): A | Lat: 47.578136 | Long: -122.007055 | Datum: -

Soil Map Unit Name: Neilton very gravelly loamy sand, 2 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Spiraea douglasii*	100	Y	FACW
2.			
3.			
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Rubus ursinus*	40	Y	FACU
2. *Pteridium aquilinum* var. *pubescens*	15	Y	FACU
3. *Chamaenerion angustifolium*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3	100					Sandy loam	
10-13	2.5Y 5/1	60	10YR 4/6	40	C	M	Sandy loam	
13+	10YR 4/6	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-6

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-6

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): None | Slope (%): 5-10

Subregion (LRR): A | Lat: 47.580043 | Long: -122.010796 | Datum: -

Soil Map Unit Name: Indianola loamy sand, 5 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera*	20	Y	FAC
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Acer circinatum*	100	Y	FAC
2. *Populus balsamifera*	15	N	FAC
3.			
4.			
5.			
	115	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Carex obnupta*	15	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Very small isolated patch of *Carex obnupta* in vegetation plot.

SOIL

Sampling Point: DP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	100					Loam	
14+	7.5YR 3/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-7

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-7

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): A | Lat: 47.576786 | Long: -122.009683 | Datum: -

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes ☒ No ☐**
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Frangula purshiana*	40	Y	FAC
2.			
3.			
4.			
	40	= Total Cover	

Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Acer circinatum*	90	Y	FAC
2.			
3.			
4.			
5.			
	90	= Total Cover	

Herb Stratum (Plot size: 1-m diameter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: DP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Sandy Loam	
10-16	2.5Y 5/2	75	10YR 4/6	25	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☒ No ☐

Remarks:

HYDROLOGYs

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☒ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology presumed based on strong hydric soils and wetland vegetation.

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-8

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-8

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): A | Lat: 47.576786 | Long: -122.009683 | Datum: -

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus emarginata*	30	Y	FACU
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Acer circinatum*	100	Y	FAC
2.			
3.			
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Polystichum munitum*	50	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 50%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: DP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	100					Sandy Loam	
6-14	10YR 5/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-9

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-9

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): A | Lat: 47.577085 | Long: -122.009781 | Datum: -

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☒ **No** ☐
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra*	50	Y	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Rubus spectabilis*	30	Y	FAC
2. *Acer circinatum*	20	Y	FAC
3.			
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

SOIL

Sampling Point: DP-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☒ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☒ No ☐

Remarks: Aquic moisture regime present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☒ No ☐ Depth (in): **1**

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (in): **0**

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-10

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-10

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Flat with hummocks | Local relief (concave, convex, none): Convex | Slope (%): ~1%

Subregion (LRR): A | Lat: 47.577085 | Long: -122.009781 | Datum: -

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Lonicera involucrate*	35	Y	FAC
2. *Rubus laciniatus*	5	N	FACU
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Rubus ursinus*	25	Y	FACU
2. *Polystichum munitum*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 40%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: DP-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-11

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-11

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): A | Lat: 47.577206 | Long: -122.009935 | Datum: -

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☒ **No** ☐
Hydric Soils Present?	Yes	☒	No	☐	
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: Climatic conditions are drier than normal for this time of year, according to WETS.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Acer circinatum*	90	Y	FAC
2.			
3.			
4.			
5.			
	90	= Total Cover	

Herb Stratum (Plot size: 1-m diameter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

SOIL

Sampling Point: DP-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/1	100					Sandy Loam	
4-16	2.5Y 5/1	85	7.5YR 4/6	15	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? **Yes** ☒ **No** ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☒ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology presumed based on strong hydric soils and wetland vegetation.

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-12

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-12

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Slope | Local relief (concave, convex, none): Convex | Slope (%): 2%

Subregion (LRR): A | Lat: 47.577206 | Long: -122.009935 | Datum: -

Soil Map Unit Name: Alderwood gravelly sandy loam, 8 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pseudotsuga menziesii*	100	Y	FACU
2.			
3.			
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1. *Acer circinatum*	75	Y	FAC
2.			
3.			
4.			
5.			
	75	= Total Cover	
Herb Stratum (Plot size: 1-m diameter)			
1. *Polystichum munitum*	20	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 80%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: DP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/1	100					Loam	
4-8	10YR 3/2	100					Loam	
8-16	10YR 4/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

THE WATERSHED COMPANY

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

DP-13

Project/Site: Klahanie Park | City/County: Sammamish/King | Sampling date: 10/26/18

Applicant/Owner: City of Sammamish | State: WA | Sampling Point: DP-13

Investigator(s): Sam Payne, Alex Pittman | Section, Township, Range: Section 11, Township 24N, Range 06E

Landform (hillslope, terrace, etc): Flat Field | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): A | Lat: 47.577563 | Long: -122.008695 | Datum: -

Soil Map Unit Name: Neilton very gravelly loamy sand, 2 to 15 percent slopes | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present on the site? ☒ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soils Present?	Yes	☐	No	☒	
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks: **Climatic conditions are drier than normal for this time of year, according to WETS (Seattle-Tacoma International Airport Station 1981-2010)**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 3-m diameter)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Herb Stratum (Plot size: 1-m diameter)			
1. Unknown lawn grass	100	Y	FAC
2. *Trifolium repens*	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110	= Total Cover	

Woody Vine Stratum (Plot size: 3-m diameter)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 – Dominance Test is > 50%
- ☐ 3 – Prevalence Index is ≤ 3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: DP-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 3/2	100					Sandy loam	Very compact
5+								Extremely compact

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Loc: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric soil present? Yes ☐ No ☒

Remarks: Could not dig beyond 5 inches due to very compact soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ☐ Surface water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ ~~Water-Stained Leaves (**except MLRA 1, 2, 4A & 4B**) (B9)~~
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (explain in remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A & 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (in):

Water Table Present? Yes ☐ No ☒ Depth (in):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (in):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Queen's Bog (Wetland A) Date of site visit: 10/26/2018

Rated by: Sam Payne, Nell Lund Trained by Ecology? ☒ Y ☐ N Date of training: 06/2017

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth

OVERALL WETLAND CATEGORY (based on functions ☐ or special characteristics ☒)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☒ **Category II** – Total score = 20 - 22
- ☐ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	**H**	M	L	H	**M**	L	H	**M**	L	
Landscape Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	**H**	M	L	**TOTAL**
Score Based on Ratings	8			7			6			21

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☐

Wetland A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	5
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	5
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	6
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The wetland is on a slope (*slope can be very gradual*),
   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐ The water leaves the wetland **without being impounded**.

   ☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐ The overbank flooding occurs at least once every 2 years.

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 7 ☐ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☒ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
☐	Slope + Riverine	Riverine
☐	Slope + Depressional	Depressional
☐	Slope + Lake Fringe	Lake Fringe
☐	Depressional + Riverine along stream within boundary of depression	Depressional
☐	Depressional + Lake Fringe	Depressional
☐	Riverine + Lake Fringe	Riverine
☐	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

☐ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☒ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)* ☒ Yes = 4 ☐ No = 0	4
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☐ Area seasonally ponded is > ½ total area of wetland points = 4 ☒ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1 Add the points in the boxes above	13

Rating of Site Potential If score is: ☒ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☒ Yes = 1 ☐ No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☐ Yes = 1 ☒ No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒ Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☒ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☒ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 ☐ Wetland is flat but has small depressions on the surface that trap water points = 1 ☐ Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☒ The area of the basin is less than 10 times the area of the unit points = 5 ☐ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	5
Total for D 4 Add the points in the boxes above	10

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? ☒ Yes = 1 ☐ No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ☐ Yes = 1 ☒ No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ☒ Yes = 1 ☐ No = 0	1
Total for D 5 Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ **3 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • ☒ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why*_____ points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☐ Yes = 2 ☒ No = 0	0
Total for D 6 Add the points in the boxes above	2

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

Habitat Functions - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☒ Aquatic bed — 4 structures or more: points = 4
☐ Emergent — 3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
☒ Forested (areas where trees have > 30% cover) — 1 structure: points = 0

If the unit has a Forested class, check if:

☒ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

4

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☐ Permanently flooded or inundated — 4 or more types present: points = 3
☒ Seasonally flooded or inundated — 3 types present: points = 2
☒ Occasionally flooded or inundated — 2 types present: points = 1
☒ Saturated only — 1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** — **2 points**
☐ **Freshwater tidal wetland** — **2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

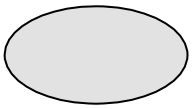
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: ☒ > 19 species — points = 2
☐ 5 - 19 species — points = 1
☐ < 5 species — points = 0

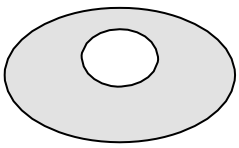
2

H 1.4. Interspersion of habitats

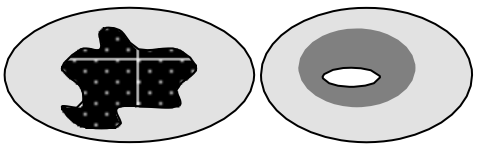
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☐ **None** = 0 points

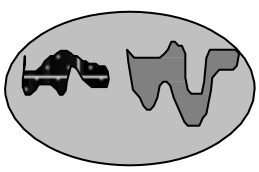


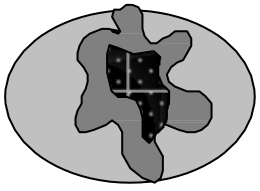
☐ **Low** = 1 point

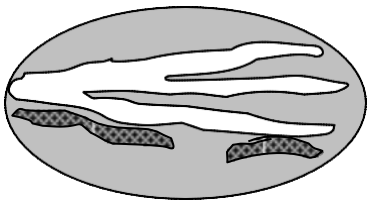


☒ **Moderate** = 2 points

All three diagrams in this row are
☐ **HIGH** = 3 points







2

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☒ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☒ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	4
Total for H 1 Add the points in the boxes above	14

Rating of Site Potential If score is: ☐ **15-18 = H** ☒ **7-14 = M** ☐ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **5 + 0/2 = <u>5%</u>** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **2.5 + 29/2 = <u>17%</u>** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☒ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☐ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	2

Rating of Value If score is: ☒ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☒ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☒ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	☐ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? https://www.dnr.wa.gov/NHPwetlandviewer ☐ Yes = **Category** I ☒ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? https://www.dnr.wa.gov/NHPdata ☐ Yes – **Contact WNHP/WDNR and go to SC 2.4** ☐ No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not a WHCV**	☐ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☒ Yes – Go to **SC 3.3** ☐ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☐ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☒ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	☒ **Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	☐ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☐ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	☐ **Cat I** ☐ **Cat. II** ☐ **Cat. III** ☐ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	I

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 10/26/2018

Rated by: Sam Payne, Alex Pittman Trained by Ecology? ☒ Y ☐ N Date of training: 06/2017

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth

OVERALL WETLAND CATEGORY (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☐ **Category II** – Total score = 20 - 22
- ☒ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	**M**	L	H	**M**	L	H	**M**	L	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	6			7			5			18

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland B

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	7
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	7
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	7
Map of the contributing basin	D 4.3, D 5.3	8
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The wetland is on a slope (*slope can be very gradual*),
   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐ The water leaves the wetland **without being impounded**.

   ☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐ The overbank flooding occurs at least once every 2 years.

Wetland B

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
☐	Slope + Riverine	Riverine
☐	Slope + Depressional	Depressional
☐	Slope + Lake Fringe	Lake Fringe
☐	Depressional + Riverine along stream within boundary of depression	Depressional
☐	Depressional + Lake Fringe	Depressional
☐	Riverine + Lake Fringe	Riverine
☐	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

☐ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)* ☐ Yes = 4 ☒ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☐ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☒ Area seasonally ponded is < ¼ total area of wetland points = 0	0
Total for D 1 Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☐ Yes = 1 ☒ No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☐ **1 or 2 = M** ☒ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒ Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☒ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 ☐ Wetland is flat but has small depressions on the surface that trap water points = 1 ☐ Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☐ The area of the basin is less than 10 times the area of the unit points = 5 ☒ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	10

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ☐ Yes = 1 ☒ No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ☒ Yes = 1 ☐ No = 0	1
Total for D 5 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ **3 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why*_____ points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☒ Yes = 2 ☐ No = 0	0
Total for D 6 Add the points in the boxes above	2

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

Habitat Functions - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed — 4 structures or more: points = 4
☐ Emergent — 3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
☒ Forested (areas where trees have > 30% cover) — 1 structure: points = 0

If the unit has a Forested class, check if:

☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

2

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☐ Permanently flooded or inundated — 4 or more types present: points = 3
☐ Seasonally flooded or inundated — 3 types present: points = 2
☒ Occasionally flooded or inundated — 2 types present: points = 1
☐ Saturated only — 1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** — **2 points**
☐ **Freshwater tidal wetland** — **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

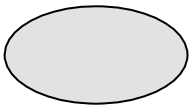
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: ☐ > 19 species — points = 2
☒ 5 - 19 species — points = 1
☐ < 5 species — points = 0

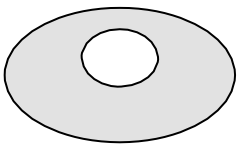
1

H 1.4. Interspersion of habitats

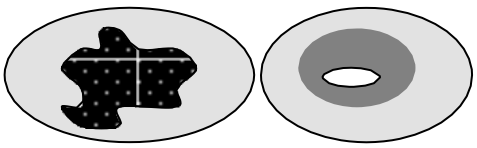
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☐ **None** = 0 points

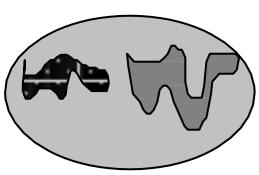


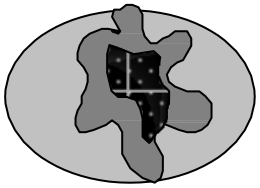
☒ **Low** = 1 point

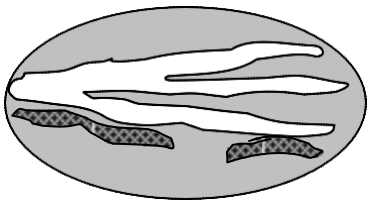


☐ **Moderate** = 2 points

All three diagrams in this row are
☐ **HIGH** = 3 points







1

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☒ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	3
Total for H 1 Add the points in the boxes above	7

Rating of Site Potential If score is: ☐ **15-18 = H** ☒ **7-14 = M** ☐ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **5 + 0/2 = <u>5%</u>** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **2.5 + 29/2 = <u>17%</u>** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	1

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	☐ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? https://www.dnr.wa.gov/NHPwetlandviewer ☐ Yes = **Category** I ☒ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? https://www.dnr.wa.gov/NHPdata ☐ Yes – **Contact WNHP/WDNR and go to SC 2.4** ☐ No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not a WHCV**	☐ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	☐ **Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	☐ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☒ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	☐ **Cat I** ☐ **Cat. II** ☐ **Cat. III** ☐ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	n/a

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 10/26/2018

Rated by: Sam Payne, Alex Pittman Trained by Ecology? ☒ Y ☐ N Date of training: 06/2017

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth

OVERALL WETLAND CATEGORY (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☐ **Category II** – Total score = 20 - 22
- ☒ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			TOTAL
	Circle the appropriate ratings									
Site Potential	**H**	M	L	**H**	M	L	H	M	**L**	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	7			8			4			19

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	9
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	10
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	10
Map of the contributing basin	D 4.3, D 5.3	10
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The wetland is on a slope (*slope can be very gradual*),
   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐ The water leaves the wetland **without being impounded**.

   ☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐ The overbank flooding occurs at least once every 2 years.

Wetland C

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
☐	Slope + Riverine	Riverine
☐	Slope + Depressional	Depressional
☐	Slope + Lake Fringe	Lake Fringe
☐	Depressional + Riverine along stream within boundary of depression	Depressional
☐	Depressional + Lake Fringe	Depressional
☐	Riverine + Lake Fringe	Riverine
☐	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

☐ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)* ☒ Yes = 4 ☐ No = 0	4
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	4
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☒ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	16

Rating of Site Potential If score is: ☒ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☐ Yes = 1 ☒ No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☐ **1 or 2 = M** ☒ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒ Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ☒ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 ☐ Wetland is flat but has small depressions on the surface that trap water points = 1 ☐ Marks of ponding less than 0.5 ft (6 in) points = 0	5
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☐ The area of the basin is less than 10 times the area of the unit points = 5 ☒ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	12

Rating of Site Potential If score is: ☒ **12-16 = H** ☐ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ☐ Yes = 1 ☒ No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ☒ Yes = 1 ☐ No = 0	1
Total for D 5 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ **3 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why*_____ points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☐ Yes = 2 ☒ No = 0	0
Total for D 6 Add the points in the boxes above	2

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

Habitat Functions - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed — 4 structures or more: points = 4
☐ Emergent — 3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
☐ Forested (areas where trees have > 30% cover) — 1 structure: points = 0

If the unit has a Forested class, check if:

☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☐ Permanently flooded or inundated — 4 or more types present: points = 3
☒ Seasonally flooded or inundated — 3 types present: points = 2
☒ Occasionally flooded or inundated — 2 types present: points = 1
☐ Saturated only — 1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** — **2 points**
☐ **Freshwater tidal wetland** — **2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

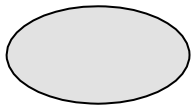
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: ☐ > 19 species — points = 2
☒ 5 - 19 species — points = 1
☐ < 5 species — points = 0

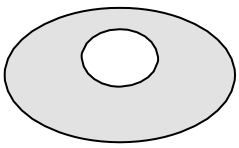
1

H 1.4. Interspersion of habitats

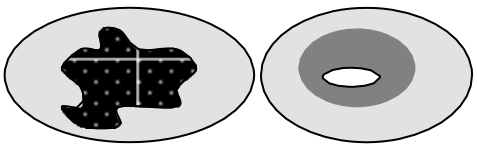
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☒ **None** = 0 points

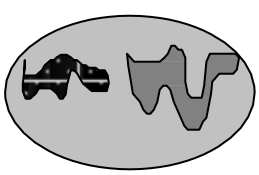


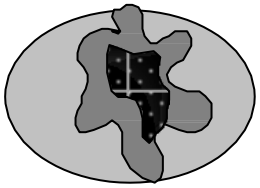
☐ **Low** = 1 point

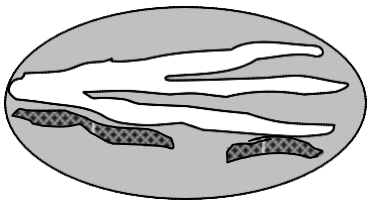


☐ **Moderate** = 2 points

All three diagrams in this row are
☐ **HIGH** = 3 points







0

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☒ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	3
Total for H 1 Add the points in the boxes above	5

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☒ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **5 + 0/2 = <u>5%</u>** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **2.5 + 29/2 = <u>17%</u>** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	1

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	☐ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? https://www.dnr.wa.gov/NHPwetlandviewer ☐ Yes = **Category** I ☒ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? https://www.dnr.wa.gov/NHPdata ☐ Yes – **Contact WNHP/WDNR and go to SC 2.4** ☐ No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not a WHCV**	☐ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	☐ **Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	☐ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☒ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	☐ **Cat I** ☐ **Cat. II** ☐ **Cat. III** ☐ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	n/a

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland D Date of site visit: 6/5/2018

Rated by: Sam Payne, Alex Pittman Trained by Ecology? ☒ Y ☐ N Date of training: 06/2017

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth

OVERALL WETLAND CATEGORY (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☐ **Category II** – Total score = 20 - 22
- ☒ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Landscape Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	7			7			4			18

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland D

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	11
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	11
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	11
Map of the contributing basin	D 4.3, D 5.3	12
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The wetland is on a slope (*slope can be very gradual*),
   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐ The water leaves the wetland **without being impounded**.

   ☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐ The overbank flooding occurs at least once every 2 years.

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
☐	Slope + Riverine	Riverine
☐	Slope + Depressional	Depressional
☐	Slope + Lake Fringe	Lake Fringe
☐	Depressional + Riverine along stream within boundary of depression	Depressional
☐	Depressional + Lake Fringe	Depressional
☐	Riverine + Lake Fringe	Riverine
☐	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

☐ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)* ☐ Yes = 4 ☒ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☐ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☒ Area seasonally ponded is < ¼ total area of wetland points = 0	0
Total for D 1 Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☒ Yes = 1 ☐ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒ Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 ☐ Wetland is flat but has small depressions on the surface that trap water points = 1 ☒ Marks of ponding less than 0.5 ft (6 in) points = 0	0
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☐ The area of the basin is less than 10 times the area of the unit points = 5 ☒ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	7

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ☒ Yes = 1 ☐ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ☒ Yes = 1 ☐ No = 0	1
Total for D 5 Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐ **3 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why*_____ points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☐ Yes = 2 ☒ No = 0	0
Total for D 6 Add the points in the boxes above	2

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

Habitat Functions - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed — 4 structures or more: points = 4
☐ Emergent — 3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
☐ Forested (areas where trees have > 30% cover) — 1 structure: points = 0

If the unit has a Forested class, check if:

☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☐ Permanently flooded or inundated — 4 or more types present: points = 3
☐ Seasonally flooded or inundated — 3 types present: points = 2
☒ Occasionally flooded or inundated — 2 types present: points = 1
☒ Saturated only — 1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** — **2 points**
☐ **Freshwater tidal wetland** — **2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

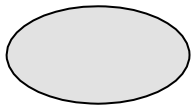
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: ☐ > 19 species — points = 2
☐ 5 - 19 species — points = 1
☒ < 5 species — points = 0

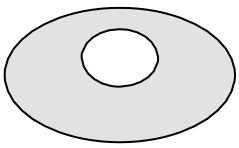
0

H 1.4. Interspersion of habitats

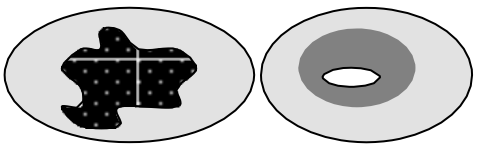
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☒ **None** = 0 points

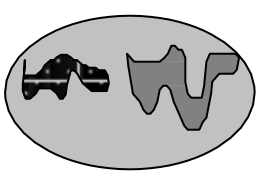


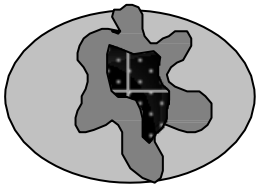
☐ **Low** = 1 point

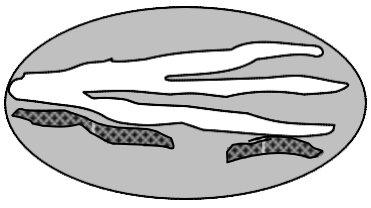


☐ **Moderate** = 2 points

All three diagrams in this row are
☐ **HIGH** = 3 points







0

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	2
Total for H 1 Add the points in the boxes above	3

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☒ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **5 + 0/2 = 5%** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **2.5 + 29/2 = 17%** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	1

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☒ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	☐ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? https://www.dnr.wa.gov/NHPwetlandviewer ☐ Yes = **Category** I ☒ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? https://www.dnr.wa.gov/NHPdata ☐ Yes – **Contact WNHP/WDNR and go to SC 2.4** ☐ No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not a WHCV**	☐ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	☐ **Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	☐ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☒ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	☐ **Cat I** ☐ **Cat. II** ☐ **Cat. III** ☐ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	n/a

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland E Date of site visit: 6/5/2018

Rated by: Sam Payne, Alex Pittman Trained by Ecology? ☒ Y ☐ N Date of training: 06/2017

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth

OVERALL WETLAND CATEGORY (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☐ **Category II** – Total score = 20 - 22
- ☒ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	6			7			4			17

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland E

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	13
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	13
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	13
Map of the contributing basin	D 4.3, D 5.3	14
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The wetland is on a slope (*slope can be very gradual*),
   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐ The water leaves the wetland **without being impounded**.

   ☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐ The overbank flooding occurs at least once every 2 years.

Wetland E

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
☐	Slope + Riverine	Riverine
☐	Slope + Depressional	Depressional
☐	Slope + Lake Fringe	Lake Fringe
☐	Depressional + Riverine along stream within boundary of depression	Depressional
☐	Depressional + Lake Fringe	Depressional
☐	Riverine + Lake Fringe	Riverine
☐	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

☐ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☒ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)* ☐ Yes = 4 ☒ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☒ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	11

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☐ Yes = 1 ☒ No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☐ **1 or 2 = M** ☒ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒ Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: ☐ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☒ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☒ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 ☐ Wetland is flat but has small depressions on the surface that trap water points = 1 ☐ Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☐ The area of the basin is less than 10 times the area of the unit points = 5 ☒ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ☐ Yes = 1 ☒ No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ☒ Yes = 1 ☐ No = 0	1
Total for D 5 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ **3 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why*_____ points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☐ Yes = 2 ☒ No = 0	0
Total for D 6 Add the points in the boxes above	2

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

Habitat Functions - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed — 4 structures or more: points = 4
☐ Emergent — 3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
☐ Forested (areas where trees have > 30% cover) — 1 structure: points = 0

If the unit has a Forested class, check if:

☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☐ Permanently flooded or inundated — 4 or more types present: points = 3
☒ Seasonally flooded or inundated — 3 types present: points = 2
☒ Occasionally flooded or inundated — 2 types present: points = 1
☐ Saturated only — 1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** — **2 points**
☐ **Freshwater tidal wetland** — **2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

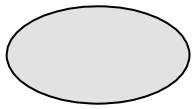
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: ☐ > 19 species — points = 2
☒ 5 - 19 species — points = 1
☐ < 5 species — points = 0

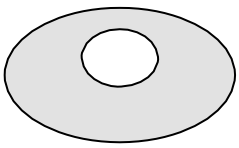
1

H 1.4. Interspersion of habitats

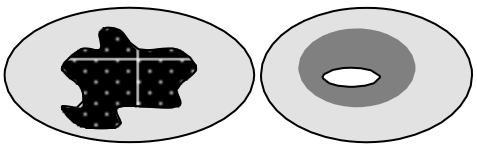
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☒ **None** = 0 points

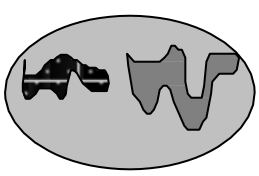


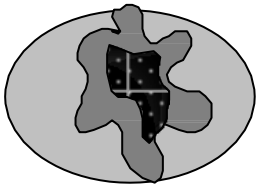
☐ **Low** = 1 point

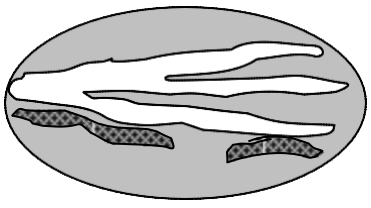


☐ **Moderate** = 2 points

All three diagrams in this row are
☐ **HIGH** = 3 points







0

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	2
Total for H 1 Add the points in the boxes above	4

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☒ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **5 + 0/2 = 5%** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **2.5 + 29/2 = 17%** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	1

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☒ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	☐ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? https://www.dnr.wa.gov/NHPwetlandviewer ☐ Yes = **Category** I ☒ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? https://www.dnr.wa.gov/NHPdata ☐ Yes – **Contact WNHP/WDNR and go to SC 2.4** ☐ No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not a WHCV**	☐ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	☐ **Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	☐ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☒ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	☐ **Cat I** ☐ **Cat. II** ☐ **Cat. III** ☐ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	n/a

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland F Date of site visit: 6/5/2018

Rated by: Sam Payne, Alex Pittman Trained by Ecology? ☒ Y ☐ N Date of training: 06/2017

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Google Earth

OVERALL WETLAND CATEGORY (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☐ **Category II** – Total score = 20 - 22
- ☒ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	H	**M**	L	H	**M**	L	H	M	**L**	
Landscape Potential	H	M	**L**	H	**M**	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	6			7			4			17

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland F

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	15
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	15
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	15
Map of the contributing basin	D 4.3, D 5.3	16
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   ☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒ NO – go to 4 ☐ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The wetland is on a slope (*slope can be very gradual*),
   ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐ The water leaves the wetland **without being impounded**.

   ☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐ The overbank flooding occurs at least once every 2 years.

Wetland F

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐ NO – go to 7 ☒ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
☐	Slope + Riverine	Riverine
☐	Slope + Depressional	Depressional
☐	Slope + Lake Fringe	Lake Fringe
☐	Depressional + Riverine along stream within boundary of depression	Depressional
☐	Depressional + Lake Fringe	Depressional
☐	Riverine + Lake Fringe	Riverine
☐	Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

☐ More than 2 HGM classes

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)* ☐ Yes = 4 ☒ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☐ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☒ Area seasonally ponded is < ¼ total area of wetland points = 0	0
Total for D 1 Add the points in the boxes above	8

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☐ Yes = 1 ☒ No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? ☐ Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source_____ ☐ Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	0

Rating of Landscape Potential If score is: ☐ **3 or 4 = H** ☐ **1 or 2 = M** ☒ **0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒ Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒ Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 ☐ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 ☐ Wetland is flat but has small depressions on the surface that trap water points = 1 ☒ Marks of ponding less than 0.5 ft (6 in) points = 0	0
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☐ The area of the basin is less than 10 times the area of the unit points = 5 ☒ The area of the basin is 10 to 100 times the area of the unit points = 3 ☐ The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	7

Rating of Site Potential If score is: ☐ **12-16 = H** ☒ **6-11 = M** ☐ **0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? ☐ Yes = 1 ☒ No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? ☐ Yes = 1 ☒ No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? ☒ Yes = 1 ☐ No = 0	1
Total for D 5 Add the points in the boxes above	1

Rating of Landscape Potential If score is: ☐ **3 = H** ☒ **1 or 2 = M** ☐ **0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why*_____ points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☐ Yes = 2 ☒ No = 0	0
Total for D 6 Add the points in the boxes above	2

Rating of Value If score is: ☒ **2-4 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

Habitat Functions - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed — 4 structures or more: points = 4
☐ Emergent — 3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points = 1
☐ Forested (areas where trees have > 30% cover) — 1 structure: points = 0

If the unit has a Forested class, check if:

☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☐ Permanently flooded or inundated — 4 or more types present: points = 3
☐ Seasonally flooded or inundated — 3 types present: points = 2
☐ Occasionally flooded or inundated — 2 types present: points = 1
☒ Saturated only — 1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland
☐ Seasonally flowing stream in, or adjacent to, the wetland
☐ **Lake Fringe wetland** — **2 points**
☐ **Freshwater tidal wetland** — **2 points**

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

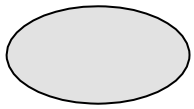
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: ☐ > 19 species — points = 2
☐ 5 - 19 species — points = 1
☒ < 5 species — points = 0

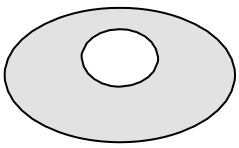
0

H 1.4. Interspersion of habitats

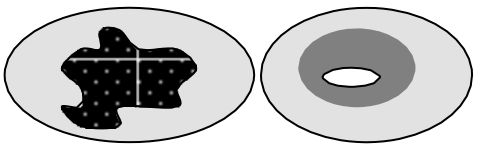
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☒ **None** = 0 points

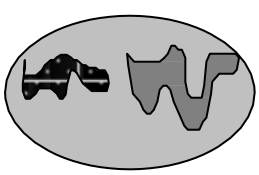


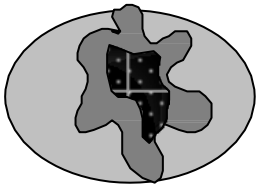
☐ **Low** = 1 point

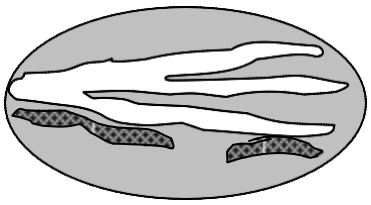


☐ **Moderate** = 2 points

All three diagrams in this row are
☐ **HIGH** = 3 points







0

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	2
Total for H 1 Add the points in the boxes above	2

Rating of Site Potential If score is: ☐ **15-18 = H** ☐ **7-14 = M** ☒ **0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **5 + 0/2 = 5%** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(% moderate and low intensity land uses)/2] = **2.5 + 29/2 = 17%** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is**:** ☐ **4-6 = H** ☐ **1-3 = M** ☒ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	1

Rating of Value If score is: ☐ **2 = H** ☒ **1 = M** ☐ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☒ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	☐ **Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒ Yes – Go to **SC 2.2** ☐ No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? https://www.dnr.wa.gov/NHPwetlandviewer ☐ Yes = **Category** I ☒ No = **Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? https://www.dnr.wa.gov/NHPdata ☐ Yes – **Contact WNHP/WDNR and go to SC 2.4** ☐ No = **Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☐ No = **Not a WHCV**	☐ **Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	☐ **Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐ Yes **= Category I** ☒ No **= Not a forested wetland for this section**	☐ **Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐ Yes – Go to **SC 5.1** ☒ No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2) ☐ Yes = **Category I** ☐ No = **Category II**	☐ **Cat. I** ☐ **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐ Yes – Go to **SC 6.1** ☒ No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐ Yes = **Category I** ☐ No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐ Yes = **Category II** ☐ No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐ Yes = **Category III** ☐ No = **Category IV**	☐ **Cat I** ☐ **Cat. II** ☐ **Cat. III** ☐ **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	n/a

2014 Ecology Wetland Rating Form Figures

KLAHANIE PARK WETLAND STUDY

ALL WETLANDS (DEPRESSIONAL)

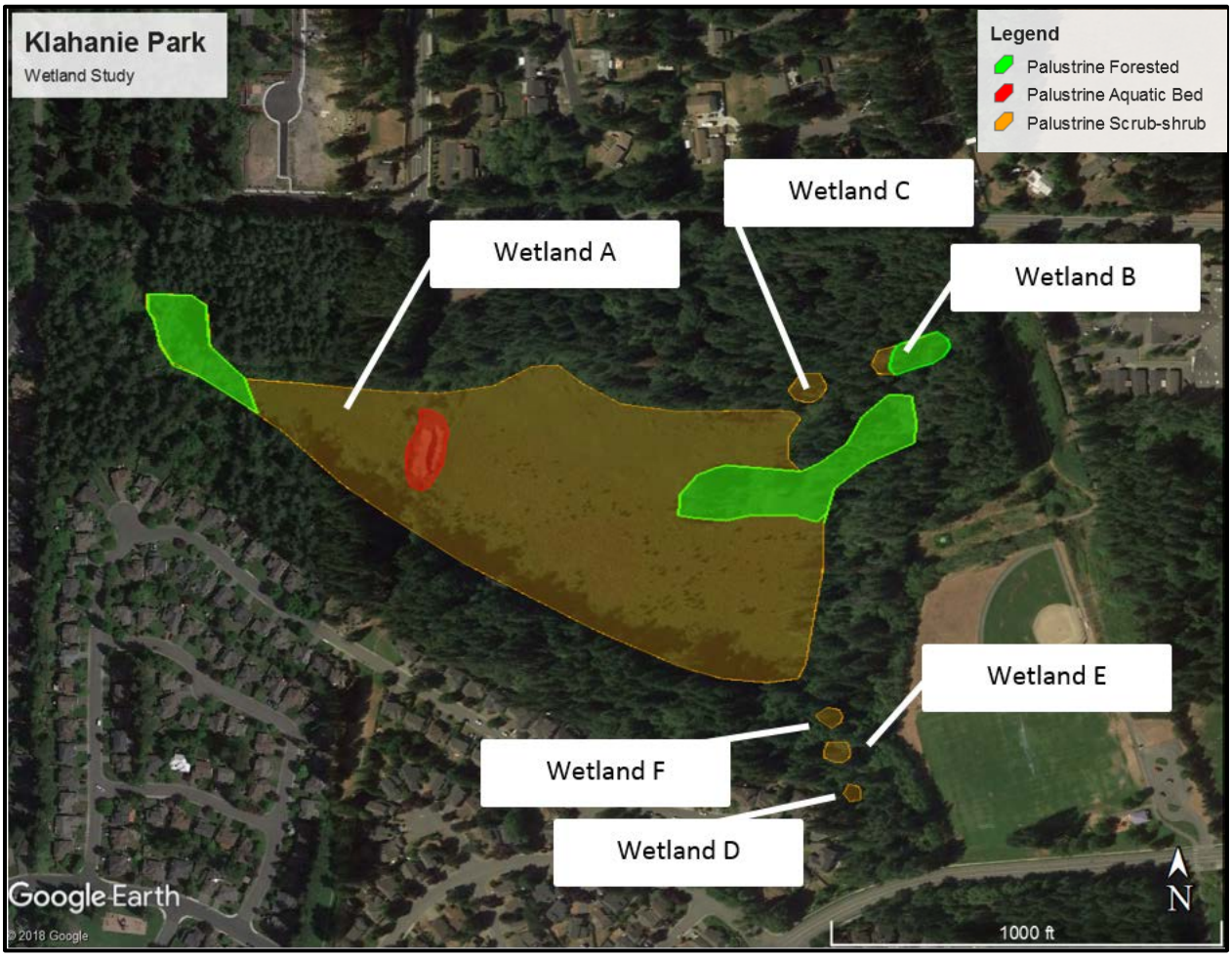


Figure 1. Cowardin plant classes – D1.3, H1.1, H1.4

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

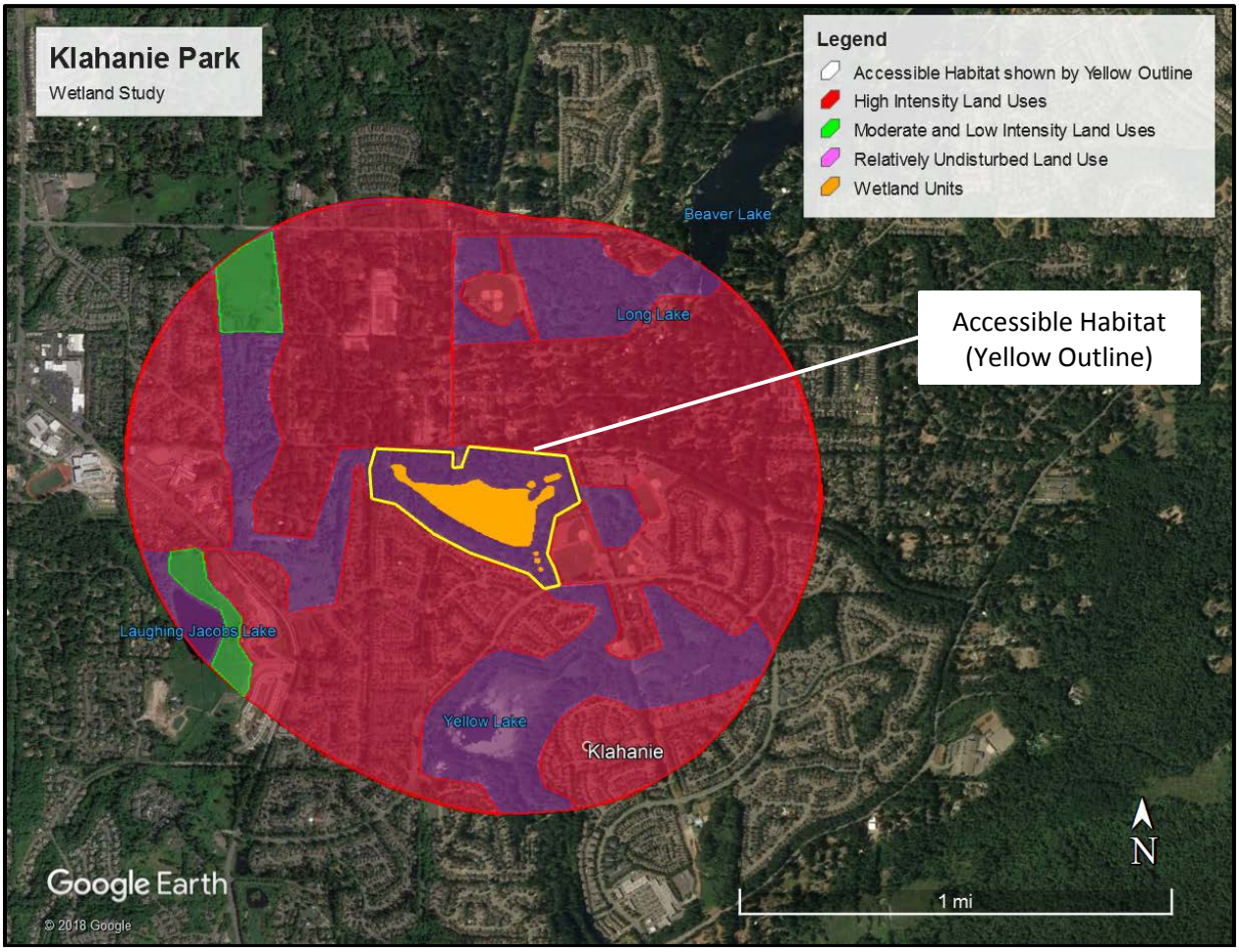


Figure 2. Undisturbed habitat and moderate-low intensity land uses within 1 km from wetland edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

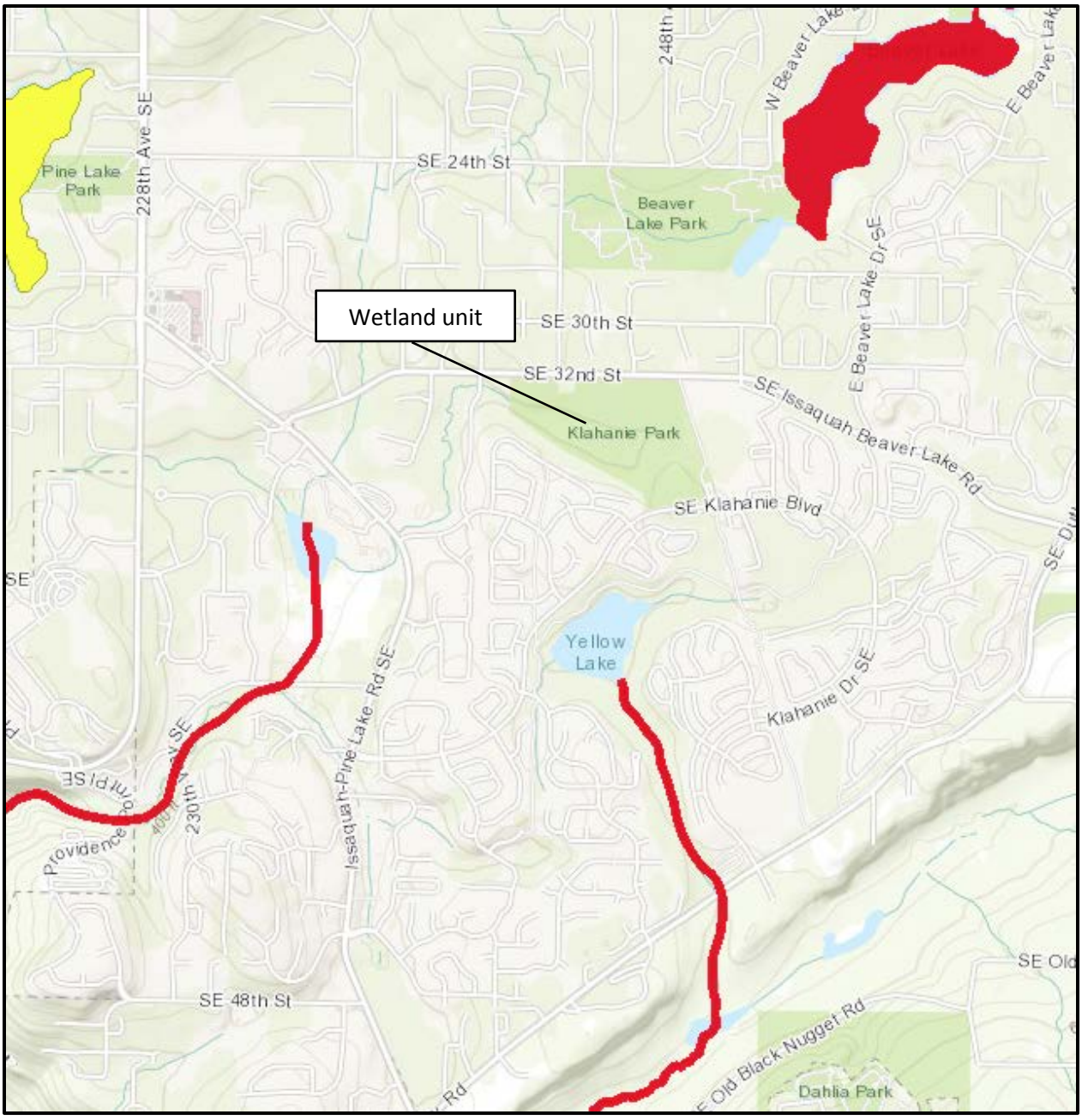


Figure 3. Screen-capture of 303(d) listed waters in basin – D3.1, D3.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
Bear-Evans Creek Basin	Fecal Coliform	EPA approved	Ralph Svrjcek 425-649-7165
Bear-Evans Creek Basin	Dissolved Oxygen Temperature	EPA approved	Ralph Svrjcek 425-649-7165
Cottage Lake	Total Phosphorus	EPA approved	Tricia Shoblom 425-649-7288
Duwamish and Lower Green River	Ammonia-N	EPA approved	Ralph Svrjcek 425-649-7165
Duwamish and Green River	Pollutant loading	Working with technical advisory group	Rachel McCrea 425-649-7033
Fauntleroy Creek	Fecal Coliform	EPA approved	Ralph Svrjcek 425-649-7165
Fenwick Lake	Total Phosphorus	EPA approved	Tricia Shoblom 425-649-7288
Green River and Newaukum Creek		EPA approved	Ralph Svrjcek 425-649-7165
Issaquah Creek Basin		EPA approved	Ralph Svrjcek 425-649-7165
Lake Sawyer		EPA approved	Tricia Shoblom 425-649-7288
Little Bear Creek		EPA approved	Ralph Svrjcek 425-649-7165
Newaukum Creek	Bacteria	Under development	Ralph Svrjcek 425-649-7165
North Creek	Fecal Coliform	EPA approved and Has an implementation plan	Ralph Svrjcek 425-649-7165
Pipers Creek	Fecal Coliform	EPA approved	Ralph Svrjcek 425-649-7165
Sammamish River	Dissolved Oxygen Temperature	Under development	Ralph Svrjeck 425-649-7165

Wetland units located in the Sammamish River basin

Figure 4. Screen-capture of TMDL list for WRIA in which unit is found – D3.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

WETLAND A (DEPRESSIONAL)

Figure 5. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

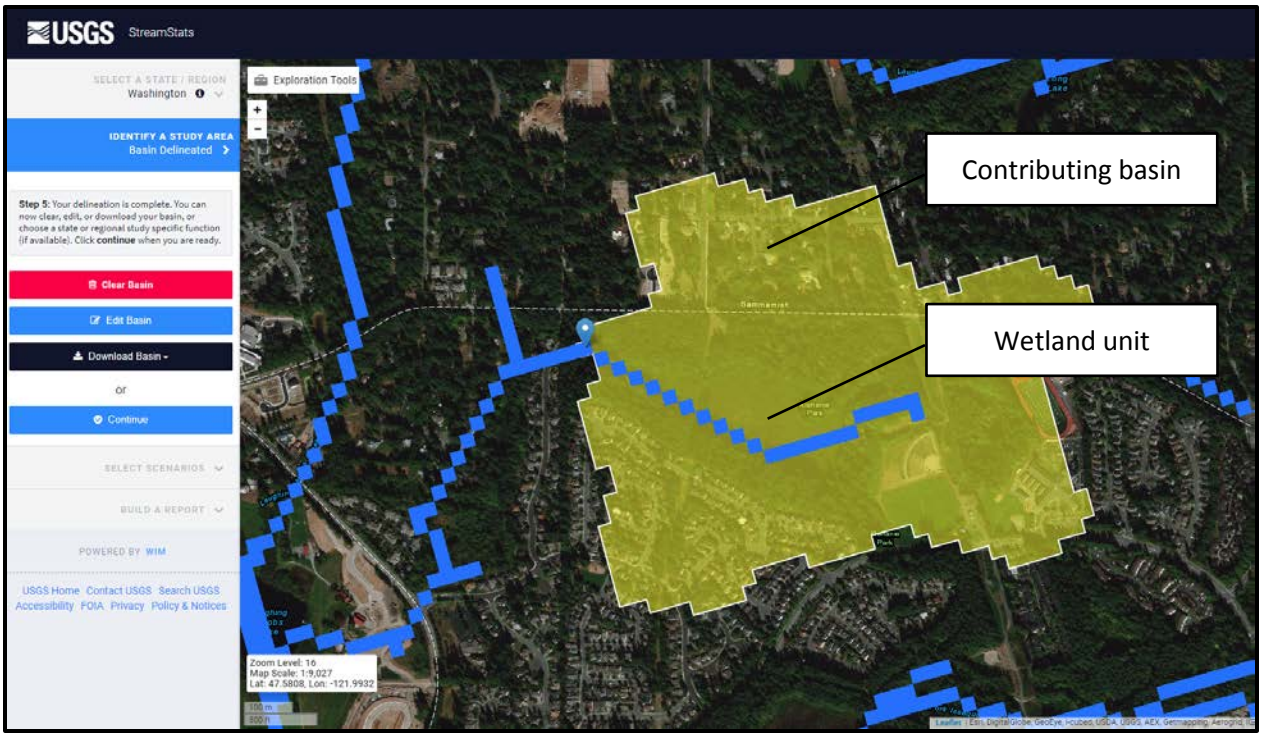


Figure 6. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

WETLAND B (DEPRESSIONAL)

Figure 7. Hydroperiods, wetland unit has no outlet, and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Figure 8. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

WETLAND C (DEPRESSIONAL)

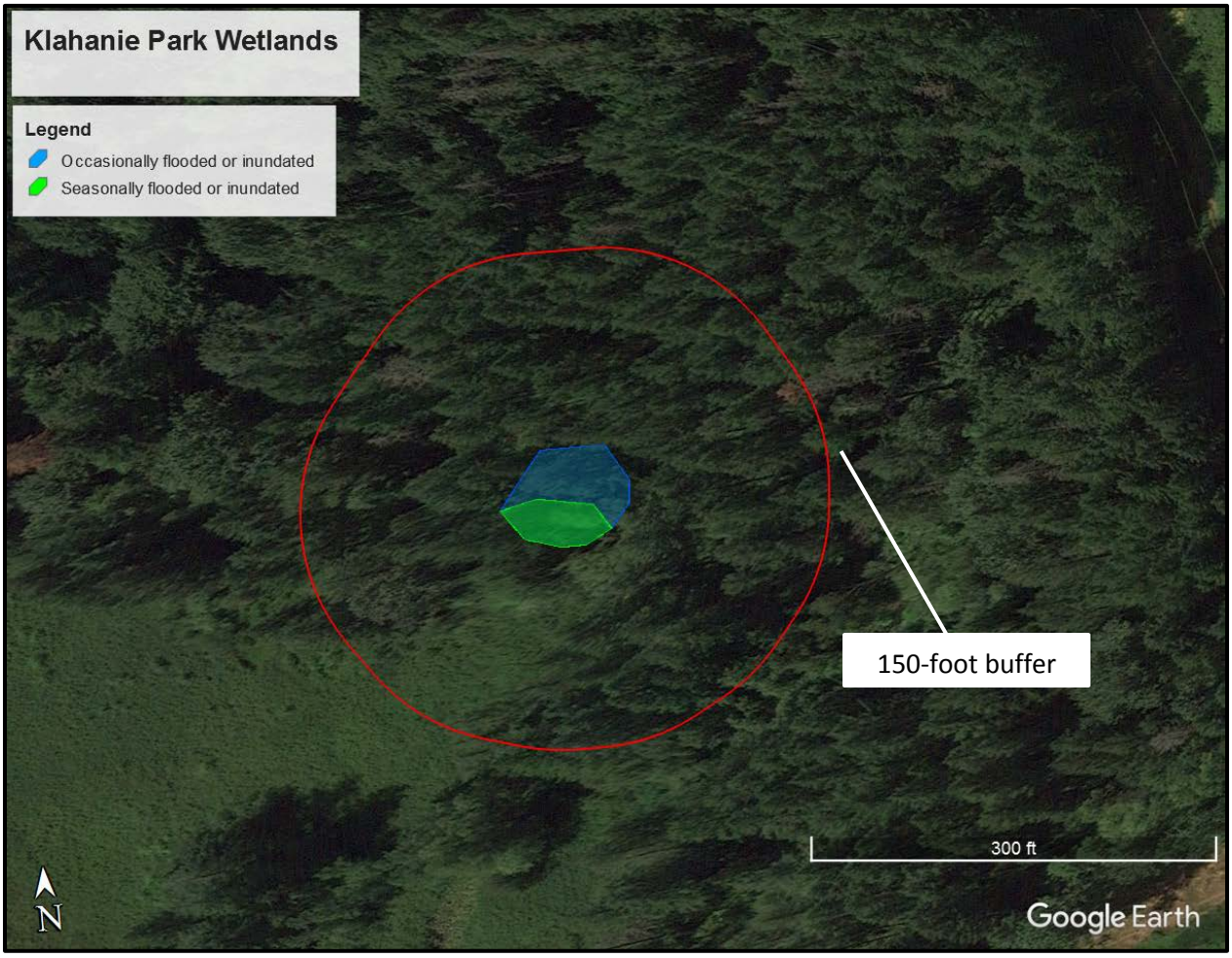


Figure 9. Hydroperiods, wetland unit has no outlet, and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

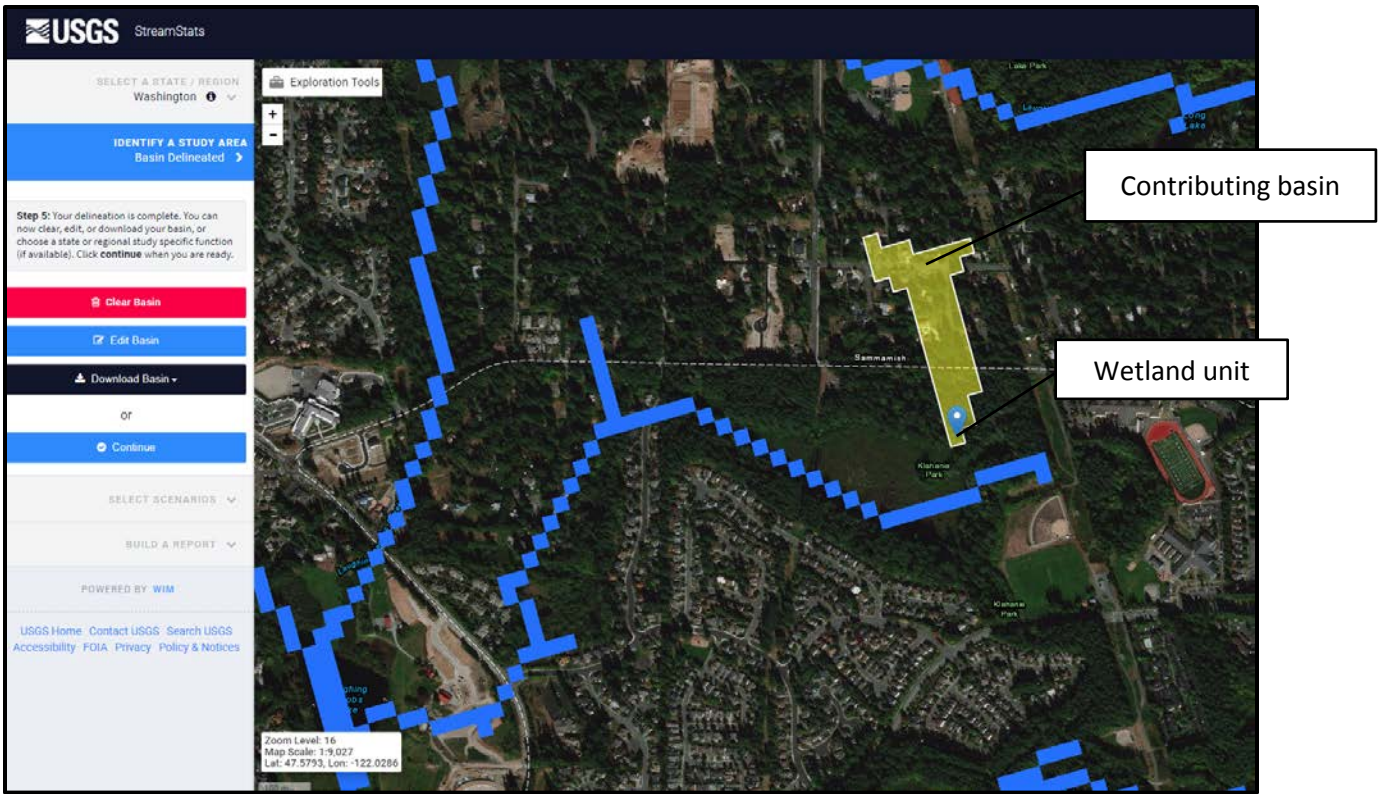


Figure 10. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

WETLAND D (DEPRESSIONAL)

Figure 11. Hydroperiods, wetland unit has no outlet, and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Figure 12. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

WETLAND E (DEPRESSIONAL)

Figure 13. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Figure 14. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

WETLAND F (DEPRESSIONAL)

Figure 15. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Figure 16. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

TECHNICAL MEMORANDUM

Date:	February 4, 2019
To:	Shelby Perrault
From:	Nell Lund, PWS, Sr. Ecologist
Project Name:	Klahanie Park, off-site wetland assessment
Project Number:	161134.13

Subject: Addendum to the Klahanie Park Wetland Study

This memorandum contains a wetland assessment for an area east of the Klahanie Park study area assessed in our Klahanie Park Wetland Study Report, dated November 12, 2018. This Off-site Wetland G was assessed at a reconnaissance level. A wetland summary is provided in Table 1 below.

The 100-foot buffer from the southwest boundary of Wetland G is estimated to extend approximately 30 to 40 feet into the park. It overlaps with existing paths in the transmission line corridor.

Table 1. Table 1. Wetland G assessment summary.

WETLAND G – Assessment Summary		
Location:	Beaver Lake Middle School, East of Klahanie Park – City of Sammamish	
WRIA / Sub-basin:	WRIA 8 / Lake Sammamish	
 *Looking north from the SW edge of Wetland G.*	2014 Western WA Ecology Rating:	Category II
	Local Jurisdiction Buffer Width and Buffer Setback:	100 feet + 15-foot building setback
	Wetland Size:	Approx. 3 acres
	Cowardin Classification(s):	Palustrine Scrub-shrub, Palustrine Forested,
	HGM Classification(s):	Depressional

WETLAND G – Assessment Summary		
Vegetation	Tree stratum:	Pacific willow, black cottonwood, red alder, Oregon ash
	Shrub stratum:	Sitka willow, hardhack spirea, vine maple, salmonberry, dogwood
	Herb stratum:	Slough sedge, lady fern
Soils	Soil survey:	Water; Neilton very gravelly loamy sand
	Field data:	Exhibits redox dark surface (F6)
Hydrology	Source:	High groundwater table, precipitation, geomorphic position
	Field data:	Inundated, or saturated at or near the surface

Wetland Functions

	Improving Water Quality			Hydrologic			Habitat			
Site Potential	**H**	M	L	**H**	M	L	H	**M**	L	
Landscape Potential	H	**M**	L	**H**	M	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	**TOTAL**
Score Based on Ratings	8			9			5			22

Disclaimer

The information contained in this memorandum is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.

Enclosures

Klahanie Park – Delineation and Reconnaissance Field Sketch, Updated Jan. 11, 2019

Wetland G – Rating form and figures

THE WATERSHED COMPANY

750 Sixth Street South | Kirkland | WA 98033
p 425.822.5242 f 425.827.8136

Klahanie Park – Wetland Delineation and Reconnaissance Field Sketch

Site Address:	25000 SE Klahanie Blvd, Sammamish	Prepared for:	City of Sammamish
Parcel Number:	112406-9013 and 112406-9106	TWC Ref. No.:	161134.11 and .13
Site Visit Date:	October 25th and 26th, 2018; Jan 11, 2019		

Note: Field sketch only. Features depicted are approximate and not to scale. Delineated Wetland boundaries are marked with pink- and black-striped flags; Non-delineated wetland not marked in-field. Data points are marked with yellow- and black-striped flags.

Wetland name or number: Wetland G (off-site, east of Klahanie Park)

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland G (parcel 1124069091) Date of site visit: Jan. 11, 2019

Rated by: Nell Lund Trained by Ecology? ☒Y ☐N Date of training: 06/2014

HGM Class used for rating: Depressional Wetland has multiple HGM classes? ☐Y ☒N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.
Source of base aerial photo/map: Click here to enter text.

OVERALL WETLAND CATEGORY (based on functions ☐ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27
- ☒ **Category II** – Total score = 20 - 22
- ☐ **Category III** – Total score = 16 - 19
- ☐ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
	Circle the appropriate ratings									
Site Potential	**H**	M	L	**H**	M	L	H	**M**	L	
Landscape Potential	H	**M**	L	**H**	M	L	H	M	**L**	
Value	**H**	M	L	**H**	M	L	H	**M**	L	TOTAL
Score Based on Ratings	8			9			5			22

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I** **II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I** **II**
Interdunal	**I** **II** **III** **IV**
None of the above	☒

Wetland name or number: Wetland G (off-site, east of Klahanie Park)

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

   ☒NO – go to 2 ☐**YES** – the wetland class is **Tidal Fringe** – go to 1.1

   1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

   NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**
   *If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

   ☒NO – go to 3 ☐**YES** – The wetland class is **Flats**
   *If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
   ☐The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
   ☐At least 30% of the open water area is deeper than 6.6 ft (2 m).

   ☒NO – go to 4 ☐**YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
   ☐The wetland is on a slope (*slope can be very gradual*),
   ☐The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
   ☐The water leaves the wetland **without being impounded**.

   ☒NO – go to 5 ☐**YES –** The wetland class is **Slope**

   NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
   ☐The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
   ☐The overbank flooding occurs at least once every 2 years.

☒NO – go to 6 ☐**YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☐NO – go to 7 ☒**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☐NO – go to 8 ☐**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: ☒ Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing. points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic *(use NRCS definitions)*. ☐Yes = 4 ☒ No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): ☒ Wetland has persistent, ungrazed, plants > 95% of area points = 5 ☐ Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 ☐ Wetland has persistent, ungrazed plants > 1/10 of area points = 1 ☐ Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* ☒ Area seasonally ponded is > ½ total area of wetland points = 4 ☐ Area seasonally ponded is > ¼ total area of wetland points = 2 ☐ Area seasonally ponded is < ¼ total area of wetland points = 0	4
Total for D 1 Add the points in the boxes above	12

Rating of Site Potential If score is: ☒**12-16 = H** ☐**6-11 = M** ☐**0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? ☒Yes = 1 ☐ No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? ☒Yes = 1 ☐ No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? ☐Yes = 1 ☒ No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source: Click here to enter text. ☐Yes = 1 ☒ No = 0	0
Total for D 2 Add the points in the boxes above	2

Rating of Landscape Potential If score is: ☐**3 or 4 = H** ☒**1 or 2 = M** ☐**0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? ☒Yes = 1 ☐ No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? ☒Yes = 1 ☐ No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (*answer YES if there is a TMDL for the basin in which the unit is found*)? ☒Yes = 2 ☐ No = 0	2
Total for D 3 Add the points in the boxes above	4

Rating of Value If score is: ☒**2-4 = H** ☐**1 = M** ☐**0 = L** *Record the rating on the first page*

Wetland name or number: Wetland G (off-site)

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- ☒ Wetland is a depression or flat depression with no surface water leaving it (no outlet). points = 4
- ☐ Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2
- ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1
- ☐ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing. points = 0

4

D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.*

- ☐ Marks of ponding are 3 ft or more above the surface or bottom of outlet. points = 7
- ☒ Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet. points = 5
- ☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet. points = 3
- ☐ The wetland is a "headwater" wetland. points = 3
- ☐ Wetland is flat but has small depressions on the surface that trap water. points = 1
- ☐ Marks of ponding less than 0.5 ft (6 in). points = 0

5

D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.*

- ☐ The area of the basin is less than 10 times the area of the unit. points = 5
- ☒ The area of the basin is 10 to 100 times the area of the unit. points = 3
- ☐ The area of the basin is more than 100 times the area of the unit. points = 0
- ☐ Entire wetland is in the Flats class. points = 5

3

Total for D 4	Add the points in the boxes above	12

Rating of Site Potential If score is: ☒**12-16 = H** ☐**6-11 = M** ☐**0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?	☒Yes = 1 ☐ No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	☒Yes = 1 ☐ No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	☒Yes = 1 ☐ No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: ☒**3 = H** ☐**1 or 2 = M** ☐**0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.*
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- ☒ Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2
- ☐ Surface flooding problems are in a sub-basin farther down-gradient. points = 1

☐ Flooding from groundwater is an issue in the sub-basin. points = 1

☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.

Explain why: .... points = 0

☐There are no problems with flooding downstream of the wetland. points = 0

2

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? ☐Yes = 2 ☒ No = 0 — **0**

Total for D 6	Add the points in the boxes above	2

Rating of Value If score is: ☒**2-4 = H** ☐**1 = M** ☐**0 = L** *Record the rating on the first page*

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

☐ Aquatic bed	4 structures or more: points = 4
☐ Emergent	3 structures: points = 2
☒ Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
☒ Forested (areas where trees have > 30% cover)	1 structure: points = 0

If the unit has a Forested class, check if:

☒ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

2

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

☒ Permanently flooded or inundated	4 or more types present: points = 3
☒ Seasonally flooded or inundated	3 types present: points = 2
☐ Occasionally flooded or inundated	2 types present: points = 1
☐ Saturated only	1 type present: points = 0
☐ Permanently flowing stream or river in, or adjacent to, the wetland	
☐ Seasonally flowing stream in, or adjacent to, the wetland	
☐ **Lake Fringe wetland**	**2 points**
☐ **Freshwater tidal wetland**	**2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

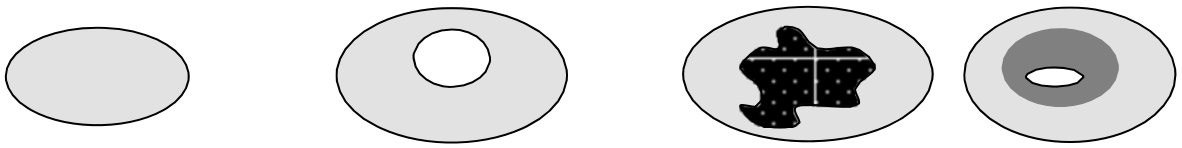
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted:	☐ > 19 species	points = 2
	☒ 5 - 19 species	points = 1
	☐ < 5 species	points = 0

1

H 1.4. Interspersion of habitats

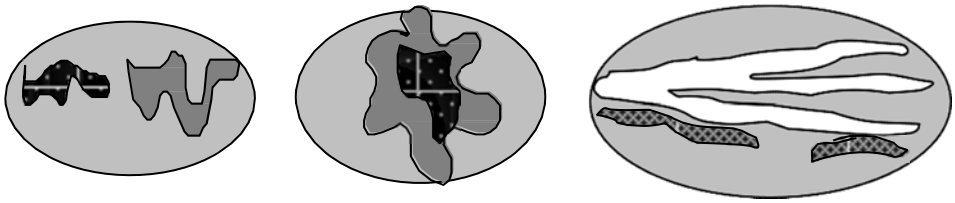
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



☐ **None** = 0 points ☐ **Low** = 1 point ☒ **Moderate** = 2 points

All three diagrams in this row are

☐ **HIGH** = 3points



2

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☒ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ☒ Standing snags (dbh > 4 in) within the wetland. ☐ Undercut banks are present for at least 6.6 ft (2 m) **AND/OR** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m). ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) **OR** signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed).* ☒ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians).* ☒ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*).	4
Total for H 1 Add the points in the boxes above	10

Rating of Site Potential If score is: ☐**15-18 = H** ☒**7-14 = M** ☐**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* % undisturbed habitat + [(%moderate and low intensity land uses)/2] = **8% + (3%/2) = 9.5%** If total accessible habitat is: ☐ > 1/3 (33.3%) of 1 km Polygon points = 3 ☐ 20-33% of 1 km Polygon points = 2 ☐ 10-19% of 1 km Polygon points = 1 ☒ < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* % undisturbed habitat + [(%moderate and low intensity land uses)/2 **= 30% + (3%/2) = 31.5%** ☐ Undisturbed habitat > 50% of Polygon points = 3 ☐ Undisturbed habitat 10-50% and in 1-3 patches points = 2 ☒ Undisturbed habitat 10-50% and > 3 patches points = 1 ☐ Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If ☒ > 50% of 1 km Polygon is high intensity land use points = (- 2) ☐ ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is: ☐**4-6 = H** ☐**1-3 = M** ☒**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan ☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 ☐ Site does not meet any of the criteria above points = 0	1

Rating of Value If score is: ☐**2 = H** ☒**1 = M** ☐**0 = L** *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi- layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

☐ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐Yes –Go to **SC 1.1** ☒No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐Yes = **Category I** ☐No - Go to **SC 1.2**	**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐Yes = **Category I** ☐No= **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☒Yes – Go to **SC 2.2** ☐No – Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? http://www.dnr.wa.gov/NHPwetlandviewer ☐Yes **= Category** I ☒No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://file.dnr.wa.gov/publications/amp_nh_wetlands_trs.pdf ☐Yes **– Contact WNHP/WDNR and go to SC 2.4** ☐No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐Yes **= Category I** ☐No **= Not a WHCV**	**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐Yes – Go to **SC 3.3** ☒No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐Yes – Go to **SC 3.3** ☒No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐Yes = **Is a Category I bog** ☐No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐Yes = **Is a Category I bog** ☐No **= Is not a**	**Cat. I**

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.*** ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). ☐Yes **= Category I** ☒No **= Not a forested wetland for this section**	**Cat. I**
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* ☐Yes – Go to **SC 5.1** ☒No = **Not a wetland in a coastal lagoon** SC 5.1. Does the wetland meet all of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland. ☐ The wetland is larger than $^1/_{10}$ ac (4350 ft^2) ☐Yes = **Category I** ☐No = **Category II**	**Cat. I** **Cat. II**
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.*** In practical terms that means the following geographic areas: ☐ Long Beach Peninsula: Lands west of SR 103 ☐ Grayland-Westport: Lands west of SR 105 ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109 ☐Yes – Go to **SC 6.1** ☒No = **not an interdunal wetland for rating** SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐Yes = **Category I** ☐No – Go to **SC 6.2** SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? ☐Yes = **Category II** ☐No – Go to **SC 6.3** SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? ☐Yes = **Category III** ☐No = **Category IV**	**Cat I** **Cat. II** **Cat. III** **Cat. IV**
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	NA

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2014 Ecology Wetland Rating Form Figures

SAMMAMISH PARKS – WETLAND EAST OF KLAHANIE PARK

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WETLAND G (DEPRESSIONAL)

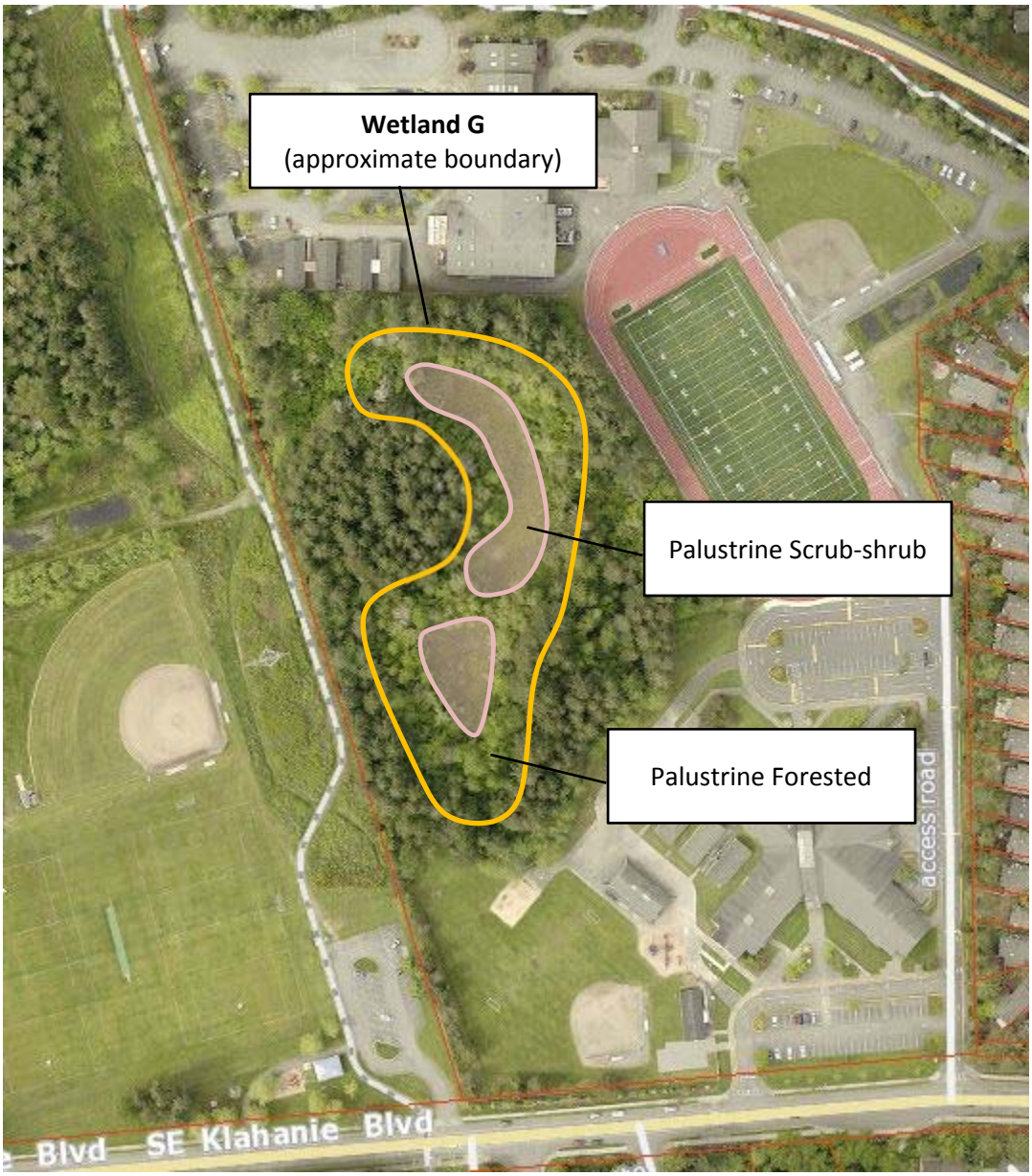

Figure 1. Cowardin plant classes – D1.3, H1.1, H1.4

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Figure 2. Hydroperiods, outlet(s), and 150-ft area – D1.1, D1.4, H1.2, D2.2, D5.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

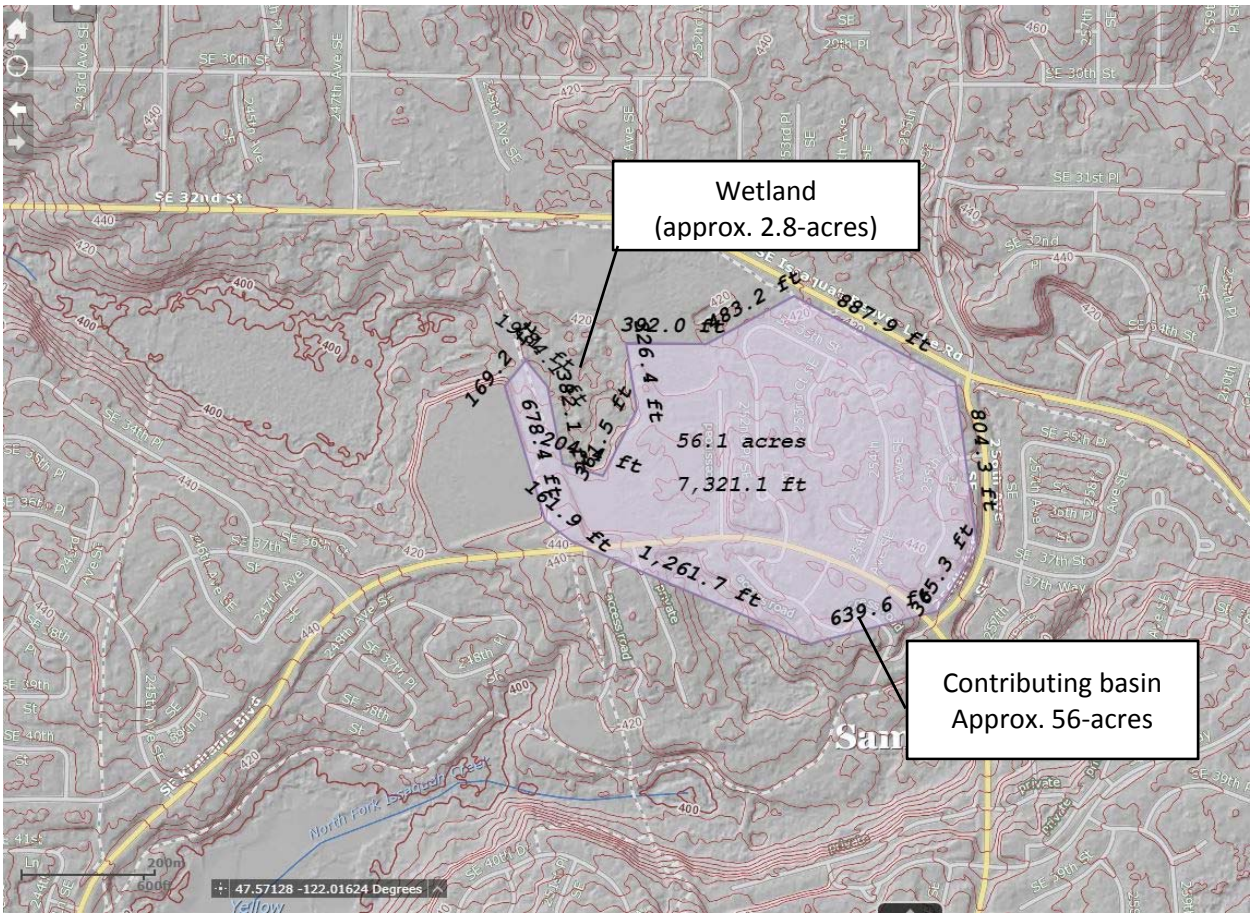

Figure 3. Map of the contributing basin – D4.3, D5.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

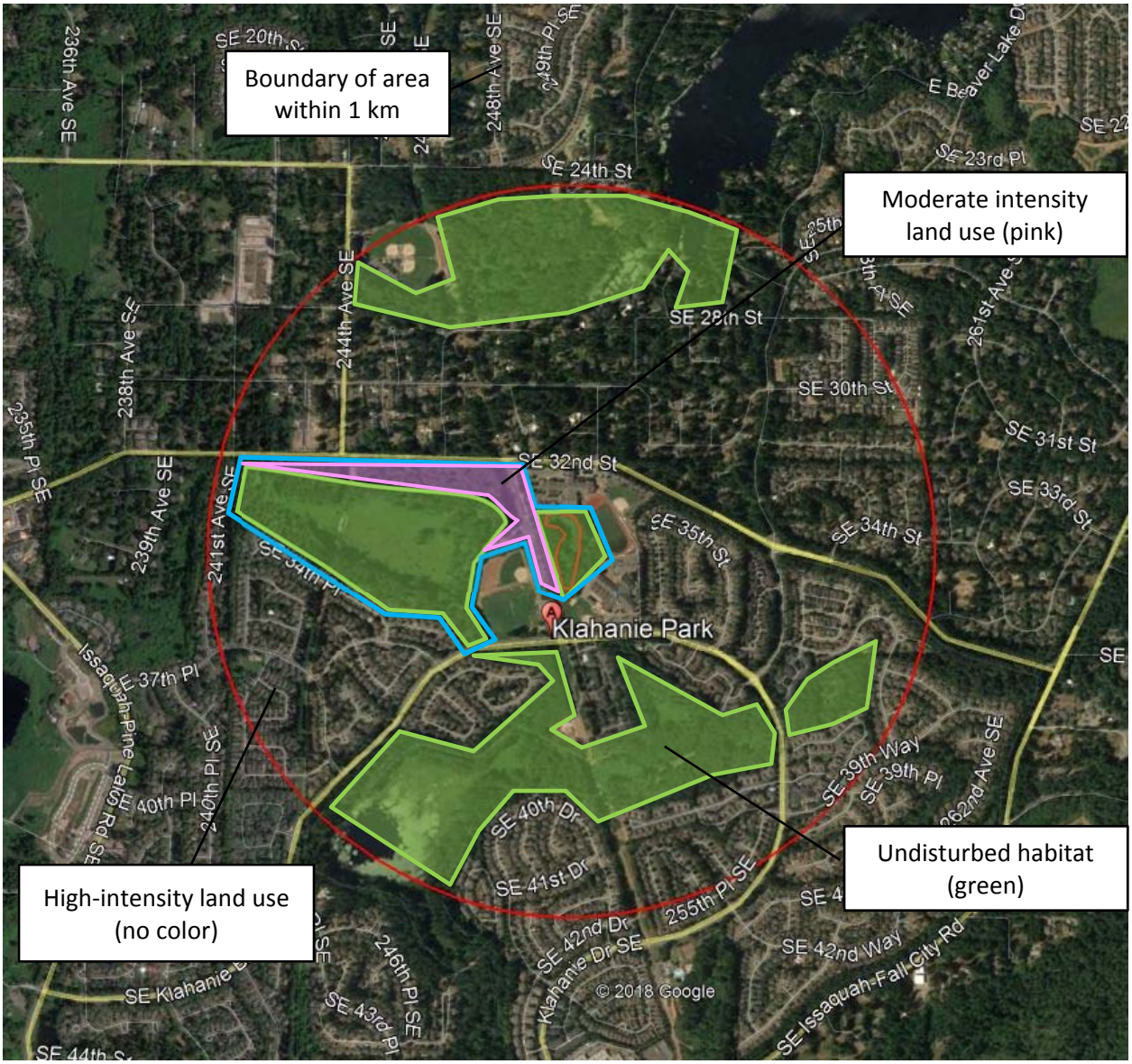

Figure 4. Undisturbed habitat and moderate-low intensity land uses within 1 km from wetland edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

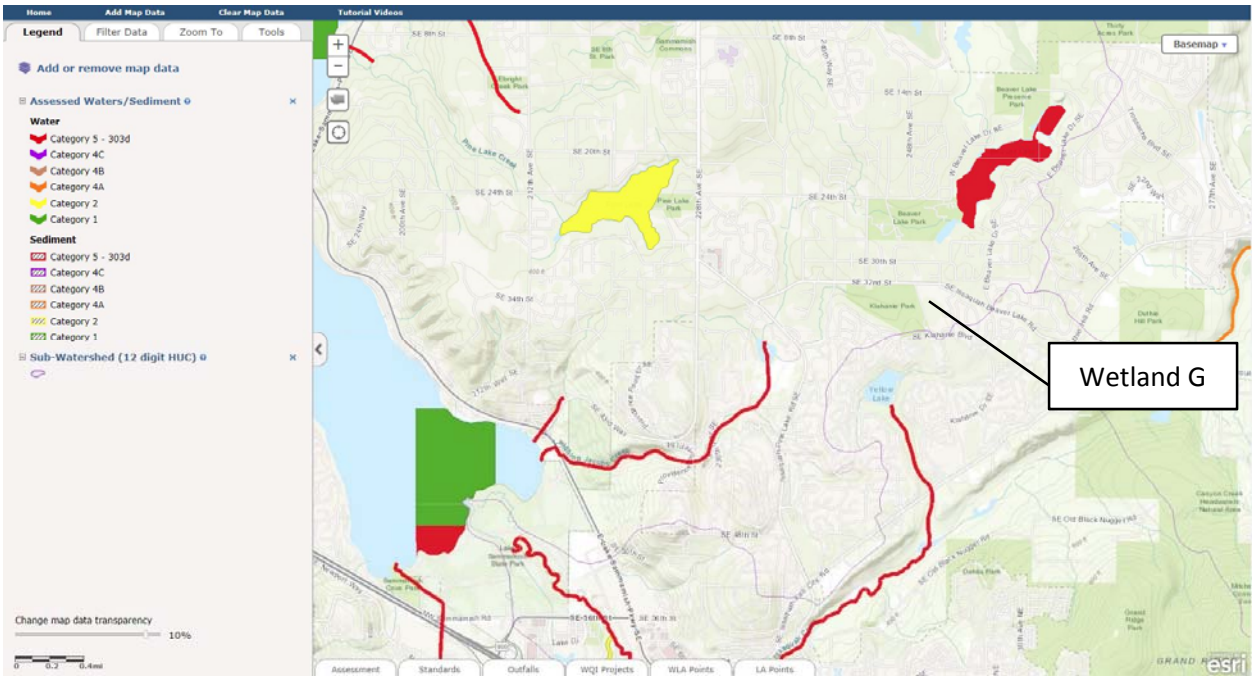

Figure 5. Screen-capture of 303(d) listed waters in basin – D3.1, D3.2

Waterbody Name(s)	Pollutant(s)	Status	Project Lead(s)
Bear-Evans Creek Basin	Fecal Coliform	EPA approved	Ralph Svrjcek 425-649-7165
Bear-Evans Creek Basin	Dissolved Oxygen Temperature	EPA approved	Ralph Svrjcek 425-649-7165
Cottage Lake	Total Phosphorus	EPA approved	Tricia Shoblom 425-649-7288
Duwamish and Lower Green River	Ammonia-N	EPA approved	Ralph Svrjcek 425-649-7165
Duwamish and Green River	Pollutant loading	Working with technical advisory group	Rachel McCrea 425-649-7033
Fauntleroy Creek	Fecal Coliform	EPA approved	Ralph Svrjcek 425-649-7165
Fenwick Lake	Total Phosphorus	EPA approved	Tricia Shoblom 425-649-7288
Green River and Newaukum Creek		EPA approved	Ralph Svrjcek 425-649-7165
Issaquah Creek Basin		EPA approved	Ralph Svrjcek 425-649-7165
Lake Sawyer		EPA approved	Tricia Shoblom 425-649-7288
Little Bear Creek		EPA approved	Ralph Svrjcek 425-649-7165
Newaukum Creek	Bacteria	Under development	Ralph Svrjcek 425-649-7165
North Creek	Fecal Coliform	EPA approved and Has an implementation plan	Ralph Svrjcek 425-649-7165
Pipers Creek	Fecal Coliform	EPA approved	Ralph Svrjcek 425-649-7165
Sammamish River	Dissolved Oxygen Temperature	Under development	Ralph Svrjeck 425-649-7165

Wetland units located in the Sammamish River basin

Figure 6. Screen-capture of TMDL list for WRIA in which unit is found – D3.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Appendix B: Environmental Analysis

5309 Shilshole Avenue NW
Suite 200
Seattle, WA 98107
206.789.9658 phone
206.789.9684 fax

esassoc.com

memorandum

date	September 27, 2019
to	Rachel Dotson, Landscape Architect, HBB
from	Jessica Redman, Wetland Ecologist
subject	Klahanie Park Master Plan Environmental Analysis

Introduction

At the request of HBB Landscape Architects, Environmental Science Associates (ESA) has prepared this environmental analysis for the Klahanie Park Master Plan project (Project). Klahanie Park (Park) is a 64-acre park located in the City of Sammamish (City). The Park was originally built by the Klahanie homeowners association and transferred to the City as part of the Klahanie annexation. The Park is comprised of turf fields, a small playground, restrooms, and parking. A segment of King County's East Plateau Regional Trail is located on the eastern extent of the Park, within a transmission line corridor. Queen's Bog, an approximately 19-acre wetland, and surrounding forests make up a large portion of the Park property (King County Tax Parcels 1124069106 and 1124069013). The Park has had little improvement since being incorporated by the City in 2016. The Project aims to create a master plan for the Park that will support park use into the future, while protecting the natural environment. The two main components of the Park development are the trails associated with Queen's Bog and the park itself which will include ballfields, trails, and community spaces.

Trail and park preliminary concept alternatives were presented at a public workshop on May 23, 2019 and to City Council and the Parks and Recreation Commission at a joint meeting on June 11, 2019. An online survey was also developed for the public to provide feedback on the preliminary concept alternatives. A description of the chosen alternative is below which was chosen based on an analysis of public input, as well as environmental impacts, cost, regulatory criteria, and other constraints of the park development.

Project Description

The chosen park concept keeps the existing soccer and cricket fields in their current location, expands the area around the cricket pitch, and moves the existing ballfield to the northwest. The soccer and cricket fields will be natural grass with underdrainage and irrigation. The ballfield will have a natural grass in the outfield and the infield will be synthetic turf with a cork in-fill. A 50-foot-long retaining wall be constructed along the edge of the field to support the improvements. Currently, the design does not propose the installation of field lighting.

The new field configuration will open the central portion of the site for additional community space including play structures and green space. The parking lot will be expanded to the northwest to accommodate 58 spaces, including five designated American Disabilities Act (ADA) spaces. Bike racks, a raised-planter pea patch, and restroom will be installed north of the parking lot. Additionally, the existing stormwater detention ponds will be expanded and planted with native vegetation.

The chosen trail concept is the most protective of Queen's Bog and its buffer. A loop trail, generally located outside of the wetland buffer, will surround the open space and connect to the existing East Plateau Regional Trail, which will then connect to the existing paved trail located outside of the buffer on the south side of SE 32nd Street. To the west of the ballfield, in the portion of the trail that crosses the wetland buffer, a boardwalk will be constructed. A portion of the paved asphalt trail adjacent to the west end of the bog would be removed and replaced with a new asphalt trail along the east side of 241st Ave SE to provide a connection with the neighborhood to the south. All new trail areas will be constructed in the outer 25 percent portion of the buffer. All current trails, located further into the buffer, will be decommissioned as part of this project. The trail and park improvements have been designed to avoid impacts to wetlands and wetland buffers to the extent possible.

Methods

This environmental analysis is the result of field observations during two site visits conducted by ESA and a review of existing information about the Park, and an analysis of the project design. Wetland assessments were performed previously by the Watershed Company at the request of the City (Watershed Company, 2018 and 2019). Information from those studies has been incorporated into this memorandum. Wetland delineations were not conducted by ESA.

Existing Conditions

Wetlands

Queens Bog (Wetland A) lies at the center of the Park and is a 19-acre palustrine scrub-shrub (PSS) and palustrine forested (PFO) depressional wetland. The forested portion of this wetland is dominated by western hemlock and Douglas fir. Shrub vegetation includes Labrador tea, bog laurel, Douglas spiraea, and bog cranberry. A gas pipeline runs north to south and bisects the western portion of the bog. The wetland outlets to a tributary to Laughing Jacobs Creek at its western extent. Using the Washington State Department of Ecology's (Ecology) Wetland Rating System for Western Washington (Ecology, 2014), this wetland scored a total of 21 points which based on its functions would result in a Category II wetland (Watershed Company, 2018). However, Wetland A is categorized as a Category I wetland because of its special characteristics and meets the state's criteria for bog habitat. Bogs are rare, peat-dominated wetlands that are considered difficult to replace, and sensitive to disturbance, and therefore, require the largest protective measures. King County has recognized Queen's Bog as a good example of undisturbed, lowland peatland, and one of the few remaining bogs in the Puget Sound region.

Four additional wetlands (Wetlands B – F) occur on the Park property. Wetlands B and C are located in the northeast portion of the Park property. Wetlands D, E, and F are located in the southwest portion of the Park and adjacent to the west side of the turf field. These smaller wetlands (approximately 0.1 – 0.3-acre) are dominated by scrub-shrub vegetation including vine maple, black twinberry, and red-osier dogwood. All five of these wetlands are depressional, PSS wetlands that are rated as Category III wetlands (Watershed Company, 2018).

One additional wetland (Wetland G) is located offsite on the Challenger Elementary School property (King County Parcel 1124069091) located on the east side of the East Plateau Regional Trail. Wetland G is a depressional PSS and PFO wetland. Forested portions of the wetland are dominated by Pacific willow, black cottonwood, red alder, and Oregon ash. Shrub vegetation common in the wetland includes Sitka willow, Douglas spiraea, vine maple, and red-osier dogwood. This wetland rated as a Category II wetland (Watershed Company, 2019).

Streams

One unnamed stream, a tributary to Laughing Jacobs Creek, is mapped as occurring at the outlet of Queen's Bog. This stream is mapped as an intermittent stream that supports cutthroat trout (WDFW, 2019). The stream flows west out of the bog and immediately offsite before turning south, and eventually joins Laughing Jacobs Creek approximately 0.7 mile downstream of Queen's Bog.

Upland Areas

Outside of the developed portion of the Park property, which is dominated by maintained grass turf fields and a baseball diamond, upland areas are primarily mature forest. Forested areas surrounding Queen's Bog are dominated by Douglas fir. Understory vegetation consists of primarily native plants including sword fern and salal. Invasive vegetation, primarily Himalayan blackberry, is limited to disturbed areas including the transmission line corridor immediately adjacent to the East Plateau Regional Trail. Some Scot's broom is also present in the latter.

City of Sammamish Wetland Buffers

Wetland Buffers

The City requires protective buffers to be established around wetlands based on their category and habitat score under Sammamish Municipal Code (SMC) 21A.50.290(2). Table 1 summarizes the required buffers for onsite Wetland A through F and offsite Wetland G. Additionally, SMC 21A.50.330(1) requires a 150-foor buffer for fish bearing (Type F) streams. However, the stream buffer would likely be fully offsite and therefore, is not a part of this analysis.

TABLE 1. STANDARD BUFFER WIDTHS FOR WETLANDS PER SMC 21A.50.290(2)

Wetland	Category	Standard Buffer Width (ft.)
A (Queen's Bog)	I	215
B	III	50
C	III	50
D	III	50

E	III	50
F	III	50
G	II	100

The majority of the developed portion of the Park is currently outside of wetland buffers. The largest buffer onsite, the 215-foot buffer of Wetland A, does not extend past the existing forested area. The 50-foot buffers of Wetlands B through F, are completely encompassed by the buffer of Wetland A, are also limited to this forested area. The buffer of offsite Wetland G extends into the project area, where it would overlap with the East Plateau Regional Trail and the transmission line corridor.

Allowed Buffer Uses

Per SMC 21A.50.300(8) – *Trails*, public and private trails may be allowed in the outer 25 percent of wetland buffers consistent with the standards and requirements in this chapter, development standards in Chapter 21A.30 SMC, and requirements elsewhere in the SMC. Proposals for constructing viewing platforms, associated access trails, and spur trails must be reviewed by a qualified professional and a critical areas study may be required.

Project Impacts

The project has been designed to avoid all direct and indirect impacts to wetlands. However, a total of 1,248 SF of direct buffer impact, 2,790 SF of indirect buffer impact (shading), and 7,841 temporary impacts to the buffer of Queen's bog will result from construction of the proposed project. A summary of impacts is included in Table 2.

TABLE 2. SUMMARY OF IMPACTS

Project Component	Direct Buffer Impact (square feet)	Indirect Buffer Impact (square feet)	Temporary Buffer Impact (square feet)
Asphalt path	1,098		
Boardwalk		2,790	
Retaining wall	150		500
Regrading of existing stormwater detention ponds			7,341
Totals	**1,248**	**2,790**	**7,841**

The new asphalt path in the western extent of the buffer of Wetland A will result in 1,098 SF of permanent buffer impact. The installation of the boardwalk will result in 2,790 SF of indirect wetland buffer impacts through

shading. Both the asphalt path and the boardwalk will be constructed in the outer 25% of the buffer in accordance with SMC 21A.50.300(8).

Permanent and temporary construction impacts to the buffer will also occur in the area where the retaining wall will be constructed. The 3-foot-wide by 10-foot-long retaining wall will result in 150 SF of permanent buffer impact. Access to construct the wall is estimated to be a 10-foot-wide clearance area along the length of the wall, or 500 SF of temporary construction impacts. Lastly, 7,341 SF of wetland buffer will be temporarily impacted during the regrading of the stormwater detention ponds.

No stormwater impacts are anticipated. Stormwater facilities are still in conceptual design. However, all stormwater from the fields and paved surfaces will be collected, detained, and treated on site, before entering the existing and improved stormwater system. A summary of the projects stormwater elements is below:

- Stormwater from pollution generating surfaces (i.e. the parking lot) will drain to bioretention cells that will be installed adjacent to the parking lot before entering the existing stormwater system.

- Stormwater collected from non-pollution generated surfaces (e.g. trails, play area) will also drain to bioretention cells or swales and will overflow into the existing catch basins or existing stormwater system.

- Stormwater collected from the field will be detained and treated before being directed to the stormwater detention ponds to the north and eventually dispersed into the adjacent forested area and wetlands. Before entering the stormwater ponds, water will be detained under the field, likely using the void spaces in the field base, trenches, or subsurface drainage pipes.

Proposed Mitigation

The project will avoid all impacts to wetlands and therefore, compensatory wetland mitigation will not be required. In addition, new trails and park-related constructed features within the wetland buffer have been minimized to the greatest extent possible. However, unavoidable impacts to wetland buffers will be compensated through on-site buffer mitigation. Per SMC 21A.50.310(6)(b), altered wetland buffer areas shall be replaced at a minimum ratio of one-to-one. Additionally, per SMC 21A.50.310, when mitigation for buffer impacts is required, the mitigation actions should result in an equivalent or greater level of buffer functions and values compared to existing conditions, also referred to as a “no net loss” of functions.

Mitigation approaches for buffer impacts typically focus on improving the water quality, hydrologic, and wildlife habitat functions of a given wetland. For Queen’s Bog, the proposed trail and park improvements proposed are limited and are not anticipated to change the water quality and hydrologic functions of the wetland. However, habitat functions of the wetland are currently compromised by the highly urbanized location and thus compensatory mitigation should focus on providing a lift to the habitat functions of the wetland.

Approaches to mitigation that will provide a habitat functional lift include:

- Removing impervious surfaces (i.e, existing asphalt path) from the wetland buffer and replacing with native vegetation; and

- Enhancement of wetland through the planting of native trees and shrubs, primarily in areas where vegetation would help prevent buffer intrusion.

To offset the 4,038 SF of direct and indirect buffer impacts summarized in Table 2, the project proposes a total of 7,571 SF of buffer enhancement, or an approximately 2:1 (enhancement:impact) ratio. Proposed buffer enhancements are summarized in Table 3.

TABLE 3. PROPOSED BUFFER ENHANCEMENTS TO THE BUFFER OF QUEEN'S BOG

Buffer Enhancement Measure	Square Feet
Removal of asphalt path and planting with native vegetation	2,910
Enhancement planting in new detention pond	2,656
Enhancement planting at entrance to decommissioned foot paths.	2,005
Total	7,571

Buffer enhancement measures include the removal of the asphalt path at the western extent of the bog, the installation of structurally diverse native vegetation in the detention ponds, and the decommissioning of existing maintained footpaths and subsequent planting of native vegetation in the buffer.

Vegetation in the existing detention ponds is primarily a monoculture of common cattail. Post-construction, 2,656 SF of structurally diverse native vegetation will be installed within the ponds and will include species adapted for wet conditions such as willows, redosier dogwood, rushes, and sedges.

A total of 19,315 SF of existing footpaths in the buffer will be decommissioned through terminating current maintenance activities and allowing the trails to return to their natural conditions. Because the majority of these trails are dominated by native vegetative groundcover, primarily swordfern, in an effort to prevent human intrusion only the portion of these paths within the outer 25% of these areas (2,005 SF) will be planted. However, if determined that invasive vegetation is outcompeting native growth in these areas, additional native plant installations may occur.

Additionally, the 7,841 SF or temporary impacts that are anticipated as a result of the regarding of the stormwater ponds and the construction of the retaining wall will be restored and planted with native trees, shrubs, and groundcover.

Construction BMPs

Appropriate best management practices (BMPs) will be used for pollution, sediment, and erosion control during construction. Erosion and sediment control measures may include mulching, matting, and netting: filter fabric

fencing; quarry rock entrance mats; sediment traps and ponds; and surface water interceptor swales and ditches. Significant long-term water quality impacts are not expected if erosion control BMPs, stormwater treatment facilities, and spill containment measures are properly implemented, monitored, and maintained during construction. A Temporary Erosion and Sediment Control (TESC) plan will be prepared and implemented to minimize and control pollution and erosion from stormwater. The project will adhere to a Spill Prevention Control and Countermeasure (SPCC) plan developed specifically for construction.

If the existing stormwater ponds will need to be drained to perform the regrading, additional BMPs must be applied to protect Queen's bog. Because the ponds drain to the bog, additional measures should be put in place to ensure that the increase in stormwater does not impact the chemistry of the bog. A large pulse of stormwater could have an effect on the chemistry of the bog, which has already been impacted by stormwater inputs over the years. Management guidelines relating to stormwater as presented in the *Characteristics of the Low-Elevation Sphagnum-Dominated Peatlands of Western Washington: A Community Profile* (also known as the King County Bog Book) should be applied to the extent possible.

Functional Analysis

Buffer mitigation is proposed at a 2:1 ratio and it is anticipated that the proposed mitigation measures, in combination with the BMPs, will result in a lift of ecological function post-construction. As mentioned above, the current buffer is dominated by mature coniferous forest and is a highly functioning protective buffer to the unique ecosystem of Queen's Bog. However, past stormwater management practices, utility easements, and public access have led to the degradation of the bog. The majority of permanent impacts to the buffer will be the shading of the boardwalk. However, the boardwalk's decking will allow both light and rainfall to infiltrate into the ground below to allow vegetation to grow. Though the height of vegetation under the boardwalk may be limited by the height of the boardwalk, the native plant installations in the surrounding area will result in a more structurally diverse plant composition and result in an overall functional lift. Additionally, the 150 SF of permanent impact from the construction of the retaining wall would be minor when compared to the size of the overall intact buffer. Lastly, the decommissioning of the existing footpaths and strategic placement of vegetation to inhibit intrusion would further enhance the buffer and protect the bog over the long-term. Human intrusion has limited the growth of native vegetation along the trails as well as led to the presence of debris and refuse in the bog and buffer. Preventing human intrusion and allowing native vegetation to grow back to its natural state would give the buffer its largest lift in function and while protecting the bog to the largest extent.

References

City of Sammamish. 2016. Sammamish Zoning Map. Accessed February 2019 from https://www.sammamish.us/attachments/pagecontent/36868/17013.pdf

Ecology (Washington State Department of Ecology). 2014. Washington State Wetland Rating System for Western Washington. Available at: https://fortress.wa.gov/ecy/publications/SummaryPages/1406029.html

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Watershed Company. 2018. Klahanie Park, Wetland Study Report. Memorandum dates November 12, 2018. Kirkland, WA.

Watershed Company. 2019. Addendum to the Klahanie Park Wetland Study. Memorandum dated February 4, 2019. Kirkland, WA

WDFW (Washington State Department of Fish and Wildlife). 2019. SalmonScape. Accessed February 2019 from http://apps.wdfw.wa.gov/salmonscape/

Appendix C: SEPA Checklist

SEPA CHECKLIST FOR NON-PROJECTS

City of Sammamish
Community Development
801 228th Ave NE
Sammamish, WA 98019
425-295-0500 | www.sammamish.us

ABOUT THE SEPA CHECKLIST

The City of Sammamish uses the information provided in the SEPA (State Environmental Policy Act) Checklist to help determine whether the environmental impacts of a proposal are significant.

The information is also helpful to determine if there are mitigation measures that will address the probable significant impacts or if an environmental impact statement will be needed to further analyze the proposal.

Complete and accurate answers often avoid delays with the SEPA process as well as later in the decision-making process.

INSTRUCTIONS FOR APPLICANTS

The checklist questions apply to all parts of your project/proposal, even if you plan to do them over a period of time or on different parcels of land.

- Please answer each question accurately and carefully, to the best of your knowledge.
- You may need to consult with an agency specialist or private consultant for some questions.
- If you run out of space on the form, please attach additional pages.
- **Use "not applicable/does not apply" only when you can explain why it does not apply and not when the answer is unknown.**
- Attach any additional information that will help describe your project/proposal or its environmental effects including additional studies and reports.

The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Submittal Instructions

Complete & save this form before uploading it to MyBuildingPermit.com in the "File Upload" section along with the rest of the submittal documents.

Code Reference

SEPA Procedures
Chapter 20.15 SMC

Questions?

Submit Project Guidance

Visit the Permit Center

City of Sammamish
801 228th Ave SE
Sammamish, WA 98075
www.sammamish.us

A. BACKGROUND [help]

a. Name of proposed project: (if applicable) Klahanie Park Master Plan

APPLICANT INFORMATION

b. Applicant Name: City of Sammamish Parks, Recreation & Facilities (Shelby Perrault)

c. Address: 801 228th Avenue SE, Sammamish, WA 98075

Phone: 425-295-0589 E-Mail: sperrault@sammamish.u

CONTACT INFORMATION (IF DIFFERENT FROM ABOVE)

Contact Name:

Address:

Phone: E-Mail:

APPLICATION INFORMATION

d. Date checklist prepared: 3/16/2022 e. Agency requesting checklist: City of Sammamish

f. Proposed timing or schedule:
- Include phasing, if applicable.

The Master Plan for Klahanie Park identifies a series of park improvements that will likely be implemented over several years as funding allows. This phased plan includes proposals for new park elements and upgrades to existing features.

A phasing plan has been drafted to show development of the site over time. The phasing

g. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No.

Background Section continued on next page

A. BACKGROUND - CONTINUED [help]

h. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Klahanie Park Wetland Study Report prepared by the Watershed Company on November 12, 2018.
Klahanie Park Master Plan Environmental Analysis prepared by ESA on September 27, 2019.

i. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

There are no known applications for any other projects affecting this site.

j. List any government approvals or permits that will be needed for your proposal, if known.

City Permits: Demolition, Site Development, Building, Plumbing/Mechanical, Electrical
City Reviews: Drainage Review, Traffic Concurrency
Wa. DOE: Construction Stormwater General Permit

k. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site.
- There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

Klahanie Park is a 64-acre site in the southeast section of the city. The majority of development is concentrated on approximately 15 acres on the east and south portion of the site. The proposed Klahanie Park Master Plan layout and design includes a parking lot, two multi-use fields, a baseball field, community lawn, natural play area, community

l. Location of the proposal.
- Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known.
- If a proposal would occur over a range of area, provide the range or boundaries of the site(s).
- Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available.
- While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project site is comprised of two parcels. Parcel A is located in the SW quarter of Section 11, T 24 N, R 06 E. Parcel B is located in the SW quarter of Section 11, and SE quarter of Section 10, T 24 N, R 06 E.

Parcel A - 112406-9013

B. ENVIRONMENTAL ELEMENTS [help]

1. EARTH [help]

a. General description of the site (check one below):

- [x] Flat
- [x] Rolling
- [ ] Hilly
- [ ] Steep slopes
- [ ] Mountainous
- [ ] Other: _____

b. What is the steepest slope on the site (approximate percent slope)? 30%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)?
- If you know the classification of agricultural soils, specify them and note whether the proposal results in removing any of these soils.
- Note any agricultural land of long-term commercial significance.

USDA Soils mapping lists the following soil types for the sites - Alderwood gravelly sandy loam (AgC) 8 to 15 percent slopes: 20%; Alderwood gravelly sandy loam (AgD) 15 to 30 percent slopes: 2%; Indianola loamy sand (InC) 5 to 15 percent slopes: 19; Neilton very gravelly loamy sand (NeC) 2 to 15 percent slopes: 33%; Water (W): 26%

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are no indications of any unstable soils.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed.
- Indicate source of fill.

Site grading is proposed to generally balance cut and fill on site with approximately 25,000CY of grading to occur mostly in the already developed southeast portion of the site. The majority of grading is associated with the fields and stormwater improvements. Some additional grading, also balancing cut and fill, will occur for trail improvements throughout the site. No fill in delineated wetlands is proposed. All fill materials will be

Earth sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

1. EARTH (CONTINUED) [help]

f. Could erosion occur as a result of clearing, construction, or use? If so, describe.

Erosion could occur from construction due to the slight sloping character of the site and composition of the site soils. The erosion will not extend outside project limits. Best management practices (BMPs) will be used to minimize the extent of any temporary disturbance and replanting will be done as needed for long term soil stabilization.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Preliminary estimates indicate that approximately 5% of the project site will be covered with impervious surfaces after construction. This calculation includes concrete and asphalt paths and plazas, gravel paths, roofs, structures, driveways, parking lot, and play areas.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

All clearing and grading would be in accordance with the City's development standards, permit conditions, and all other applicable codes and ordinances. Clearing and grading shall comply with erosion and sediment control measures detailed in the current King County Surface Water Design Manual. Standard BMPs will be used before and during construction to minimize erosion and sedimentation. BMPs include, but are not limited to

2. AIR [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed?

– If any, generally describe and give approximate quantities if known.

The project could result in localized increases in air quality emissions from construction activity. Primary emissions would be construction dust & carbon monoxide from increased vehicle traffic during construction. Activities occurring on the project site after construction would generate minimal increases in air quality emissions during peak use hours.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-site sources of emissions that will affect the project.

Air sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

2. AIR (CONTINUED) [help]

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Standard methods of reducing impacts to air would be utilized, and include keeping all equipment in good operating condition; managing disturbed soils within 1hour; avoiding prolonged periods of vehicle idling; spraying areas of exposed soils with water or other dust suppressants; reducing quantity of soils carried out of the construction area by wheel washing trucks and wetting potential dust-producing truckloads.

3. WATER [help]

a. Surface Water

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)?
   - If yes, describe type and provide names.
   - If appropriate, state what stream or river it flows into.

Yes, four wetlands were delineated and flagged in the study area, including Wetland A, D, E, and F. Two additional wetlands (Wetlands B and C) were identified at a reconnaissance level within the subject parcels. Wetland categories, as identified in the Wetland Study Report (The Watershed Company, November 2018), and their required buffer widths per SMC 21A.50.330(1), are noted below:
Wetland A (Queen's Bog) – Category I (215 feet)

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters?
   - If yes, please describe and attach available plans.

The project has been designed to avoid all direct and indirect impacts to wetlands. However, some work is proposed within the outer 25% of the buffer of Wetland A. Direct permanent buffer impacts will include approximately 1,100 SF for the new asphalt trail in the western extent of the wetland buffer and approximately 25 to 150 SF for the retaining wall near the baseball field. An additional 2,800 SF of indirect buffer impacts (shading)

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected.
   - Indicate the source of fill material.

No fill or dredge material will be placed in or removed from wetlands.

Water sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

3. WATER (CONTINUED) [help]

a. Surface Water (continued)

4) Will the proposal require surface water withdrawals or diversions?
   - Give general a description, purpose, and approximate quantities if known.

The proposed development does not require withdrawals or diversions of surface water.

5) Does the proposal lie within a 100-year floodplain?
   - If so, note location on the site plan.

The project does not lie within a mapped 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters?
   - If so, describe the type of waste and anticipated volume of discharge.

The proposed project would not involve the discharge of waste materials to any surface waters.

b. Ground Water

1) Will groundwater be withdrawn from a well for drinking water or other purposes?
   - If so, give a general description of the well, proposed uses, and approximate quantities withdrawn from the well.
   - Will water be discharged to groundwater? Give description, purpose, and approximate quantities if known.

No groundwater will be withdrawn as part of the proposed project.

Water sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

3. WATER (CONTINUED) [help]

b. Ground Water (continued)

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (e.g. Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.).
   - Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste materials will be discharged into the ground during construction or as a result of this project.

---

c. Water Runoff (including stormwater)

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any.
   - Include quantities, if known.
   - Where will this water flow?
   - Will this water flow into other waters? If so, describe.

The primary source of runoff is stormwater. There will be runoff from both pollution and non-pollution generating surfaces. Stormwater from pollution generating surfaces (i.e. the parking lot and vehicular paving (24,687 SF) will drain to Modular Wetlands®, Filtera® Units, bioretention cells, or something similar adjacent to the parking lot and paving.

---

2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials are anticipated to enter ground or surface waters pre- or post-construction. BMPs will be used to protect surface waters during construction and spill cleanup equipment would be present on site during construction.

---

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

This proposal is not expected to alter or otherwise affect drainage patterns in the vicinity of the site.

---

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

The project will comply with applicable requirements of the City of Sammamish relating to stormwater runoff control and treatment. The proposed project will require City approval of a Drainage control plan, with Construction BMPs, and Erosion and Sediment Control Plan as part of the Clearing and Grading Permit.

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

4. PLANTS [help]

a. Check the types of vegetation found on the site:

- [x] Deciduous tree: Alder, Maple, Aspen, other
- [x] Evergreen tree: Fir, Cedar, Pine, other
- [x] Shrubs
- [x] Grass
- [ ] Pasture
- [ ] Crop or grain
- [ ] Orchards, vineyards, other permanent crops
- [x] Wet soil plants: Cattail, Buttercup, Bullrush, Skunk Cabbage, other
- [ ] Water plants: Water Lily, Eelgrass, Milfoil, other
- [x] Other types of vegetation: Refer to Wetland & Stream Delineation Report

b. What kind and amount of vegetation will be removed or altered?

The proposed project will remove some existing vegetation to create trails and park amenities. The majority of proposed vegetation removal includes grass from the existing fields, native understory vegetation where trail improvements will occur, and disturbed vegetation and invasive species within the Bonneville Power Association (BPA) easement. Native planting is proposed throughout the park to mitigate for the loss of

c. List threatened and endangered species known to be on or near the site.

There are no threatened and/or endangered plant species known to be on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The proposed project will add native and adapted low water use plants to the site to enhance the ecological and visual presence of the park. Additional native trees, shrubs, and groundcover will be planted around the parking lot, community lawn and play areas, cricket field limits, within the BPA easement, and surrounding the bioretention cells. Lastly, informal trails in the wetland buffer will be removed and planted with native

e. List all noxious weeds and invasive species known to be on or near the site.

Noxious and invasive species known to occur on the site include Himalayan blackberry, reed canarygrass, French broom, and tansy ragwort.

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

5. ANIMALS [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. For example:

Birds: hawk, heron, eagle, songbirds, other (please specify)
Mammals: deer, bear, elk, beaver, other (please specify)
Fish: bass, salmon, trout, herring, shellfish, other (please specify)

Birds: hawk, eagle, songbirds
Mammals: deer, bear, bat, squirrel, rabbit, raccoon
No fish were observed onsite. However, WDFW has documented resident cutthroat trout, offsite, in the stream at the outlet of Wetland A.

b. List any threatened and endangered species known to be on or near the site.

There are no threatened and/or endangered species known to be on or near the site. The U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) online tool does not designate critical habitat for threatened or endangered species on the site. The IPaC online tool does map marbled murrelet, streaked horn lark, and yellow-billed cuckoo, all species

c. Is the site part of a migration route? If so, explain.

The Puget Sound area is located within the Pacific Flyway, which is a flight corridor for migrating waterfowl and other avian fauna. The Pacific Flyway extends south from Alaska to Mexico and South America. No portion of the proposed project would interfere with or alter the Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any:

Planting native trees, shrubs, and groundcover throughout this site will improve habitat on site by increasing nesting, foraging, and cover opportunities. Existing forested areas of the site will be maintained and preserved, including wetlands and wetland buffer areas.

e. List any invasive animal species known to be on or near the site.

Invasive animal species likely to be in the area include Norway rat and other rodents, raccoon, opossum that are typically found in urban areas.

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

6. ENERGY & NATURAL RESOURCES [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Energy used would be limited to electricity necessary to maintain the park structures, restroom, and the irrigation system.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, describe.

No, the project will not shade or impact adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal?
– List other proposed measures to reduce or control energy impacts, if any.

No lights are planned for the parking lot or trails. Restroom and park structures will be designed to have low energy footprints. A proposed irrigation system will utilize rain sensors to shut off the system when natural rainfall occurs. Low water-use plants and efficient irrigation design/equipment reduce the amount of water resources, and whenever possible, irrigation will be discontinued after plant establishment periods (estimated 2-3

7. ENVIRONMENTAL HEALTH [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There are no known environmental health hazards on site.

1) Describe any known or possible contamination at the site from present or past uses.

There is no known or possible contamination at the site from present or past uses.

Environmental Health sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

7. ENVIRONMENTAL HEALTH (CONTINUED) [help]

2) Describe existing hazardous chemicals/conditions that might affect project development and design.
   – This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

The Williams Gas Line runs underneath wetland and forested areas in the western portion of the project site, but work in that area is limited to minor trail improvements and mitigation planting for decommissioned informal trails. Outside of this area, there are no known hazardous chemicals/conditions that might affect the primary design and development of the site.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

There will be no toxic or hazardous chemicals used during construction or at any time during the operation of the park.

4) Describe special emergency services that might be required.

None required beyond those serving the existing park.

5) Proposed measures to reduce or control environmental health hazards, if any.

Standard precautions would be taken to ensure the safety of the work crew during construction if a spill occurred. The construction manager would ensure the spill is cleaned up in the manner dictated by the chemical use instructions and would contact the appropriate authorities.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

There is existing noise from traffic along SE Klahanie Boulevard and SE 32nd Street, as well as noise from the adjacent operating schools, Challenger Elementary School and Beaver Lake Middle School.

Environmental Health sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

7. ENVIRONMENTAL HEALTH (CONTINUED) [help]

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)?
   - Indicate what hours noise would come from the site.

Short term noise from construction equipment would occur during set hours, as defined in the Sammamish Municipal Code. The increased noise generated during construction of the project would be temporary in nature. Long term noise would result from use of the park by the public, generally taking place from dawn to dusk. However, some noise past dusk will occur on a seasonal basis when the fields may be used for athletic games past

3) Proposed measures to reduce or control noise impacts, if any:

The proposed action will comply with City of Sammamish ordinances related to noise. Mitigation measures could include: limiting construction activity to the hours regulated by Sammamish Municipal Code; use electric rather than diesel or gas powered machines where practical; schedule particularly noisy operations to avoid disturbing residential neighbors; use mufflers on all internal combustion engine driven equipment; keep noisy equipment as far possible from the site boundaries; when possible, turn off idling

8. LAND & SHORELINE USE [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is currently used as a public park. Surrounding properties include single-family residential, multi-family residential, and public schools. The proposed project will not affect land use on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe.
   - How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any?
   - If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or non-forest use?

No, the site has not been used as working farmland or forest lands.

Land & Shoreline Use sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

8. LAND & SHORELINE USE (CONTINUED) [help]

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting?
   – If so, how?

No.

c. Describe any structures on the site.

A public restroom and two portable storage sheds are the only existing structures on site.

d. Will any structures be demolished? If so, what?

Yes, the restroom will be demolished and rebuilt north of the multi-purpose fields. The portable sheds will be relocated on-site.

e. What is the current zoning classification of the site?

Both parcels are zoned R-6.

f. What is the current comprehensive plan designation of the site?

Both parcels are designated as a Park, which is a permitted use in the R-6 zone provided the applicable Development Conditions (1). SDC 21.05.010(N)

Land & Shoreline Use sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

8. LAND & SHORELINE USE (CONTINUED) [help]

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable. No shorelines of the state are present on site.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Yes, four wetlands were delineated in the study area (Wetland A, D, E, and F). Two additional wetlands (Wetlands B and C) were also identified within the parcels. (The Watershed Company, November 2018) The property is also located within a mapped Class 1 and 3 Critical Aquifer Recharge Area (CARA).

i. Approximately how many people would reside or work in the completed project? 0

j. Approximately how many people would the completed project displace? 0

k. Proposed measures to avoid or reduce displacement impacts, if any.

Not applicable, no displacement will occur.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

Both parcels are designated as a Park, which is a permitted use in the R-6 zone provided the applicable Development Conditions (1). SDC 21.05.010(N)

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any.

Not applicable, there is no nearby agricultural or forest lands of long-term commercial significance.

Land & Shoreline Use sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

9. HOUSING [help]

a. Approximately how many units would be provided, if any: 0

Indicate the housing type provided by checking the appropriate box(es) below.

☐ High-income housing ☐ Middle-income housing ☐ Low-income housing

b. Approximately how many units would be eliminated, if any: 0

Indicate the housing type provided by checking the appropriate box(es) below.

☐ High-income housing ☐ Middle-income housing ☐ Low-income housing

c. Proposed measures to reduce or control housing impacts, if any.

No measures necessary.

10. AESTHETICS [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest structure proposed is a restroom at a height of approximately 15 feet tall. Materials for proposed structures will consist primarily of wood and other natural materials, with either composite shingle or metal roofing. There will also be back stop fencing for the baseball field, approximately 25 feet at the highest location.

b. What views in the immediate vicinity would be altered or obstructed?

No views will be obstructed.

c. Proposed measures to reduce or control aesthetic impacts, if any.

The existing wooded perimeters along property lines will be maintained, an existing grove of trees on the south end of the site will be maintained and enhanced to provide additional buffer between the park and street.

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

11. LIGHT & GLARE [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The project will provide lighting on the park structures, which would be controlled by photocell to reduce overall use of electricity. Lighting would occur after dusk until approximately 10pm per Sammamish Municipal Code.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No, light or glare from the finished project will be fully shielded as to not interfere with views or be a safety hazard.

c. What existing off-site sources of light or glare may affect your proposal?

Sources of off-site light would come from the following: vehicular traffic along SE Klahanie Boulevard and SE 32nd Street; residential light form surrounding singly-family and multi-family homes; adjacent public schools. However, these sources of light are not anticipated to impact the proposed project.

d. Proposed measures to reduce or control light and glare impacts, if any.

Retaining the majority of existing vegetation, in addition to enhancing the site with additional vegetation, will help to reduce and control light and glare impact.

12. RECREATION [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?

Beaver Lake Park is approximately 1 mile north of the project site, Beaver Lake Preserve is approximately 2.3 miles northeast of the project site, Duthie Hill Park is approximately 2 miles east of the project site, and Pine Lake Park is approximately 2.2 miles northwest of the project site.

Recreation sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

12. RECREATION (CONTINUED) [help]

b. Would the proposed project displace any existing recreational uses? If so, describe.

No. This project provides additional recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

No significant adverse recreational impacts on recreation are anticipated. The project will do the following: continue to provide access to recreational sports such as cricket, soccer, lacrosse, and baseball; create a new community lawn for community events and passive recreation; relocate and significantly expand an existing play area that will be for

13. HISTORIC & CULTURAL PRESERVATION [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

None known.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None known to exist on or near the site.

Historic & Cultural Preservation sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

13. HISTORIC & CULTURAL PRESERVATION (CONTINUED) [help]

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Methods used to assess the potential impacts to cultural and historic resources on or near the project site include review of the City of Sammamish Comprehensive Plan, Volume II Land Use, Figure LU.13, Sammamish Historic Landmarks and Washington Information System for Architectural and Archaeological Records Data (WISAARD).

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources.
- Please include plans for the above and any permits that may be required.

No impacts to landmarks, historic, archaeological, scientific, or cultural buildings or objects are proposed.

14. TRANSPORTATION [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system.
- Show on site plans, if any.

The project site's existing vehicular access is via SE Klahanie Boulevard. The proposal will maintain this vehicular access.

b. Is the site or affected geographic area currently served by public transit?
- If so, generally describe.
- If not, what is the approximate distance to the nearest transit stop?

The site is not currently served by public transit. The nearest transit stop is approximately 1.2 miles to the west on Issaquah-Pine Lake Road SE near the intersection of SE Klahanie Boulevard.

Transportation sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS - CONTINUED [help]

14. TRANSPORTATION (CONTINUED) [help]

c. How many additional parking spaces would the completed project or non-project proposal have?
- How many would the project or proposal eliminate?

The proposal will add 28 new parking spaces to the project site. No existing parking would be eliminated.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways?
- If so, describe (indicate whether public or private).

Restriping to denote a biking lane on SE Klahanie Boulevard may be required as part of the project. A bump out for safe pedestrian crossing will also be included at the park entrance along SE Klahanie Boulevard. Additionally, a bump out for safe pedestrian crossing will be included at the intersection of SE 32nd St and 244th Ave SE.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, describe.

No.

f. How many vehicular trips per day would be generated by the completed project or proposal?
- If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and no passenger vehicles).
- What data or transportation models were used to make these estimates?

While numbers have not been calculated for the project site, the number of parking spaces has been increased to accommodate full use of athletic fields simultaneously. The project provides a no net loss of amenities, so visits to the park might increase due to increased field capacity and amenity sizing. However, the passenger trips are not expected to increase significantly. Parallel parking is also available along SE Klahanie

Transportation sub-section continued on next page

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS CONTINUED [help]

14. TRANSPORTATION (CONTINUED) [help]

h. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, describe.

No.

i. Proposed measures to reduce or control transportation impacts, if any.

Programming the site with scheduled activities will aid in reducing/controlling any transpor

15. PUBLIC SERVICE [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No such measures are necessary.

Environmental Elements Section continued on next page

B. ENVIRONMENTAL ELEMENTS CONTINUED [help]

16. UTILITIES [help]

a. Utilities currently available at the site:
(check all that apply)

- [x] Electricity
- [x] Water
- [x] Telephone
- [ ] Septic system
- [ ] Natural gas
- [ ] Refuse service
- [x] Sanitary sewer
- [ ] Other: _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electrical Power: Puget Sound Energy
Water: Sammamish Plateau Water & Sewer District
Sewer: Sammamish Plateau Water & Sewer District
Telecommunications: Comcast

C. SIGNATURE [help]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____ Name of Signee: Shelby Perrault

Position/Title: Project Manager Agency/Organization: City of Sammamish

Date Submitted: 04/22/2022

D. SUPPLEMENTAL SHEET FOR NON-PROJECT ACTIONS [help]

Because these questions are very general, it may be helpful to read them together with the list of the elements of the environment. When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Keep responses brief and use non-technical language.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The proposal is not likely to significantly increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise.

Any potential increases are listed here:
Discharge to Water: Some additional impervious surfaces are planned which will produce additional surface run-off. Increased runoff resulting from these impervious improvements

Proposed measures to avoid or reduce such increases are:

Discharge to Water: New subsurface drainage will be added to direct runoff to proposed stormwater facilities for storage and treatment as necessary prior to outfalling to any stream or wetland.
Emissions to Air: Using well-maintained equipment and avoiding prolonged periods of vehicle idling would reduce emissions from construction equipment and

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Construction activities may disturb some animals during construction. However, the majority of the development is concentrated on approximately 15 acres on the east and south portion of the site that is currently being used as a public park and lacking wildlife habitat. Some plants may be removed or displaced for the construction of boardwalks, trails, or park amenities. Fish and marine life will not be affected by this project.

Proposed measures to avoid or reduce such increases are:

As noted in the SEPA checklist, plant disturbances resulting from any future improvements would be restored and permanent impacts would be mitigated in accordance with an approved mitigation plan. The City also plans to improve the park's natural areas through invasive plant removal and the installation of native plants, which will enhance wildlife habitat.

Supplemental Sheet for Non-Project Actions continued on next page

D. SUPPLEMENTAL SHEET FOR NON-PROJECT ACTIONS CONTINUED [help]

3. How would the proposal be likely to deplete energy or natural resources?

The proposed design features do not require significant quantities of construction materials

Proposed measures to avoid or reduce such increases are:

The proposed project will avoid development in areas of the site containing natural resources such as trees, streams, and wetlands; use recycled or other, more sustainable construction materials where feasible; use energy efficient fixtures; incorporate timers, sensors and other mechanisms for controlling and managing energy or natural resource consuming features such as irrigation and lighting.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

The site contains a total of six wetlands. Additionally, approximately 75% of the park exists within a heavily wood stand of mature trees and wetlands which provide important habitat and environmental benefit. This proposal aims to provide an overall benefit to these environmentally sensitive areas by restoring, enhancing, and protecting them to the greatest extent possible while providing adequate public open space to serve the City of Sammamish.

Proposed measures to avoid or reduce such increases are:

No impacts to wetlands are proposed and development within their buffers have been minimized to the greatest extent feasible. Vegetation enhancements will offset any unavoidable development with the wetland buffers while providing vegetative buffers to wetlands. Additionally, the proposed project will implement design features and materials that will minimize erosion or pollution such as BMPs and improved stormwater treatment and detainment infrastructure.

Supplemental Sheet for Non-Project Actions continued on next page

D. SUPPLEMENTAL SHEET FOR NON-PROJECT ACTIONS CONTINUED [help]

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

The project is currently zoned R-6. The proposed park would not conflict with this zoning. There are no shorelines on the subject properties.

Proposed measures to avoid or reduce such increases are:

No measures are necessary.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Traffic: improvements to the park may result in a modest increase in traffic volumes on SE Klahanie Boulevard. No metro transit routes currently service this area.
Public Services: emergency vehicles will respond to an injury or fire incidence at the park but an increase in demand is not anticipated.
Utilities: utilities are necessary to operate the restrooms and to power the irrigation

Proposed measures to avoid or reduce such increases are:

Anticipated traffic volumes and services that the park will require are within the range of the city thresholds for zoning at the site. Therefore, no reduction measures are necessary.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

There are no conflicts with local, state, or federal laws or requirements for the protection of the environment.

ADDITIONAL PAGE FOR OVERFLOW RESPONSES

SECTION: Environmental Elements: Energy & Natural Resources

Continuation from Page Number: _____ Continuation from Question Number: _____

SECTION: Environmental Elements: Energy & Natural Resources

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ADDITIONAL PAGE FOR OVERFLOW RESPONSES

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ADDITIONAL PAGE FOR OVERFLOW RESPONSES

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SECTION: Environmental Elements: Energy & Natural Resources

Continuation from Page Number: _____ Continuation from Question Number: _____

City of Sammamish Washington

Department of Community Development

801 228th Avenue SE ■ Sammamish, WA 98075 ■ phone: 425-295-0500 ■ fax: 295-295-0600 ■ web: www.sammamish.us

Staff Report

SEPA DETERMINATION: KLAHANIE PARK MASTER PLAN

SDT2022-00284

Project Description: The overall goals and objectives of the Klahanie Park Master Plan include protection of the Queen's Bog, providing a balance between active and passive activities, and unprogrammed spaces for families to gather informally. There is a selection of amenities that the community wants to expand or modify. The preferred plan provides a no-net loss of amenities. As and when current park amenities are at the end of their life and need to be replaced, this plan will take those amenities and re-organize them in a manner that is safer, environmentally sensitive, and more efficient.

Location: The project site is located at 25000 SE KLAHANIE BLVD, Sammamish, WA. Tax Parcel numbers 1124069013 and 1124069106.

Figure 1

Zoning District: R-6

Property Owner: City of Sammamish

Applicant's Representative: Shelby Perrault, Parks Project Manager 801 228th Ave SE Sammamish, WA 98075

Lead Agency Determination: Determination of Non-Significance

Key Dates:

03/22/2022	**Application Submitted**
05/19/2022	**Review Complete**
05/27/2022	**Notice of Determination**
06/08/2022	**Re-Notice of Determination**
06/22/2022	**Comment Deadline**

Exhibits:

1. Staff Report
2. SEPA Determination of Non-Significance
3. SEPA Checklist
4. Project Narrative
5. Plan Set
6. Mailing List
7. Legal Description
8. Critical Area Study
9. Critical Area Affidavit
10. City Application
11. Comments

BACKGROUND

On October 2nd, 2019 a Pre-Development Services request was fulfilled by city staff providing information applicable to the subject SEPA determination process. On March 17th, 2022 the director waived the requirement for a Pre-application Conference, as allowed by Section 21.09.010(C) of the Sammamish Unified Development Code, as it was determined unnecessary for application review.

The Non-Project SEPA Determination application was submitted on March 3rd, 2022. Staff completed their final review of the application materials on May 19th, 2022 and issued a notice of the determination on May 27th, 2022. The notice of determination was re-issued to bring the noticing process into compliance with SDC 21.09.030(F)(2), publishing the notice of determination in a newspaper of general circulation in the area (The Seattle Times).

LOCATION

The project site consists of two abutting parcels. Parcel A is located in the SW quarter of Section 11, T 24 N, R 06 E. Parcel B is located in the SW quarter of Section 11, and SE quarter of Section 10, T 24 N, R 06 E. Both parcels lie within the R-6 Zoning District.

A critical areas study was provided by the applicant, prepared by The Watershed Company on November 12th, 2018. According to this critical area study, 6 wetlands are located on the subject parcels (wetland A,B,C,D,E,F) Wetland A (Queens Bog) is a Category I wetland with a habitat score of 6. Wetland B is a Category III with a habitat score of 5. Wetlands C,D,E,F are Category III wetlands all with a habitat score of 4. See figure 2.

Figure 2

PROJECT DESCRIPTION

Procedural and substantive SEPA decisions are a Type 2 land use decision made by the City of Sammamish, as Lead Agency. The subject parcels are currently known as Klahanie Park, which is a 64-acre site in the southeast section of the city.

The Klahanie Park Master Plan is a program level plan containing improvements that are to be implemented over time as needed. All future development proposals on the project site will be subject to approval through the permitting process. The majority of development is concentrated on approximately 15 acres on the east and south portion of the site. The proposed Klahanie Park Master Plan layout and design includes a parking lot, two multi-use fields, a baseball field, community lawn, natural play area, community garden, restrooms, two picnic shelters, bioretention cells, accessible, and soft surface trails.

ANALYSIS AND FINDINGS

An environmental impact statement (EIS) is not required under RCW 43.21C.030. Staff has reviewed the attached Environmental Checklist (Exhibit 3) and determined that this proposal will not have a probable significant adverse impact on the environment based on the following findings.

Earth Impacts:

All impacts of construction, clearing and grading will be controlled and mitigated pursuant to Chapter 21.03 of the Sammamish Unified Development Code. All construction and clearing and grading activities within critical areas and their buffers, and unless otherwise exempt are subject to review and approval by the City of Sammamish.

Air Quality Impacts:

The proposed project has the potential to impact air quality during the construction phase, such as emissions from construction dust and carbon monoxide from required machinery, which will be minimal and temporary. Regular use of the project site as park will continue, resulting in no net effect on air quality.

Water Quality Impacts:

The proposed project does not require any surface water diversions or groundwater withdrawals. Stormwater runoff will be controlled pursuant to all applicable codified regulations within the Sammamish Unified Development Code.

Impacts to Plants and Animals:

The project will consist of the removal of invasive plant species on the project site, as well grass from existing recreational fields. Additional plant removal will consist of native understory where trail improvements will occur. All plant removal and mitigation measures will be regulated pursuant to Chapter 21.03 of the Sammamish Unified Development Code. The proposed project will add native and low water requiring plants and will be planted throughout the developed portions of the project site. Overall habitat will be improved with the removal of invasive species.

Noise

A minimal and temporary increase in noise is expected due to construction. Noise generated by construction is temporary in nature will be regulated pursuant to Sammamish Municipal Code. The project site will remain a public park and noise levels generated from the site are expected to remain unchanged.

Light and Glare

Light pollution and glare generated on the project site will be regulated in accordance with Chapter 21.06 of the Sammamish Unified Development Code. Outdoor light fixtures shall be fully shielded, pointed downward, and should be maintained in a way that causes minimal or no light trespass onto adjacent properties, pursuant to SDC 21.06.020.G.3.c.i.

Historical and Cultural Preservation

Archeological surveying will be required prior to any permitted grading activity within Environmentally Critical Areas and their buffers in accordance with conditions established by this Determination of Non-Significance. If cultural resources are unearthed during the development process, the applicant must immediately cease and desist ALL operations, then contact the City of Sammamish, the Washington State Department of Archeology and Historic Preservation (DAHP) Historic Preservation Officer, regional Native American Tribes, and King County concerning the appropriate treatment of archeological and historic resources. The work will not resume until appropriate approvals are received and the City of Sammamish has authorized development to continue.

PUBLIC COMMENT

The State of Washington Department of Archeology and Historical Preservation and the Snoqualmie Tribe submitted public comments within the public commenting period. Both comments raised concern that the subject project site has a high sensitivity for historical resources and an archeological survey has been requested prior to any land disturbance. The Snoqualmie Tribe stated in their comment that the project site is considered culturally significant by the tribe and has requested on site presence at the time of archeological investigation.

DECISION

The City of Sammamish has determined that this proposal will not have a probable significant adverse impact on the environment and hereby issues a Determination of Non-Significance for Klahanie Park Master Plan, File no. SDT2022-00284, subject to the condition within this determination.

CONDITIONS OF DETERMINATION

1. An Archeological Survey performed by a licensed Archeologist shall be required prior to the issuance of a permit which provides approval for land disturbance within critical areas and their associated buffers. If cultural resources are unearthed during the development process, the applicant must immediately cease and desist ALL operations, then contact the City of Sammamish, the Washington State Department of Archeology and Historic Preservation (DAHP) Historic Preservation Officer, regional Native American Tribes, and King County concerning the appropriate treatment of archeological and historic resources. The work will not resume until appropriate approvals are received and the City of Sammamish has authorized development to continue.

SEPA Threshold Determination of Non-Significance (DNS)
SDT2022-00284 KLAHANIE PARK MASTER PLAN

Date of Application: 3/22/2022

PROJECT DESCRIPTION: The overall goals and objectives of the master plan are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally. There is a selection of amenities that the community wants to expand or modify. The preferred plan provides a no net loss of amenities. As and when current park amenities are at the end of their life and need to be replaced, this plan will take those amenities and re-organize them in a manner that is safer, environmentally sensitive and more efficient.

Project Location: 25000 SE KLAHANIE BLVD, Sammamish, WA
Applicant Agent: City of Sammamish Parks, Recreation and Facilities, 801 228th Avenue SE, Sammamish, WA 98075
Public Comment Period: 5/27/2022 through 6/10/2022 at 5:00 p.m.
Lead Agency: City of Sammamish
Available Documents: https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-Register

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days. Interested persons are invited to submit written comments pertaining to the application no later than 5:00 p.m. on the last day of the comment period identified above.

To comment on this determination:
Submit comments to the SEPA Responsible Official by **5:00 pm** on **6/10/2022**

Further information on the Klahanie Park Master Plan is available at:

City of Sammamish
Department of Parks, Recreation and Facilities
801 228th Ave SE
Sammamish, WA 98075
(425) 295- 0500

Contact Person:

Shelby Perrault, Project Manager
Department of Parks, Recreation and Facilities
(425) 295- 0589
SPerrault@sammamish.us

Date of Issuance: May 27, 2022

SEPA Responsible Official:

Avril Baty, Current Planning & Permit Center Manager
Department of Community Development
801 228th Ave SE
Sammamish, WA 98075
(425) 295- 0500

Sam Dunlap, Assistant Planner
Department of Community Development
801 228th Ave SE
Sammamish, WA 98075
(206) 817-2905

07/12/2022

Signature *Date*

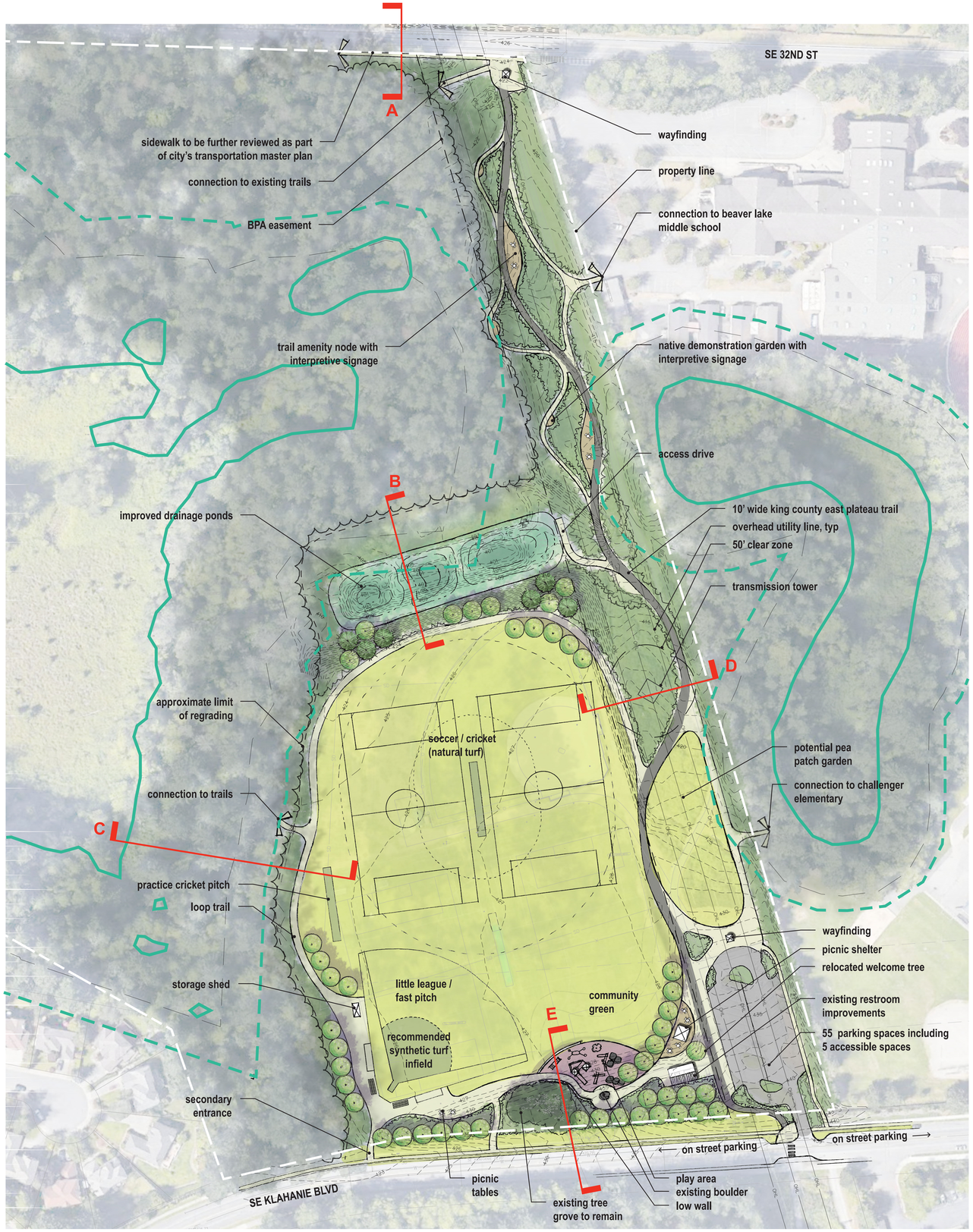
Sam Dunlap, Assistant Planner
Department of Community Development

07/12/2022

Signature *Date*

Avril Baty, Current Planning & Permit Center Manager, SEPA Official
Department of Community Development

Appendix D: Master Plan Alternatives



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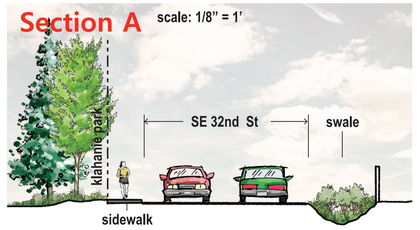

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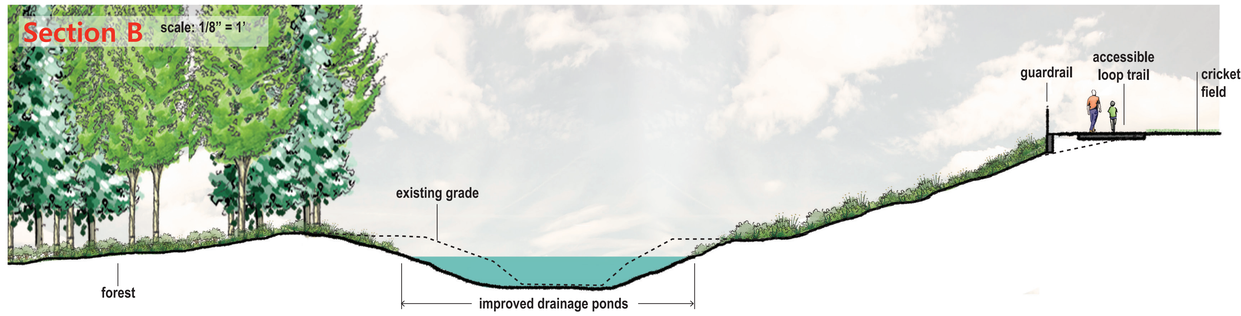

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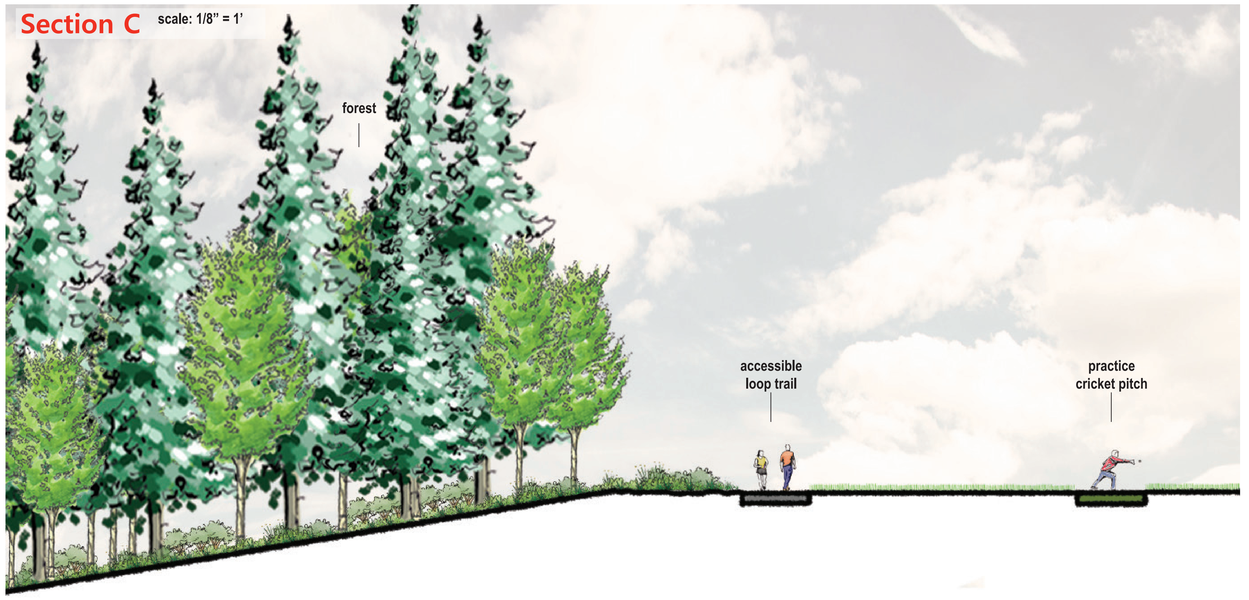

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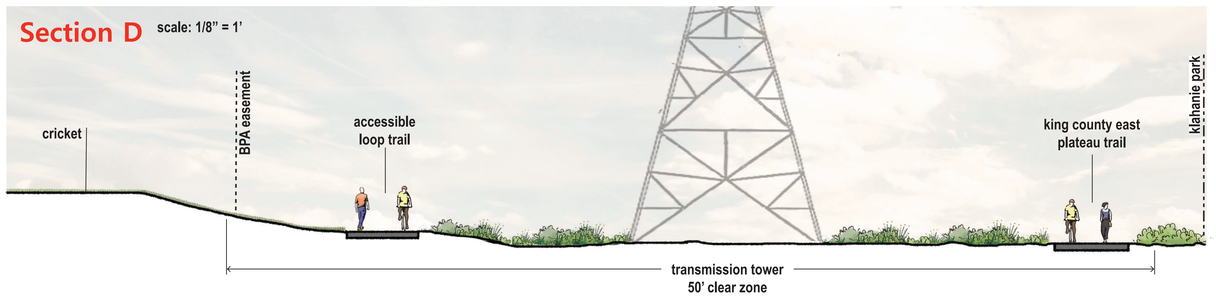

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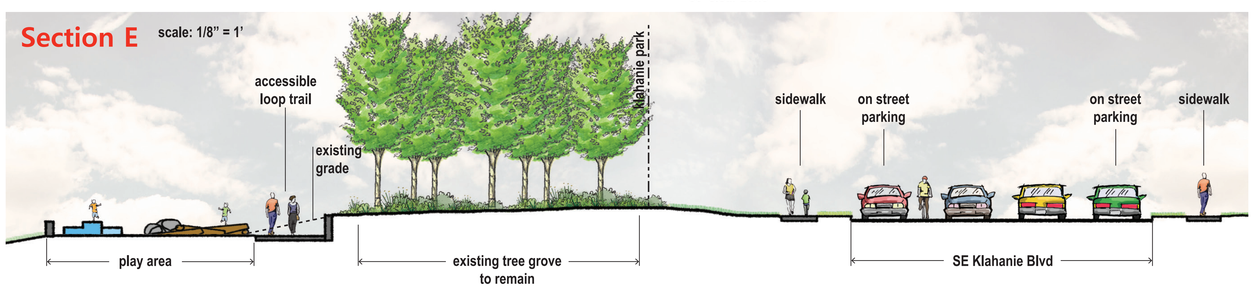

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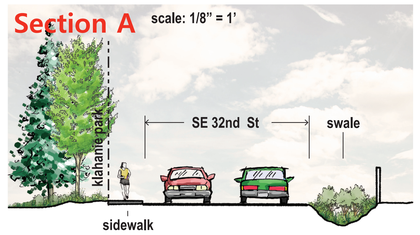

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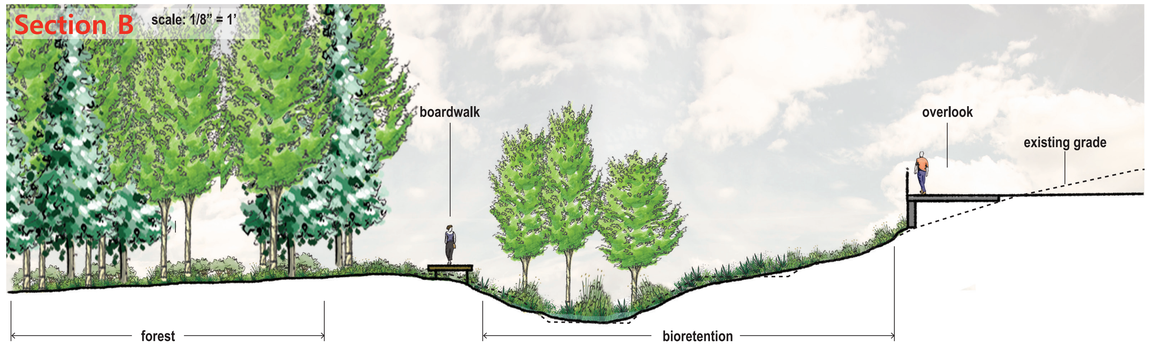

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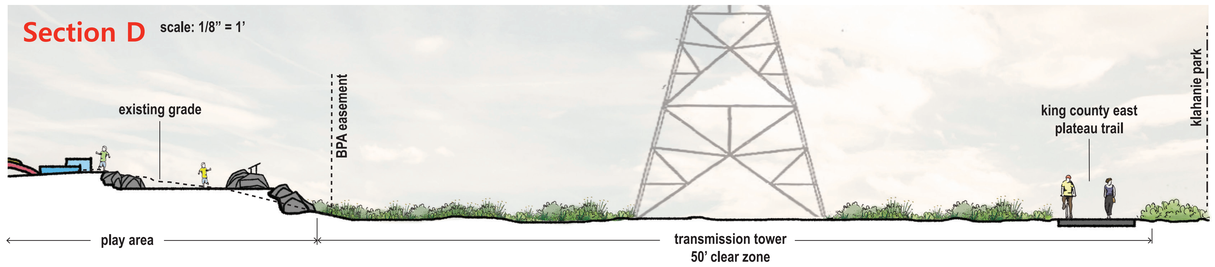

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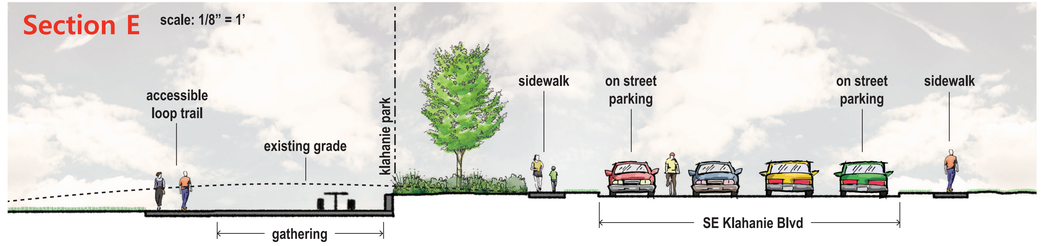

SE 32ND ST

view point

A

sidewalk to be further reviewed as part of city's transportation master plan

connection to existing trails

property line

connection to beaver lake middle school

trail amenity node with interpretive signage

BPA easement

native demonstration garden with interpretive signage

B

10' wide king county east plateau trail

overhead utility line, typ

50' clear zone

15' ht

1' ht

transmission tower

retaining wall

1' ht

connection to trails

D

steps with amphitheater seating

cricket field / community green (natural turf)

wayfinding

sloped lawn

connection to challenger elementary

C

sloped lawn

picnic tables

picnic shelter

practice cricket pitch

storage shed

approximate limit of regrading

loop trail

field lighting

low wall

soccer / baseball (synthetic turf)

informal seating

play area

120 parking spaces including 5 accessible spaces

low wall

relocated existing boulder

improved existing restroom

low wall

relocated welcome tree

E

on street parking

on street parking

secondary entrance

seat wall

SE KLAHANIE BLVD

0 60 120

Section A

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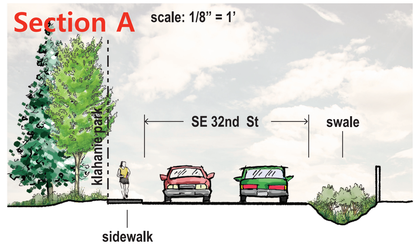

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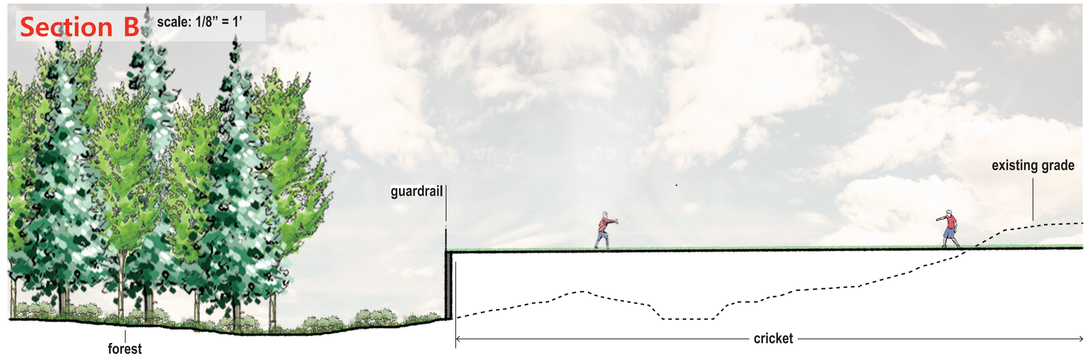

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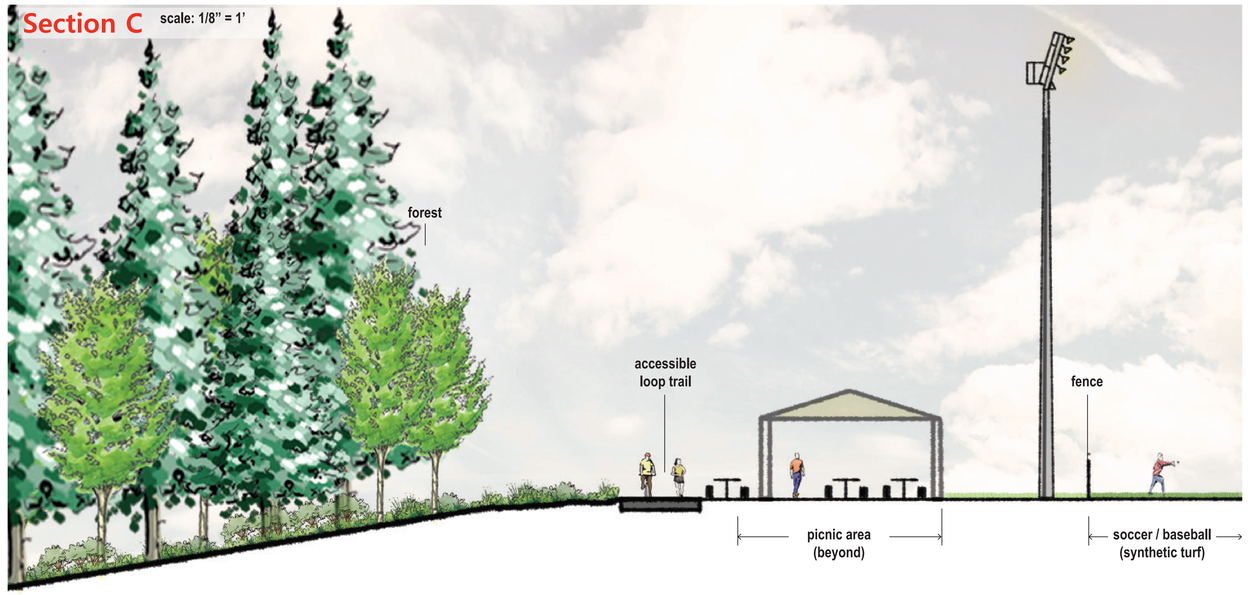

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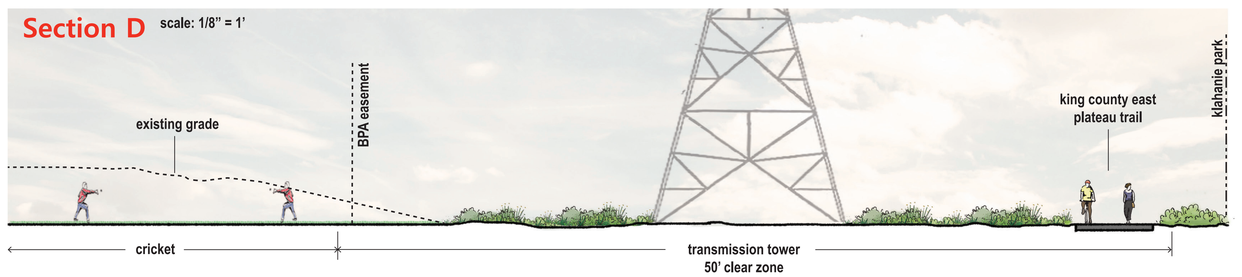

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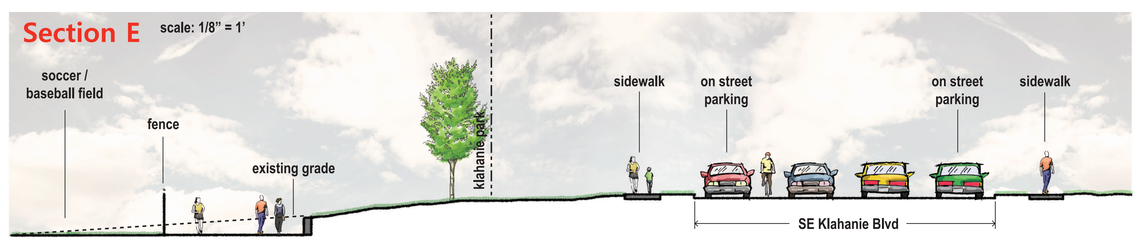
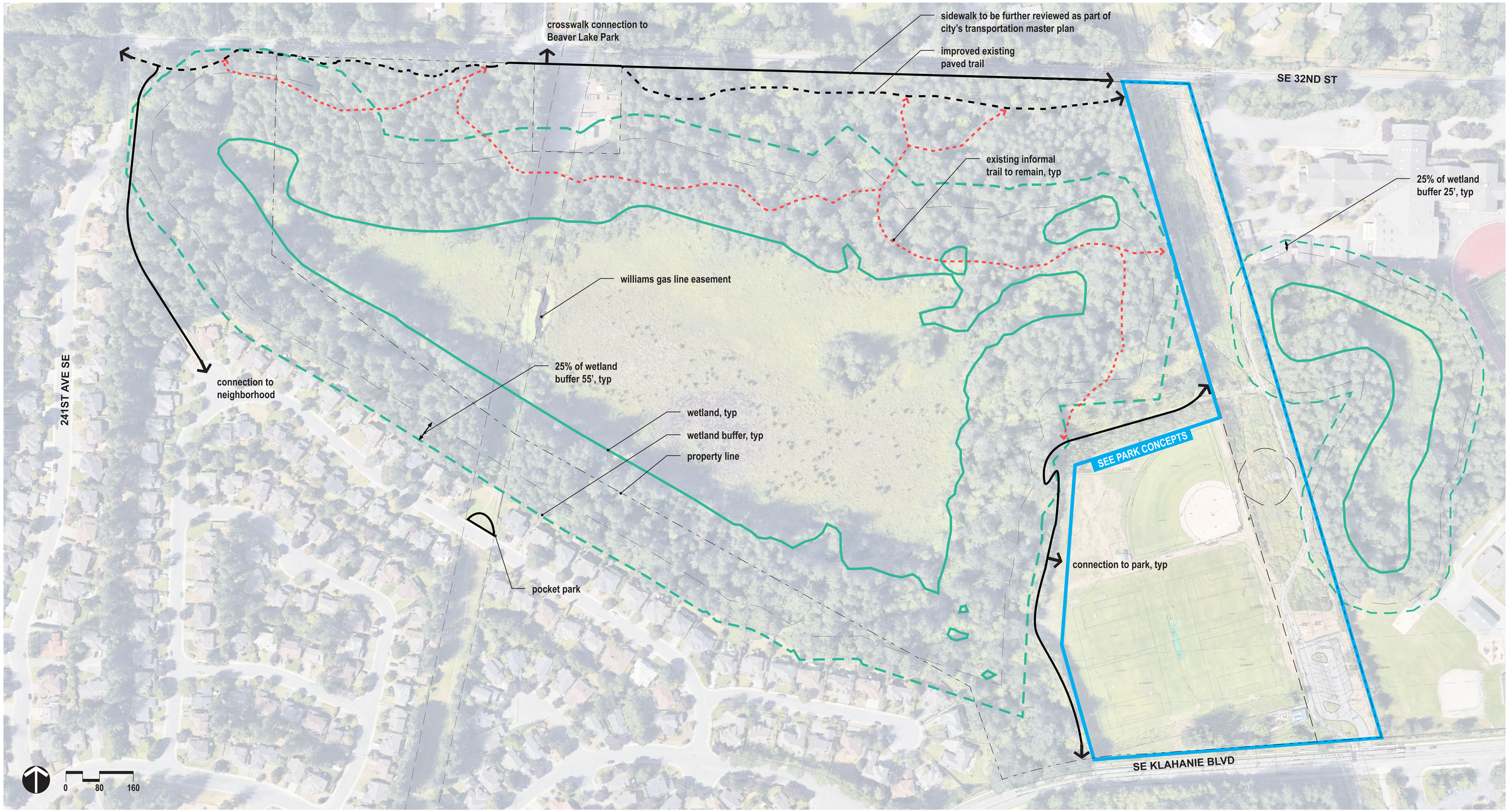


KLAHANIE PARK
Master Plan

CONCEPT C

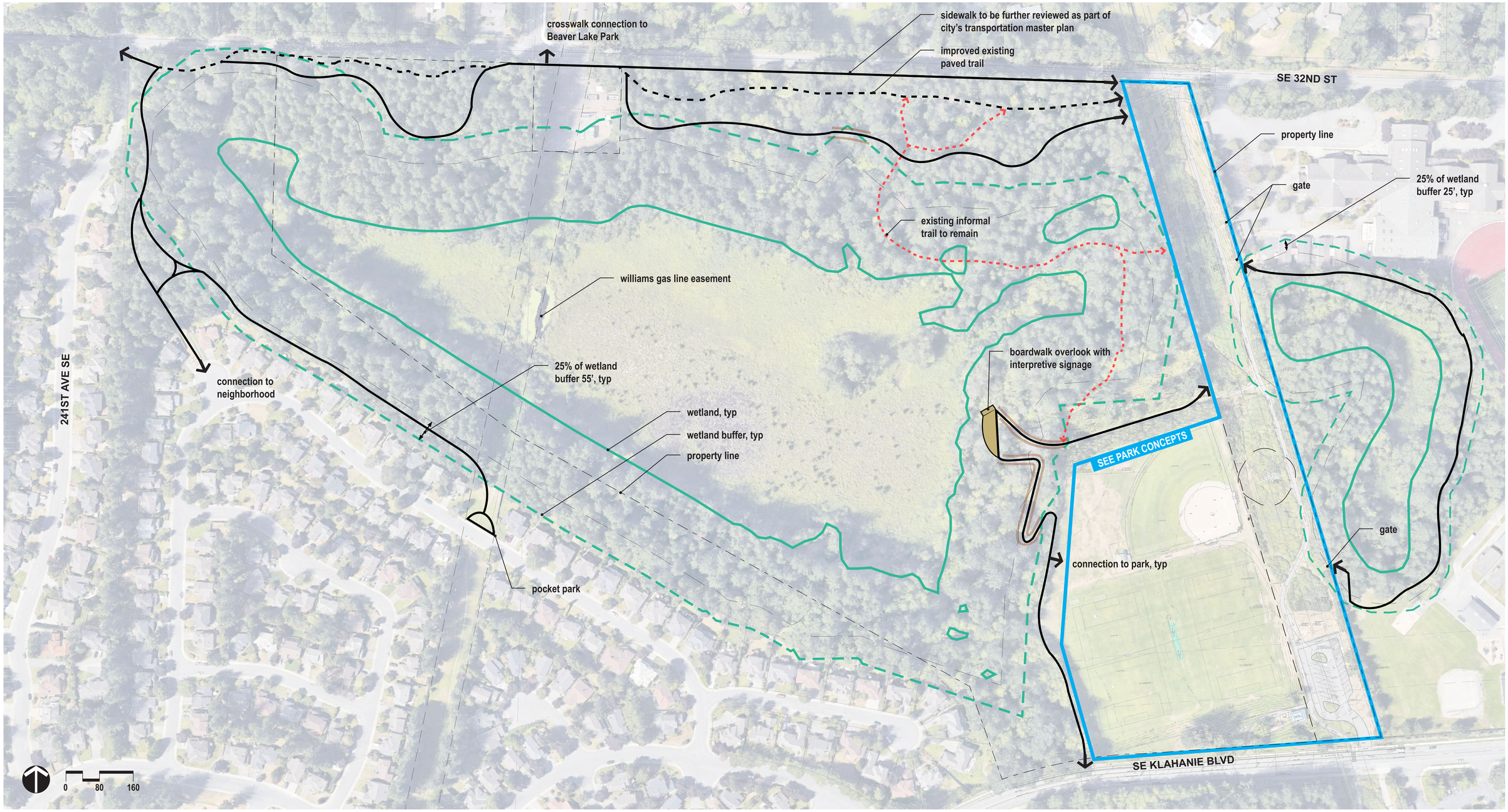
23 May 2019

Sammamish Parks and Recreation



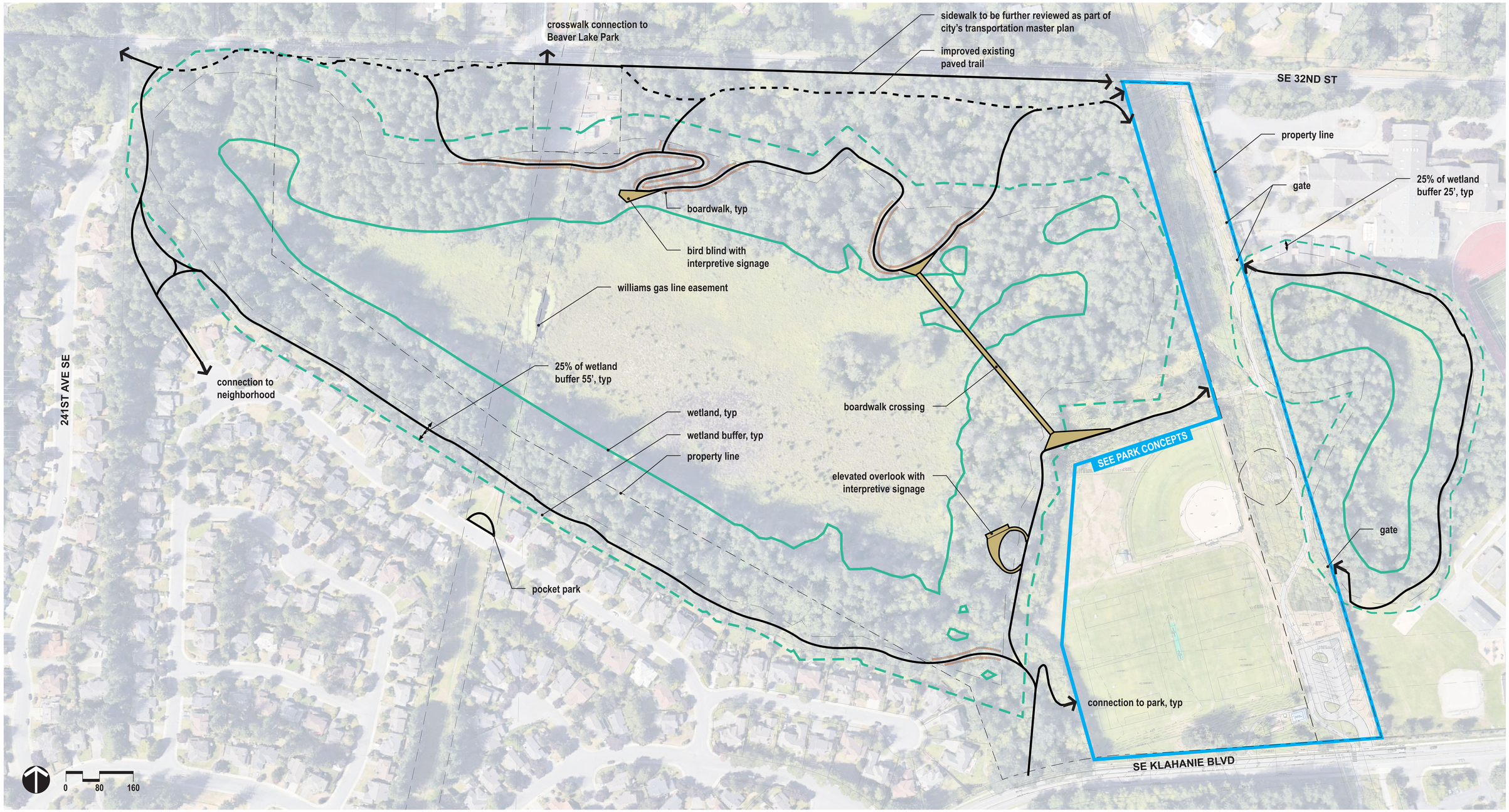
LEGEND

- park concept boundary
- wetland
- connections
- new trail
- existing trail
- existing informal trail



LEGEND

- park concept boundary
- wetland
- connections
- new trail
- existing trail
- existing informal trail
- boardwalk



LEGEND

- park concept boundary
- wetland
- connections
- new trail
- existing trail
- existing informal trail
- boardwalk

Appendix E: Permitting Comments from Department of Community Development

City of Sammamish Washington
Department of Community Development
801 - 228th Ave. SE, Sammamish, WA. 98075 - Phone: 425-295-0500 - Fax: 425-295-0600 - Web: www.sammamish.us

October 2, 2019

Shelby Perrault
801 228th Ave SE
Sammamish, WA 98075

Re: PDS2019-00442 Pre-Development Service Request

Dear Ms. Perrault,

On September 5, 2018 the City of Sammamish received a Pre-Development Services application, PDS2019-00442, for the Klahanie Park Improvement Project. The King County Assessor Parcel Number associated with this property is 1124069013.

The purpose of this letter is to provide you with a response to the questions submitted with your application. The City offers the following responses to your questions:

1. Wetland Buffers – Trails

    a. To the east – the design includes a portion of trails within the outer 25% of the wetland buffer. These trails are proposed to be boardwalks.

    b. To the west – there is an existing trail that connects SE 32nd St to a neighborhood that is located closer than the outer 25% of the buffer. The proposed design decommissions existing asphalt trail and relocates to the furthest extend possible of the outer 25%.

    c. There are several existing soft surface trails located around the perimeter of the wetland. These trails will be decommissioned and replanted as part of the proposed improvements.

Response: This is not a question, but the above listed approach is acceptable. Pursuant to SMC 21A.50.300(8), public and private trails may be allowed in the outer 25 percent of wetland buffers consistent with the standards and requirements in this chapter, development standards in Chapter 21A.30 SMC, and requirements elsewhere in the SMC. Proposals for constructing viewing platforms, associated access trails, and spur trails must be reviewed by a qualified professional and a critical areas study may be required.

2. Wetland Buffers – Stormwater

    a. The existing detention pond is located to the north of the softball field, with a portion located in the outer 25% of the wetland buffer. The proposed design includes a series of bioretention system to treat stormwater. Of the 8 cells proposed, a portion of 1 is in the outer 25% of the buffer. A separate underdrain system will be included under the athletic fields.

Response: This is not a question, but the above listed approach may be feasible. Pursuant to SMC 21A.50.300(7), where technically feasible, surface water discharge shall be located outside of the wetland and wetland buffer. Where surface water management is authorized within a wetland or wetland buffer it

shall be consistent with Appendix I-D: Guidelines for Wetlands when Managing Stormwater Manual for Western Washington, Volume I, August 2012, Publication No. 12-10-030, as such publication may be amended or revised by the Department of Ecology from time to time.

3. Fire Access

    a. The fire land turnaround in the parking lot has an outside radius of 50 feet and inside radius of 30 feet. Aisles in the parking lot are no less than 20 feet. Please confirm this is acceptable.

Response: Please directly contact Eastside Fire & Rescue for this question.

4. ROW Improvements

    a. Please confirm if proposed improvements are adequate or if additional frontage improvements or ROW improvements are required.

Response: Per Sammamish Transportation Planning no improvements to the road section on SE Klahane BLVD. Restriping to denote a biking lane may be required.

5. Park Drainage Approach

    a. Pollution Generating Surfaces:

        i. Parking/Vehicular Paving: Drains to Modular Wetland®, Filtera® Units, bioretention cells, or something similar adjacent to the parking lot and paving.

            1. Existing: 18,567 SF

            2. Proposed: 24,687 SF

        ii. Fields: As pollution-generating, impervious surfaces, field typically require both detention and water quality treatment. The discharge at Klahanie Park is directed to the existing stormwater facility to the north of the open space and dispersed to the adjacent wooded area and wetlands. In order to detention and water quality treatment for the fields to be achieved with the smallest, most efficient water quality facilities, some detention should be provided ahead of the treatment. Typically, the void spaces in the field base, trenches, and subsurface drainage pipes can be used to store and meter the release of most seasonal precipitation in the region, with few, if any "overflow" events. Using Fitera® Units (two-stage treatment facilities) is a common practice. These are approximately 9'x15'x6' deep and could be located adjacent to the fields.

            1. Existing: 245,089 SF (total area of under-drained natural grass and not only the official fields)

            2. Proposed: 224,033 SF

    b. Non-pollution Generating Paved Surfaces:

        iii. Drain to bioretention cells/swales and will overflow into the existing catch basin or improved stormwater system.

            1. Existing: 16,303 SF

2. Proposed: 70,011 SF

Response: This is not a question, but the listed approach is acceptable. Pursuant to the 2016 King County Surface Water Design manual and current city of Sammamish Surface Water Design Manual Addendum.

6. Permit Requirements

   a. The following is a list of anticipated permits for this project. Please verify if all applicable permits have been captured or if additional permits are anticipated:

      i. Site Development Permit

      ii. Building

      iii. Demolition

      iv. Plumbing/mechanical

      v. Electrical

      vi. Sign – park standard monument sign at entrance

Response: Besides the permits listed above, the Klahanie Park Master Plan needs to go through a non-project SEPA review process. Prior to the site development, a project SEPA review process also needs to be done.

Also, two building permits may be required for the project.

1. One building permit covers: pedestrian bridge, guardrails, boardwalks, timber stairs and handrails, and retaining wall;
2. Another building permit covers: shelter, sheds, and restroom.

If you have any questions, please feel free to contact me at (425) 295-0523 or at tcui@sammamish.us.

Best regards,

Tracy Cui

Tracy Cui, AICP
Senior Planner

This review is based upon the information provided by the applicant, the current SMC, and various other data sources. Please note that the SMC is subject to change. While care has been taken to ensure the accuracy and completeness of the information provided, the City assumes no responsibility or liability for any errors or omissions in this information. Therefore, it is recommended that prior to submitting an application, the applicant determines whether any changes to the SMC or regulations have occurred since the date of this letter. Feedback/response generated from Pre-Development Services review by City staff does not guarantee project approval; however, it may facilitate resolution on design obstacles. In no way does Pre-Development Services substitute the applicant's or customer's obligation to design their own project. Pre-Development Services should only serve to supplement and assist an applicant's project designer in completing their design in instances of complexity. Please note: Pre-Development Services fees are not credited towards future permit review / activity. The City strongly suggests an applicant obtain the services of a qualified consultant to assist in resolving design.

Appendix F: Cost Estimates

Estimate of
Probable Cost of Construction

HBB Landscape Architecture

Date: October 31, 2022

Project Name: Klahanie Park Master Plan
Project Number: 2019-01
Project Phase: 200
Prepared By: J. Alderman
Checked By: R. Dotson / J. Vong

Overall / Single Phase Total: $23,174,036.21

Overall / Single Phase

Item	Description	Qty	Unit	Unit Cost	Item Total
1.00	**Demolition/Site Preparation**				
1.01	TESC	1	LS	$130,000.00	$130,000.00
1.02	Tree Protection Fence and Signage	2,000	LF	$4.50	$9,000.00
1.03	Site Clearing and Grubbing (6" depth)	3	AC	$12,000.00	$34,440.00
1.04	Sod Clearing	7	AC	$3,000.00	$21,300.00
1.05	Demolition of Restroom Building	1	LS	$20,000.00	$20,000.00
1.06	Demolition other miscellaneous and utilities	1	LS	$60,000.00	$60,000.00
1.07	Existing Tree Removal	10	EA	$600.00	$6,000.00
1.08	Signature Tree Transplanting	1	EA	$10,000.00	$10,000.00
2.00	**Earthwork**				
2.01	Balance Cut/Fill on Site (12" average depth)	18,160	CY	$10.00	$181,600.00
2.02	Balance Cut/Fill on Site (36" average depth)	7,100	CY	$30.00	$213,000.00
2.03	Rough Grading	16	AC	$6,000.00	$93,000.00
2.04	Finish Grading	12	AC	$10,000.00	$115,000.00
3.00	**Site Utilities / Drainage (TBD)**				
3.01	Utilities (storm sewer, sanitary sewer, waterlines)	1	LS	$300,000.00	$300,000.00
4.00	**Paving & Walls**				
4.01	Pedestrian Concrete Paving (4" depth with 4" base)	25,475	SF	$13.00	$331,175.00
4.02	Vehicular Concrete Paving (6" depth with 8" base)	14,660	SF	$25.00	$366,500.00
4.03	Color Pedestrian Concrete Paving	8,100	SF	$20.00	$162,000.00
4.04	Pedestrian Asphalt Paving (3" depth with 4" depth base)	29,805	SF	$4.25	$126,671.25
4.05	Vehicular Asphalt Paving (4" depth with 8" base)	38,540	SF	$9.00	$346,860.00
4.06	Crushed Stone Surfacing (3" depth with 4" depth base)	12,300	SF	$10.00	$123,000.00
4.07	Retaining Walls (concrete, cast in place)	40	CY	$350.00	$14,000.00
5.00	**Parking & Street Frontage**				
5.01	Concrete Curb (6")	1,250	LF	$40.00	$50,000.00
5.02	Concrete Curb and Gutter	135	LF	$45.00	$6,075.00
5.03	Concrete Curb Ramp	5	EA	$2,000.00	$10,000.00
5.04	Crosswalk Striping	150	SF	$8.00	$1,200.00
5.05	Pavement Markings	1	LS	$2,500.00	$2,500.00
5.06	Tree (deciduous)	16	EA	$500.00	$8,000.00
5.07	Seed Lawn (with soil prep and irrigation)	1,405	SF	$4.00	$5,620.00
5.08	Signage (Traffic)	6	EA	$500.00	$3,000.00

6.00	**Site Improvements**				
6.01	Trash/Recycle Receptacle	8	EA	$1,500.00	$12,000.00
6.02	Drinking Fountain (with, ADA and anti-freeze valves)	2	EA	$20,000.00	$40,000.00
6.03	Guardrail	75	LF	$200.00	$15,000.00
6.04	Timber Stairs (6' wide)	60	LF	$95.00	$5,700.00
6.05	Handrails	124	LF	$30.00	$3,720.00
6.06	Bench	6	EA	$2,000.00	$12,000.00
6.07	Picnic Table	14	EA	$2,500.00	$35,000.00
6.08	Bike Rack	4	EA	$1,000.00	$4,000.00
6.09	Signage (Wayfinding, Rules)	8	EA	$2,000.00	$16,000.00
6.10	Kiosk	2	EA	$10,000.00	$20,000.00
6.11	Play Area (with unitary surfacing)	1	LS	$500,000.00	$500,000.00
6.12	Relocate existing boulder to play area	1	LS	$2,000.00	$2,000.00
6.13	Wood Split-Rail Fence	1,310	LF	$61.00	$79,910.00
6.14	Boardwalk (6' width)	6,494	SF	$60.00	$389,640.00
6.15	Boardwalk Guardrail	1,880	LF	$100.00	$188,000.00
6.16	Crushed Stone Surfacing at Pea patch (3" depth)	93	CY	$40.00	$3,720.00
6.17	Cedar Planter Boxes with Garden Soil	1	LS	$40,000.00	$40,000.00
6.18	Tree Grate	3	EA	$1,200.00	$3,600.00
6.19	Bollard (non-removable, metal)	15	EA	$1,200.00	$18,000.00
6.20	Seatwall	165	LF	$400.00	$66,000.00
6.21	Entry Gate	1	LS	$10,000.00	$10,000.00
6.22	Bleacher	4	EA	$2,500.00	$10,000.00
6.23	Practice Cricket Pitch	1	EA	$15,000.00	$15,000.00
6.24	Scoreboard	1	EA	$20,000.00	$20,000.00
7.00	**Buildings**				
7.01	Restroom Building	1	EA	$250,000.00	$250,000.00
7.02	Storage Shed	1	EA	$8,000.00	$8,000.00
7.03	Pea patch Shed	1	EA	$3,000.00	$3,000.00
7.04	Picnic Shelter	1	EA	$200,000.00	$200,000.00
7.05	Small Shelter	2	EA	$60,000.00	$120,000.00
8.00	**Planting**				
8.01	Tree (deciduous)	40	EA	$450.00	$18,000.00
8.02	Tree (accent)	15	EA	$350.00	$5,250.00
8.03	Tree (coniferous)	15	EA	$400.00	$6,000.00
8.04	Accent Planting (with soil prep and irrigation)	14,760	SF	$30.00	$442,800.00
8.05	Native Planting (with soil prep and irrigation)	78,233	SF	$10.00	$782,330.00
8.06	Light Restoration Planting (no soil prep or irrigation)	91,989	SF	$1.00	$91,989.00
8.07	Rain Garden Planting (with soil prep and irrigation)	36,550	SF	$18.00	$657,900.00
8.08	Seed Lawn (with soil prep and irrigation)	77,700	SF	$5.00	$388,500.00
8.09	Root Barrier (24" depth)	840	LF	$18.00	$15,120.00

Subtotal	$7,248,120.25
Cost Escalation for 2020 (2%)	$144,962.41
Cost Escalation for 2021 (10%)	$724,812.03
Cost Escalation for 2022 (14%)	$1,014,736.84
Cost Escalation for 2023 (4%)	$289,924.81
Revised Subtotal	$9,422,556.33
Contractor Mobilization & Overhead (20%)	$1,884,511.27
Contingency (20%)	$1,884,511.27
Sales Tax (10.1%)	$951,678.19
Park Improvements Total	**$14,143,257.04**

9.00	**Ballfield Improvements (see attachment A)**				
9.01	Multi-Purpose Baseball/softball field construction contract amount	1	EA	$927,689.00	$927,689.00
9.02	Multi-Purpose Soccer-cricket field construction contract amount	1	EA	$2,455,962.17	$2,455,962.17
				Ballfield Improvements Subtotal	$3,383,651.17
				Cost Escalation for 2022 (14%)	$473,711.16
				Cost Escalation for 2023 (4%)	$135,346.05
				Ballfield Improvements Revised Subtotal	$3,992,708.38
				Sales Tax (10.1%)	$403,263.55
				Ballfield Improvements Total	**$4,395,971.93**
				Construction Total	**$18,539,228.97**
				Soft Costs (25%)	$4,634,807.24
				Total Project Cost	**$23,174,036.21**

10.00	**Alternatives**				
10.01	Ballfield Lighting (6 lights)	1	LS	$750,000.00	$750,000.00
10.02	Cricket / Soccer field lighting (8 lights)	1	LS	$1,000,000.00	$1,000,000.00
10.03	Control and Infrastructure (Allowance)	1	LS	$100,000.00	$100,000.00
					$1,850,000.00

Assumptions:

1. Costs assume union wage rates and open competitive public bid.
2. Existing park entry sign to remain.
3. Security lighting and drinking fountain is included in lump sum cost of restroom building.
4. Sidewalk improvements along SE 32nd Street by others.
5. Existing trees to remain in trails area and final trail location will route around the trees
6. Mitigation at decommissioned trails and off-site trail improvements are not included.

Estimate of
Probable Cost of Construction

HBB Landscape Architecture

Date: October 31, 2022

Project Name: Klahanie Park Master Plan
Project Number: 2019-01
Project Phase: 200
Prepared By: J. Alderman
Checked By: R. Dotson / A. Luoma

Overall / Single Phase Total: $4,767,207.01

Phase | Trails

Item	Description	Qty	Unit	Unit Cost	Item Total
4.00	**Paving & Walls**				
4.01	Pedestrian Concrete Paving (4" depth with 4" base)	25,475	SF	$13.00	$331,175.00
4.02	Vehicular Concrete Paving (6" depth with 8" base)	14,660	SF	$25.00	$366,500.00
4.03	Color Pedestrian Concrete Paving	8,060	SF	$20.00	$161,200.00
4.04	Pedestrian Asphalt Paving (3" depth with 4" depth base)	29,805	SF	$4.25	$126,671.25
4.05	Vehicular Asphalt Paving (4" depth with 8" base)	24,115	SF	$9.00	$217,035.00
4.06	Crushed Stone Surfacing (3" depth with 4" depth base)	9,065	SF	$10.00	$90,650.00
8.00	**Planting**				
8.01	Native Planting (with soil prep and irrigation)	54,948	SF	$10.00	$549,480.00
8.02	Light Restoration Planting (no soil prep or irrigation)	81,763	SF	$1.00	$81,763.00
10.00	**Mitigation Planting**				
10.01	Mitigation Planting (w/o irrigation)	1000	SF	$3.00	$30,000.00

Subtotal	$1,954,474.25
Cost Escalation for 2020 (2%)	$39,089.49
Cost Escalation for 2021 (10%)	$195,447.43
Cost Escalation for 2022 (14%)	$273,626.40
Cost Escalation for 2023 (4%)	$78,178.97
Revised Subtotal	$2,540,816.53
Contractor Mobilization & Overhead (20%)	$508,163.31
Contingency (20%)	$508,163.31
Sales Tax (10.1%)	$256,622.47
Construction Total	**$3,813,765.60**
Soft Costs (25%)	$953,441.40
Total Project Cost	**$4,767,207.01**

Assumptions:

1. Costs assume union wage rates and open competitive public bid.
2. Existing park entry sign to remain.
3. Security lighting and drinking fountain is included in lump sum cost of restroom building.
4. Sidewalk improvements along SE 32nd Street by others.
5. Existing trees to remain in trails area and final trail location will route around the trees

Estimate of
Probable Cost of Construction

HBB Landscape Architecture

Date: October 31, 2022

Project Name: Klahanie Park Master Plan
Project Number: 2019-01
Project Phase: 200
Prepared By: J. Alderman
Checked By: R. Dotson / A. Luoma

Overall / Single Phase Total: $5,479,946.10

Phase | Cricket

Item	Description	Qty	Unit	Unit Cost	Item Total
1.00	**Demolition/Site Preparation**				
1.01	TESC	1	LS	$130,000.00	$65,000.00
1.02	Tree Protection Fence and Signage	1,000	LF	$4.50	$4,500.00
1.03	Site Clearing and Grubbing (6" depth)	2	AC	$12,000.00	$18,000.00
1.04	Sod Clearing	4	AC	$3,000.00	$10,500.00
1.05	Demolition of Restroom Building	1	LS	$20,000.00	$10,000.00
1.06	Demolition other miscellaneous and utilities	1	LS	$60,000.00	$30,000.00
1.07	Existing Tree Removal	5	EA	$600.00	$3,000.00
1.08	Signature Tree Transplanting	1	EA	$5,000.00	$2,500.00
2.00	**Earthwork**				
2.01	Balance Cut/Fill on Site (12" average depth)	9,000	CY	$10.00	$90,000.00
2.02	Balance Cut/Fill on Site (36" average depth)	3,500	CY	$30.00	$105,000.00
2.03	Rough Grading	8	AC	$6,000.00	$48,000.00
2.04	Finish Grading	6	AC	$10,000.00	$60,000.00
3.00	**Site Utilities / Drainage (TBD)**				
3.01	Utilities (storm sewer, sanitary sewer, waterlines)	1	LS	$150,000.00	$150,000.00
6.00	**Site Improvements**				
6.01	Practice Cricket Pitch	1	EA	$15,000.00	$15,000.00

Subtotal	$611,500.00
Cost Escalation for 2020 (2%)	$12,230.00
Cost Escalation for 2021 (10%)	$61,150.00
Cost Escalation for 2022 (14%)	$85,610.00
Cost Escalation for 2023 (4%)	$24,460.00
Revised Subtotal	$794,950.00
Contractor Mobilization & Overhead (20%)	$158,990.00
Contingency (20%)	$158,990.00
Sales Tax (10.1%)	$80,289.95
Park Improvements Total	**$1,193,219.95**

9.00	**Ballfield Improvements (see attachment A)**				
9.01	Multi-Purpose Soccer-cricket field construction contract amount	1	EA	$2,455,962.17	$2,455,962.17
				Ballfield Improvements Subtotal	$2,455,962.17
				Cost Escalation for 2022 (14%)	$343,834.70
				Cost Escalation for 2023 (4%)	$98,238.49
				Ballfield Improvements Revised Subtotal	$2,898,035.36
				Sales Tax (10.1%)	$292,701.57
				Ballfield Improvements Total	**$3,190,736.93**
				Construction Total	**$4,383,956.88**
				Soft Costs (25%)	$1,095,989.22
				Total Project Cost	**$5,479,946.10**
12.00	**Alternatives**				
12.01	Ballfield Lighting (~5 lights)	1	LS	$1,800,000.00	$1,800,000.00
12.02	Cricket / Soccer field lighting (~10 lights)	1	LS	$3,600,000.00	$3,600,000.00

Assumptions:

1. Costs assume union wage rates and open competitive public bid.
2. Existing park entry sign to remain.
3. Security lighting and drinking fountain is included in lump sum cost of restroom building.
4. Sidewalk improvements along SE 32nd Street by others.
5. Existing trees to remain in trails area and final trail location will route around the trees

Estimate of
Probable Cost of Construction

HBB Landscape Architecture

Date: October 31, 2022

Project Name: Klahanie Park Master Plan
Project Number: 2019-01
Project Phase: 200
Prepared By: J. Alderman
Checked By: R. Dotson / A. Luoma

Overall / Single Phase Total: $9,845,424.29

Phase | Play

Item	Description	Qty	Unit	Unit Cost	Item Total
1.00	**Demolition/Site Preparation**				
1.01	TESC	1	LS	$130,000.00	$65,000.00
1.02	Tree Protection Fence and Signage	1,000	LF	$4.50	$4,500.00
1.03	Site Clearing and Grubbing (6" depth)	2	AC	$12,000.00	$18,000.00
1.04	Sod Clearing	4	AC	$3,000.00	$10,500.00
1.05	Demolition of Restroom Building	1	LS	$20,000.00	$10,000.00
1.06	Demolition other miscellaneous and utilities	1	LS	$60,000.00	$30,000.00
1.07	Existing Tree Removal	5	EA	$600.00	$3,000.00
1.08	Signature Tree Transplanting	1	EA	$5,000.00	$2,500.00
2.00	**Earthwork**				
2.01	Balance Cut/Fill on Site (12" average depth)	9,000	CY	$10.00	$90,000.00
2.02	Balance Cut/Fill on Site (36" average depth)	3,500	CY	$30.00	$105,000.00
2.03	Rough Grading	8	AC	$6,000.00	$48,000.00
2.04	Finish Grading	6	AC	$10,000.00	$60,000.00
3.00	**Site Utilities / Drainage (TBD)**				
3.01	Utilities (storm sewer, sanitary sewer, waterlines)	1	LS	$150,000.00	$150,000.00

6.00	**Site Improvements**				
6.01	Trash/Recycle Receptacle	8	EA	$1,500.00	$12,000.00
6.02	Drinking Fountain (with, ADA and anti-freeze valves)	2	EA	$16,000.00	$32,000.00
6.03	Guardrail	75	LF	$150.00	$11,250.00
6.04	Timber Stairs (6' wide)	60	LF	$95.00	$5,700.00
6.05	Handrails	124	LF	$30.00	$3,720.00
6.06	Bench	6	EA	$2,000.00	$12,000.00
6.07	Picnic Table	14	EA	$2,500.00	$35,000.00
6.08	Bike Rack	4	EA	$1,000.00	$4,000.00
6.09	Signage (Wayfinding, Rules)	8	EA	$1,000.00	$8,000.00
6.10	Kiosk	1	EA	$10,000.00	$10,000.00
6.11	Play Area (with unitary surfacing)	1	LS	$500,000.00	$500,000.00
6.12	Relocate existing boulder to play area	1	LS	$2,000.00	$2,000.00
6.13	Wood Split-Rail Fence	1,310	LF	$61.00	$79,910.00
6.14	Boardwalk (6' width)	6,494	SF	$60.00	$389,640.00
6.15	Boardwalk Guardrail	1,880	LF	$100.00	$188,000.00
6.16	Crushed Stone Surfacing at Pea patch (3" depth)	93	CY	$40.00	$3,720.00
6.17	Cedar Planter Boxes with Garden Soil	1	LS	$40,000.00	$40,000.00
6.18	Tree Grate	3	EA	$1,200.00	$3,600.00
6.19	Bollard (non-removable, metal)	15	EA	$1,200.00	$18,000.00
6.20	Seatwall	165	LF	$400.00	$66,000.00
6.21	Entry Gate	1	LS	$10,000.00	$10,000.00
6.22	Bleacher	4	EA	$2,500.00	$10,000.00
6.23	Scoreboard	1	EA	$20,000.00	$20,000.00
7.00	**Buildings**				
7.01	Restroom Building	1	EA	$250,000.00	$250,000.00
7.02	Storage Shed	1	EA	$8,000.00	$8,000.00
7.03	Pea patch Shed	1	EA	$3,000.00	$3,000.00
7.04	Picnic Shelter	1	EA	$200,000.00	$200,000.00
7.05	Small Shelter	2	EA	$60,000.00	$120,000.00
8.00	**Planting**				
8.01	Tree (deciduous)	40	EA	$450.00	$18,000.00
8.02	Tree (accent)	15	EA	$350.00	$5,250.00
8.03	Tree (coniferous)	15	EA	$400.00	$6,000.00
8.04	Accent Planting (with soil prep and irrigation)	7,260	SF	$30.00	$217,800.00
8.05	Rain Garden Planting (with soil prep and irrigation)	7,005	SF	$18.00	$126,090.00
8.06	Seed Lawn (with soil prep and irrigation)	77,700	SF	$5.00	$388,500.00
8.07	Root Barrier (24" depth)	840	LF	$18.00	$15,120.00

Subtotal	$3,418,800.00
Cost Escalation for 2020 (2%)	$68,376.00
Cost Escalation for 2021 (10%)	$341,880.00
Cost Escalation for 2022 (14%)	$478,632.00
Cost Escalation for 2023 (4%)	$136,752.00
Revised Subtotal	$4,444,440.00
Contractor Mobilization & Overhead (20%)	$888,888.00
Contingency (20%)	$888,888.00
Sales Tax (10.1%)	$448,888.44
Park Improvements Total	**$6,671,104.44**

9.00	**Ballfield Improvements (see attachment A)**					
9.01	Multi-Purpose Baseball/softball field construction contract amount	1	EA	$927,689.00		$927,689.00
				Ballfield Improvements Subtotal		$927,689.00
				Cost Escalation for 2022 (14%)		$129,876.46
				Cost Escalation for 2023 (4%)		$37,107.56
				Ballfield Improvements Revised Subtotal		$1,094,673.02
				Sales Tax (10.1%)		$110,561.98
				Ballfield Improvements Total		**$1,205,235.00**
				Construction Total		**$7,876,339.44**
				Soft Costs (25%)		$1,969,084.86
				Total Project Cost		**$9,845,424.29**
12.00	**Alternatives**					
12.01	Ballfield Lighting (~5 lights)	1	LS	$1,800,000.00		$1,800,000.00
12.02	Cricket / Soccer field lighting (~10 lights)	1	LS	$3,600,000.00		$3,600,000.00

Assumptions:

1. Costs assume union wage rates and open competitive public bid.
2. Existing park entry sign to remain.
3. Security lighting and drinking fountain is included in lump sum cost of restroom building.
4. Sidewalk improvements along SE 32nd Street by others.
5. Existing trees to remain in trails area and final trail location will route around the trees

Estimate of
Probable Cost of Construction

HBB Landscape Architecture

Date: October 31, 2022

Project Name: Klahanie Park Master Plan
Project Number: 2019-01
Project Phase: 200
Prepared By: J. Alderman
Checked By: R. Dotson / A. Luoma

Overall / Single Phase Total: $2,966,232.11

Phase | Support Facilities

Item	Description	Qty	Unit	Unit Cost	Item Total
4.00	**Paving & Walls**				
4.01	Vehicular Asphalt Paving (4" depth with 8" base)	14,425	SF	$9.00	$129,825.00
5.00	**Parking & Street Frontage**				
5.01	Concrete Curb (6")	1,250	LF	$40.00	$50,000.00
5.02	Concrete Curb and Gutter	135	LF	$45.00	$6,075.00
5.03	Concrete Curb Ramp	5	EA	$2,000.00	$10,000.00
5.04	Crosswalk Striping	150	SF	$8.00	$1,200.00
5.05	Pavement Markings	1	LS	$2,500.00	$2,500.00
5.06	Tree (deciduous)	16	EA	$500.00	$8,000.00
5.07	Seed Lawn (with soil prep and irrigation)	1,405	SF	$4.00	$5,620.00
5.08	Signage (Traffic)	6	EA	$500.00	$3,000.00
8.00	**Planting**				
8.01	Accent Planting (with soil prep and irrigation)	7,500	SF	$30.00	$225,000.00
8.02	Native Planting (with soil prep and irrigation)	23,285	SF	$10.00	$232,850.00
8.03	Light Restoration Planting (no soil prep or irrigation)	10,225	SF	$1.00	$10,225.00
8.04	Rain Garden Planting (with soil prep and irrigation)	29,545	SF	$18.00	$531,810.00

Subtotal	$1,216,105.00
Cost Escalation for 2020 (2%)	$24,322.10
Cost Escalation for 2021 (10%)	$121,610.50
Cost Escalation for 2022 (14%)	$170,254.70
Cost Escalation for 2023 (4%)	$48,644.20
Revised Subtotal	$1,580,936.50
Contractor Mobilization & Overhead (20%)	$316,187.30
Contingency (20%)	$316,187.30
Sales Tax (10.1%)	$159,674.59
Construction Total	**$2,372,985.69**
Soft Costs (25%)	$593,246.42
Total Project Cost	**$2,966,232.11**

Assumptions:

1. Costs assume union wage rates and open competitive public bid.
2. Existing park entry sign to remain.

Estimate of
Probable Cost of Construction

HBB Landscape Architecture

Date: October 31, 2022

Project Name: Klahanie Park Master Plan
Project Number: 2019-01
Project Phase: 200
Prepared By: J. Alderman
Checked By: R. Dotson / A. Luoma

Overall / Single Phase Total: $16,188,945.04

Existing Park Upgrade Only

Item	Description	Qty	Unit	Unit Cost	Item Total
1.00	**Demolition/Site Preparation**				
1.01	TESC	1	LS	$130,000.00	$130,000.00
1.02	Tree Protection Fence and Signage	2,000	LF	$4.50	$9,000.00
1.03	Site Clearing and Grubbing (6" depth)	3	AC	$12,000.00	$34,440.00
1.04	Sod Clearing	7	AC	$3,000.00	$21,300.00
1.05	Demolition of Restroom Building	0	LS	$20,000.00	$0.00
1.06	Demolition other miscellaneous and utilities	1	LS	$60,000.00	$60,000.00
1.07	Existing Tree Removal	10	EA	$600.00	$6,000.00
1.08	Signature Tree Transplanting	0	EA	$10,000.00	$0.00
2.00	**Earthwork**				
2.01	Balance Cut/Fill on Site (12" average depth)	14,500	CY	$10.00	$145,000.00
2.02	Balance Cut/Fill on Site (36" average depth)	5,600	CY	$30.00	$168,000.00
2.03	Rough Grading	12	AC	$6,000.00	$72,000.00
2.04	Finish Grading	9	AC	$10,000.00	$90,000.00
3.00	**Site Utilities / Drainage (TBD)**				
3.01	Utilities (storm sewer, sanitary sewer, waterlines)	1	LS	$300,000.00	$300,000.00
4.00	**Paving & Walls**				
4.01	Pedestrian Concrete Paving (4" depth with 4" base)	12,700	SF	$13.00	$165,100.00
4.02	Vehicular Concrete Paving (6" depth with 8" base)	0	SF	$25.00	$0.00
4.03	Color Pedestrian Concrete Paving	0	SF	$20.00	$0.00
4.04	Pedestrian Asphalt Paving (resurfacing East Plateau Trail)	13,080	SF	$4.25	$55,590.00
4.05	Vehicular Asphalt Paving (4" depth with 8" base)	19,600	SF	$9.00	$176,400.00
4.06	Crushed Stone Surfacing (3" depth with 4" depth base)	0	SF	$10.00	$0.00
4.07	Retaining Walls (concrete, cast in place)	0	CY	$350.00	$0.00
5.00	**Parking & Street Frontage**				
5.01	Concrete Curb (6")	875	LF	$40.00	$35,000.00
5.02	Concrete Curb and Gutter	95	LF	$45.00	$4,275.00
5.03	Concrete Curb Ramp	5	EA	$2,000.00	$10,000.00
5.04	Crosswalk Striping	150	SF	$8.00	$1,200.00
5.05	Pavement Markings	1	LS	$1,750.00	$1,750.00
5.06	Tree (deciduous)	0	EA	$400.00	$0.00
5.07	Seed Lawn (with soil prep and irrigation)	900	SF	$4.00	$3,600.00
5.08	Signage (Traffic)	6	EA	$500.00	$3,000.00

6.00	**Site Improvements**				
6.01	Trash/Recycle Receptacle	8	EA	$1,500.00	$12,000.00
6.02	Drinking Fountain (with, ADA and anti-freeze valves)	2	EA	$20,000.00	$40,000.00
6.03	Guardrail	0	LF	$200.00	$0.00
6.04	Timber Stairs (6' wide)	0	LF	$95.00	$0.00
6.05	Handrails	0	LF	$30.00	$0.00
6.06	Bench	6	EA	$2,000.00	$12,000.00
6.07	Picnic Table	4	EA	$2,500.00	$10,000.00
6.08	Bike Rack	4	EA	$1,000.00	$4,000.00
6.09	Signage (Wayfinding, Rules)	2	EA	$2,000.00	$4,000.00
6.10	Kiosk	0	EA	$10,000.00	$0.00
6.11	Play Area (with unitary surfacing)	1	LS	$500,000.00	$500,000.00
6.12	Relocate existing boulder to play area	0	LS	$2,000.00	$0.00
6.13	Wood Split-Rail Fence	1,310	LF	$61.00	$79,910.00
6.14	Boardwalk (6' width)	0	SF	$60.00	$0.00
6.15	Boardwalk Guardrail	0	LF	$100.00	$0.00
6.16	Crushed Stone Surfacing at Pea patch (3" depth)	0	CY	$40.00	$0.00
6.17	Cedar Planter Boxes with Garden Soil	0	LS	$40,000.00	$0.00
6.18	Tree Grate	0	EA	$1,200.00	$0.00
6.19	Bollard (non-removable, metal)	0	EA	$1,200.00	$0.00
6.20	Seatwall	0	LF	$400.00	$0.00
6.21	Entry Gate	1	LS	$10,000.00	$10,000.00
6.22	Bleacher	4	EA	$2,500.00	$10,000.00
6.23	Practice Cricket Pitch	0	EA	$15,000.00	$0.00
6.24	Scoreboard	0	EA	$20,000.00	$0.00
7.00	**Buildings**				
7.01	Restroom Building - minor upgrades	1	EA	$20,000.00	$20,000.00
7.02	Storage Shed	1	EA	$8,000.00	$8,000.00
7.03	Pea patch Shed	0	EA	$3,000.00	$0.00
7.04	Picnic Shelter	0	EA	$200,000.00	$0.00
7.05	Small Shelter	0	EA	$60,000.00	$0.00
8.00	**Planting**				
8.01	Tree (deciduous)	20	EA	$450.00	$9,000.00
8.02	Tree (accent)	8	EA	$350.00	$2,800.00
8.03	Tree (coniferous)	8	EA	$400.00	$3,200.00
8.04	Accent Planting (with soil prep and irrigation)	7,000	SF	$30.00	$210,000.00
8.05	Native Planting (with soil prep and irrigation)	78,233	SF	$10.00	$782,330.00
8.06	Light Restoration Planting (no soil prep or irrigation)	91,280	SF	$1.00	$91,280.00
8.07	Rain Garden Planting (with soil prep and irrigation)	36,550	SF	$18.00	$657,900.00
8.08	Seed Lawn (with soil prep and irrigation)	77,700	SF	$5.00	$388,500.00
8.09	Root Barrier (24" depth)	432	LF	$18.00	$7,776.00
10.00	**Mitigation Planting**				
10.01	Mitigation Planting (w/o irrigation)	1000	SF	$3.00	$30,000.00

			Subtotal	$4,384,351.00
			Cost Escalation for 2020 (2%)	$87,687.02
			Cost Escalation for 2021 (10%)	$438,435.10
			Cost Escalation for 2022 (14%)	$613,809.14
			Cost Escalation for 2023 (4%)	$175,374.04
			Revised Subtotal	$5,699,656.30
			Contractor Mobilization & Overhead (20%)	$1,139,931.26
			Contingency (20%)	$1,139,931.26
			Sales Tax (10.1%)	$575,665.29
			Park Improvements Total	$8,555,184.11
9.00	**Ballfield Improvements (see attachment A)**			
9.01	Multi-Purpose Baseball/softball field construction contract amount	1 EA	$927,689.00	$927,689.00
9.02	Multi-Purpose Soccer-cricket field construction contract amount	1 EA	$2,455,962.17	$2,455,962.17
			Ballfield Improvements Subtotal	$3,383,651.17
			Cost Escalation for 2022 (14%)	$473,711.16
			Cost Escalation for 2023 (4%)	$135,346.05
			Ballfield Improvements Revised Subtotal	$3,992,708.38
			Sales Tax (10.1%)	$403,263.55
			Ballfield Improvements Total	$4,395,971.93
			Construction Total	**$12,951,156.03**
			Soft Costs (25%)	$3,237,789.01
			Total Project Cost	**$16,188,945.04**

Assumptions:

1. Costs assume union wage rates and open competitive public bid.
2. Existing park entry sign to remain.
3. Existing trees to remain in trails area and final trail location will route around the trees

Appendix G: Presentations Meeting Agendas and Notes

Agenda Bill

City Council Study Session

March 12, 2019

SUBJECT:	Klahanie Park Master Plan Discussion - Hopes, Dreams, and Concerns
DATE SUBMITTED:	March 05, 2019
DEPARTMENT:	Parks & Recreation
NEEDED FROM COUNCIL:	☐ Action ☑ Direction ☐ Informational
RECOMMENDATION:	Review background information, an analysis of existing conditions and uses at Klahanie Park, and discuss hopes, dreams, and concerns related to the master plan.
EXHIBITS:	1. Exhibit 1 - Site Plan 2. Exhibit 2 - PowerPoint Presentation

BUDGET:

Total dollar amount	169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COUNCIL:

Klahanie Park Master Plan Discussion - Hopes, Dreams and Concerns

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to review park background information, an analysis of existing conditions and uses at Klahanie Park, and discuss hopes, dreams and concerns related to the master plan.

Summary:

Klahanie Park is a 64-acre park located in the southeast section of the City. The park is comprised of natural turf fields including two multi-purpose sports fields, one baseball field and a cricket pitch. Additionally, the park features a small play structure, restrooms, parking, a segment of King County's East Plateau Regional Trail, natural areas and Queen's Bog, which is one of roughly fifty bogs located in Washington State. Having been in use for nearly 25 years with only minor improvements, park features are nearing the end of their life cycle or are in need of major repair. A master plan will be the City's first attempt to look at potential improvements to this park in a comprehensive manner utilizing a process that provides involvement of the entire community. It will also enable the city to consider how a previous County park will best incorporate into Sammamish's overall park system.

A representative from the consultant team, HBB, will present background information, an analysis of existing conditions and uses at Klahanie Park in further detail at the March 12, 2019 City Council Study Session. At that time, the City Council will be asked to discuss their hopes, dreams and concerns related to the master plan of Klahanie Park. This information will be used, in conjunction with input received from the Parks & Recreation Commission, city staff, and the public to assist with the development of an overall vision with supporting goals and design criteria for the park.

Project Background:

The park was built by a Homeowners Association and transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation. Since annexation, improvements have been made to the park, which include drainage modifications to the baseball field, installation of the City's first cricket pitch, turf aeration of the two multi-purpose sports fields and minor renovations to the restrooms.

Following annexation, the City took over field reservations for the two multi-purpose fields and baseball field. In addition, the City introduced annual recreation events during the summer, such as the Shakespeare in the Park and KidsFirst programs.

Master Plan Process:

A twelve to eighteen-month effort is anticipated for the master plan process with participation from the community at large, City staff, Parks & Recreation Commission, City Council, and community stakeholders. The master plan process consists of three phases as described below:

<u>Phase 1 Site Investigation and Analysis</u>

Evaluate existing site conditions, identify sensitive areas, complete site studies, and develop an overall understanding of the site. During this initial phase, a survey will be developed and used to assist with the development of initial park concepts for public discussion.

<u>Phase 2 Park Program</u>

Following survey development, the first public meeting will be held to present site analysis, initial survey results, and provide the Sammamish community an opportunity to share their hopes, dreams and concerns for the park.

Based upon the results of site analysis, City staff input, technical input and initial public input, a preliminary park design program will be developed that details proposed uses, design character and criteria.

Phase 3 Master Plan Development

The remaining public engagement will take place during the third phase of the master plan process. Two to three Master Plan alternatives will be prepared, based upon the approved design program. This will include a narrative that summarizes the existing conditions, design alternatives, cost implications and regulatory criteria, and identifies issues which will require further study at the next stage of project development.

Based upon feedback from the community, Parks & Recreation Commission, and City Council, the alternatives will be revised in to one preferred Master Plan alternative with a preliminary cost estimate. The final deliverable will be a Master Plan Report, with final project drawings and narrative, project process, project phasing scenarios and phase costs.

Anticipated Timeline:

- Parks & Recreation Commission Meeting #1: March 6, 2019
- City Council Meeting #1: March 12, 2019
- Focus Group Meeting #1: March 14, 2019
- Public Meeting #1: Tentatively March 21, 2019
- Public Meeting #2: May 2019
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019
- Public Meeting #3: August 2019
- Parks & Recreation Commission Meeting #3: September 2019
- City Council Meeting #3: October 2019

Next Steps:

Review the site analysis and background information with a focus group and the public, then develop an overall vision with supporting goals and design criteria for the park. Initial concepts will be developed in the spring based on feedback received and brought back in front of the City Council, Parks & Recreation Commission, and the public.

FINANCIAL IMPACT:

N/A

OTHER ALTERNATIVES CONSIDERED:

N/A

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

2018 Parks, Recreation & Open Space (PRO) Plan

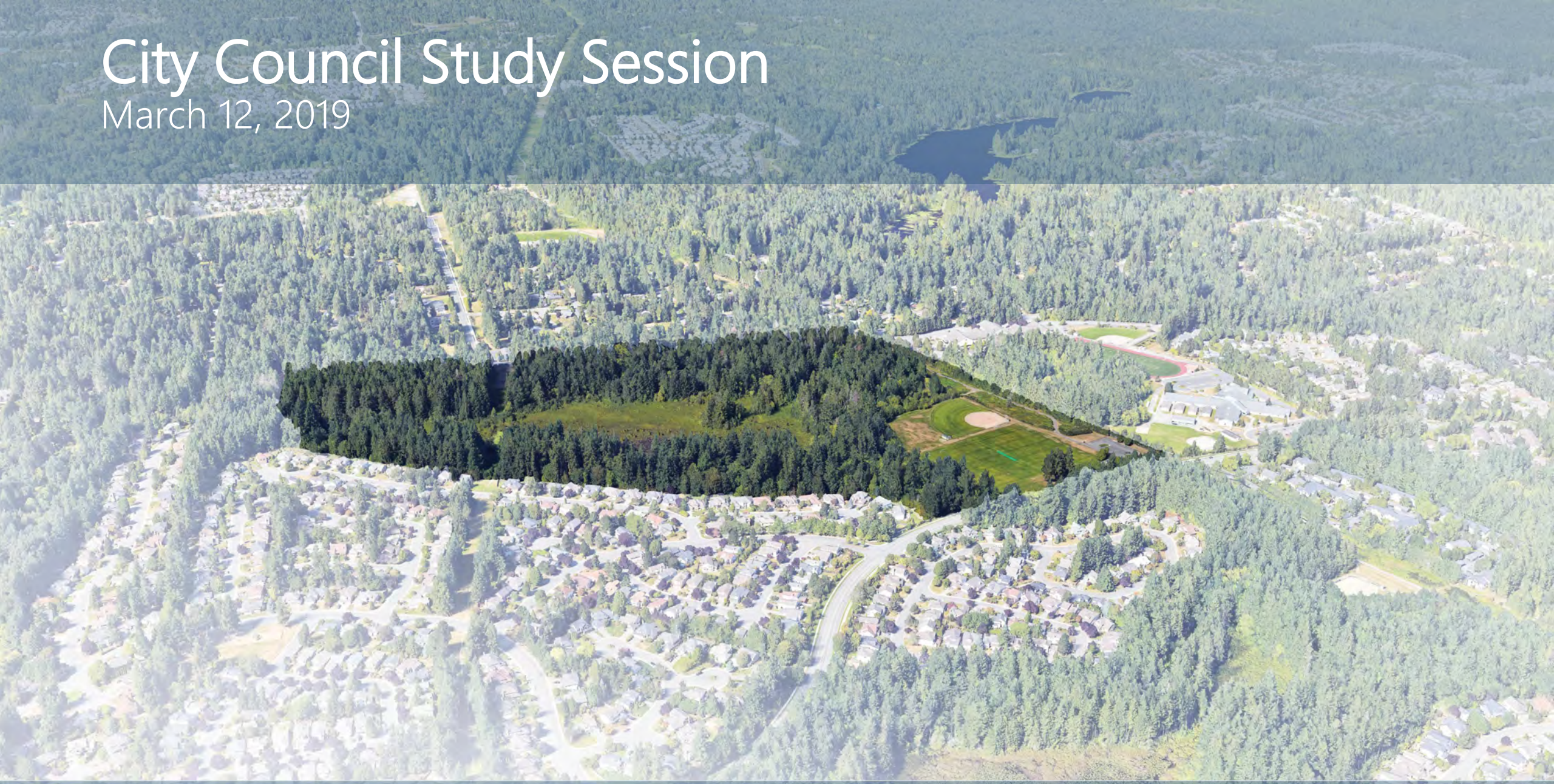
Klahanie Park

0 75' 150' 300'

N

City Council Study Session

March 12, 2019



KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Purpose (what we need from you)

- Hopes, Dreams, Concerns
- Vision

Overview: What we will be discussing

A. Introduction
B. Timeline & Project Background
C. Existing Conditions
D. Discussion
   - Hopes, Dreams, Concerns
   - Vision
E. Next Steps

Introduction

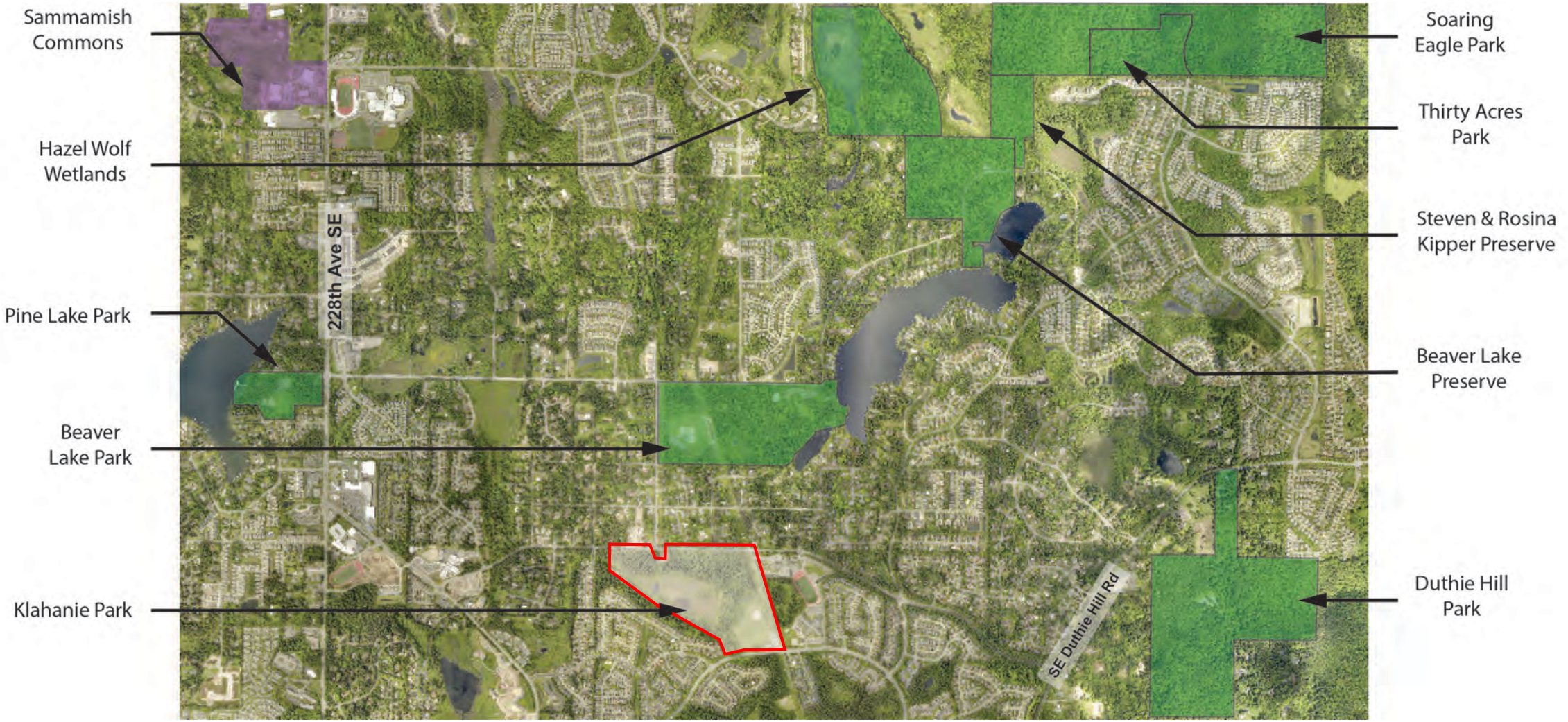
2018 PRO Plan Vision

The overall vision for Sammamish's Parks and Recreation system sees parks as an integral part of our healthy and sustainable community by connecting people to nature, play, and culture.

Sammamish Parks & Recreation Goals

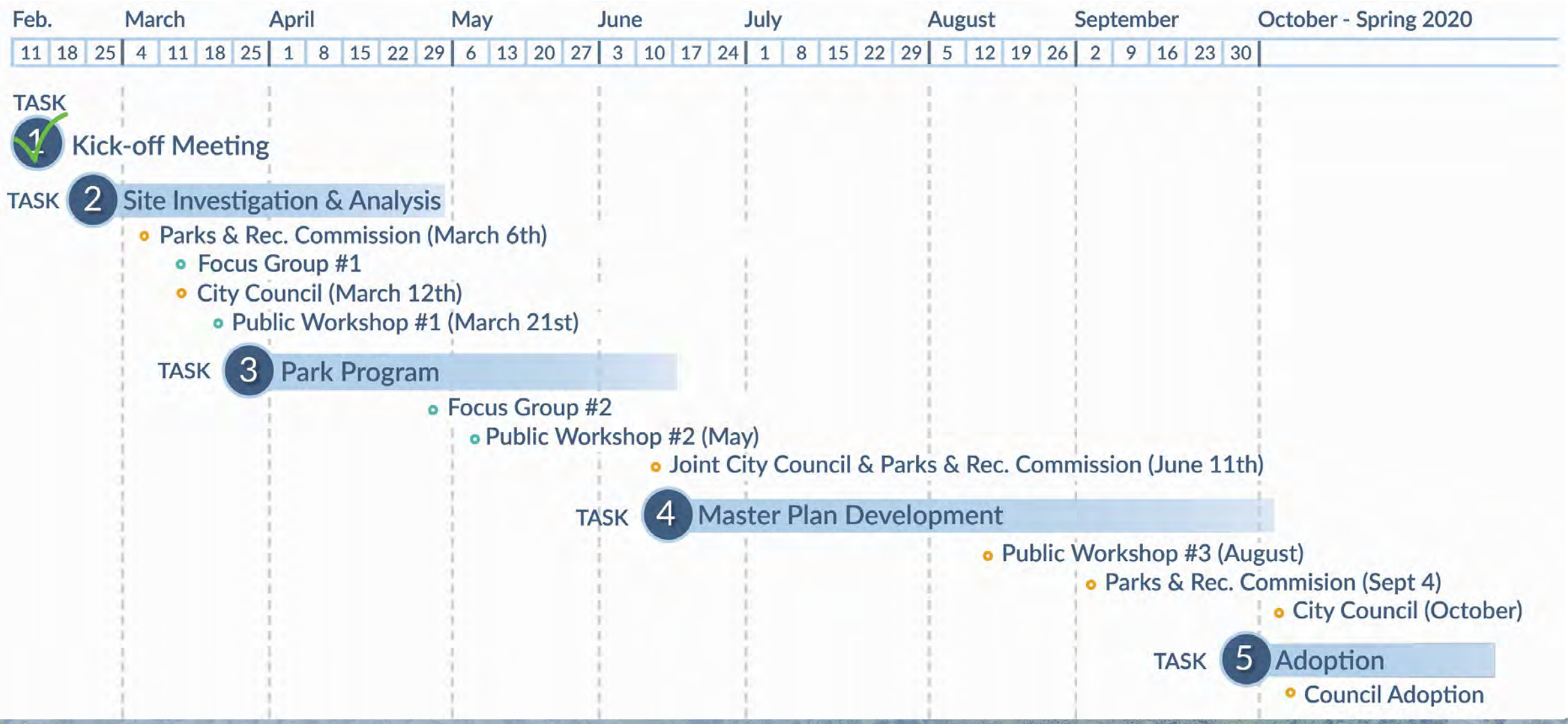
- Conservation of natural resources
- Opportunities to improve health and wellness
- Create social equity in access to parks and recreation for all residents

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park
228th Ave SE
SE Duthie Hill Rd

Timeline & Project Background

Project Timeline



Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ❑ Hopes, Dreams, & Concerns
- ❑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ❑ Schematic Concepts
- ❑ Project Goals & Objectives
- ❑ Design Alternatives
- ❑ City Council & Parks Commission Updates
- ❑ Parks & Recreation Commission

5. State Environmental Polity Act (SEPA)

6. Master Plan Adoption

Background

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2019 – Master Plan commences

Existing Conditions

Site Context

Aerial

Existing Features

- Queen's Bog
- Trails
- Athletic Fields
- Play Area
- Restroom
- Parking

Easements


SE 32ND ST
BONNEVILLE POWER ADMINISTRATION (AND KING COUNTY EAST PLATEAU TRAIL)
WILLAMS GAS LINE EASEMENT
TOWER
PUGET SOUND ENERGY EASEMENT
SE KLAHANIE BLVD

Bog & Critical Areas

Existing Features

- Queen's Bog
- 5 other wetlands on-site
- 1 wetland adjacent to site

Trails


SE 32ND ST
TRAIL, TYP
INFORMAL TRAIL, TYP
EAST PLATEAU TRAIL
SE KLAHANIE BLVD
KLAHANIE TRAIL

Athletic Fields

- 2 soccer/lacrosse fields
  - Natural grass
  - 180′ x 300′, up to 210′ x 330′
  - Multiple age groups
- 1 cricket ground
  - Natural grass with synthetic pitch
  - 12′ x 110′ pitch (extra-long)
  - Practice cricket pitch coming in April

Athletic Fields

- Little League / Softball
  - Renovated in 2017
  - Natural grass outfield and "skinned" infield
  - 250' outfield fence
  - U12 Little League
  - 13+ Fast Pitch Softball

Play Area, Restroom, Parking

- Restroom
  - Men's and women's 2 stalls
  - With storage chaise
  - CMU construction
  - Built in 90's
- Play Area
  - Ages 2-5
  - Built in 90's
  - Fair condition, except ADA access
- Parking
  - 30 stalls (3 ADA)
  - Adequate for current use
  - Street parking
  - School parking

City Events

- Shakespeare in the Park
- KidsFirst

Miscellaneous

- Stormwater detention ponds

General Site Opportunities & Constraints

Opportunities

- Connectivity
- Something for all, active/passive

Constraints

- Limited space
- Active vs. Passive & Programs
- Easements

Discussion

Discussion

- What are your hopes, dreams, and concerns?

Discussion

- What is one word or phrase to describe your **vision** for the future of Klahanie Park?

Next Steps

Next Steps

- Online survey (open March 13-April 14)
- Focus Group meeting #1 (March 14) at City Hall
- Public Workshop #1 (March 21) at Challenger Elementary
- Concept development by consultant

Agenda Bill

City Council Joint Meeting

June 11, 2019

SUBJECT:	Klahanie Park Master Plan Discussion - Programming and Concept Alternatives
DATE SUBMITTED:	June 04, 2019
DEPARTMENT:	Parks & Recreation
NEEDED FROM COUNCIL:	☐ Action ☑ Direction ☐ Informational
RECOMMENDATION:	Review and provide input on programming and concept alternatives for the master plan development.
EXHIBITS:	1. Exhibit 1 - PowerPoint Presentation 2. Exhibit 2 - Memorandum: City Council and Parks & Recreation Commission Meeting #1 Questions 3. Exhibit 3 - Public Survey #1 Summary 4. Exhibit 4 - Focus Group Survey #1 Summary

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COUNCIL:

Klahanie Park Master Plan Discussion - Programming and Concept Alternatives

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to review and provide input on park programming and concept alternatives for the master plan development of Klahanie Park.

Summary:

Klahanie Park is a 64-acre park located in the southeast section of the City. The park is comprised of natural turf fields including two multi-purpose sports fields, one baseball field, and a cricket pitch. Additionally, the park features a small play structure, restrooms, parking, a segment of King County's East Plateau Trail, natural areas and Queen's Bog, which is one of roughly fifty bogs located in Washington State. Having been in use for nearly 25 years with only minor improvements, park features are nearing the end of their life cycle or are in need of repair. A master plan will be the City's first attempt to look at potential improvements to this park in a comprehensive manner utilizing a process that provides opportunity for involvement of the entire community. It will also enable the City to consider how a previous County park will best incorporate into Sammamish's overall park system.

Master Plan Phase I:

The first set of meetings were held in March 2019 with the City Council, Parks & Recreation Commission, a focus group, and the community, to solicit input on hopes, dreams, and concerns related to the master plan. Two surveys were prepared as part of this first phase, one for a focus group and one for the public. Neither of the surveys were statistically valid. The vision and programming survey for the public had 677 participants, with 56% of participants living one mile or less from the park. A brief summary of these surveys are provided as exhibits to this agenda bill.

A total of six concept alternatives are prepared, three park concepts and three trail concepts. The intent is to demonstrate a minimum, moderate, and maximum approach to park development. Based on the feedback received at the first set of workshops, the overall goals and objectives are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally. Lastly, it is important to note that elements from each concept can be mixed and matched, they are not necessarily exclusive to the alternative they are shown on.

A representative from the consultant team, HBB, will present a summary of the first public workshop, online public survey results, project goals, and discuss programming and concept alternatives in further detail at the June 11, 2019 City Council Joint Meeting with the Parks & Recreation Commission. At that time, City Council and the Parks & Recreation Commission will be asked to provide input on programming and concept alternatives for the master plan development. This information will be used, in conjunction with input received from City staff and the public, to assist with the development of a preferred master plan alternative.

Project Background:

The park was built by the Homeowners Association and transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation. Since annexation, improvements have been made to the park, which include drainage modifications to the baseball field, installation of the City's first and only cricket pitch, turf aeration of the two multi-purpose sports fields, irrigation improvements and minor renovations to the restrooms.

Following annexation, the City took over field reservations for the two multi-purpose fields and baseball field. In addition, the City introduced annual recreation events during the summer, such as the Shakespeare in the Park and KidsFirst programs.

Master Plan Process:

A twelve to eighteen-month effort is anticipated for the master plan process with participation from the community at large, City staff, Parks & Recreation Commission, City Council, and community stakeholders. The master plan process consists of three phases as described below:

Phase 1 Site Investigation and Analysis (Complete)

Evaluate existing site conditions, identify sensitive areas, complete site studies, and develop an overall understanding of the site. During this initial phase, a survey will be developed and used to assist with the development of initial park concepts for public discussion.

Phase 2 Park Program

Following survey development, the first public meeting will be held to present site analysis, initial survey results, and provide the Sammamish community an opportunity to share their hopes, dreams and concerns for the park.

Based upon the results of site analysis, City staff input, technical input and initial public input, a preliminary park design program will be developed that details proposed uses, design character and criteria.

Phase 3 Master Plan Development

The remaining public engagement will take place during the third phase of the master plan process. Two to three Master Plan alternatives will be prepared, based upon the approved design program. This will include a narrative that summarizes the existing conditions, design alternatives, cost implications and regulatory criteria, and identifies issues which will require further study at the next stage of project development.

Based upon feedback from the community, Parks & Recreation Commission, and City Council, the alternatives will be revised in to one preferred Master Plan alternative with a preliminary cost estimate. The final deliverable will be a Master Plan Report, with final project drawings and narrative, project process, project phasing scenarios and phase costs.

Anticipated Timeline:

- Parks & Recreation Commission Meeting #1: March 6, 2019 (Complete)
- City Council Meeting #1: March 12, 2019 (Complete)
- Focus Group Meeting #1: March 14, 2019 (Complete)
- Public Meeting #1: March 21, 2019 (Complete)
- Public Meeting #2: May 23, 2019 (Complete)
- **Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019**
- **Public Meeting #3: August 2019**
- **Parks & Recreation Commission Meeting #3: September 4, 2019**
- **City Council Meeting #3: October 2019**

Next Steps:

A preferred master plan alternative will be developed over the summer based on feedback received and will be brought back in front of the community, Parks & Recreation Commission, and City Council early this fall.

FINANCIAL IMPACT:

N/A

OTHER ALTERNATIVES CONSIDERED:

N/A

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

2018 Parks, Recreation & Open Space (PRO) Plan

Joint Meeting
City Council and Parks & Recreation Commission
June 11, 2019

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Overview: What we will be discussing

A. Introductions ..... 2 minutes

B. Presentation ..... 45 minutes

   a. Location & Context
   b. 2018 Parks, Recreation & Open Space Plan
   c. Timeline & Project Background
   d. Existing Conditions
   e. Outreach Summary
   f. Goals & Objectives
   g. Programming Alternatives
   h. Trail Alternatives

C. Discussion ..... 40 minutes

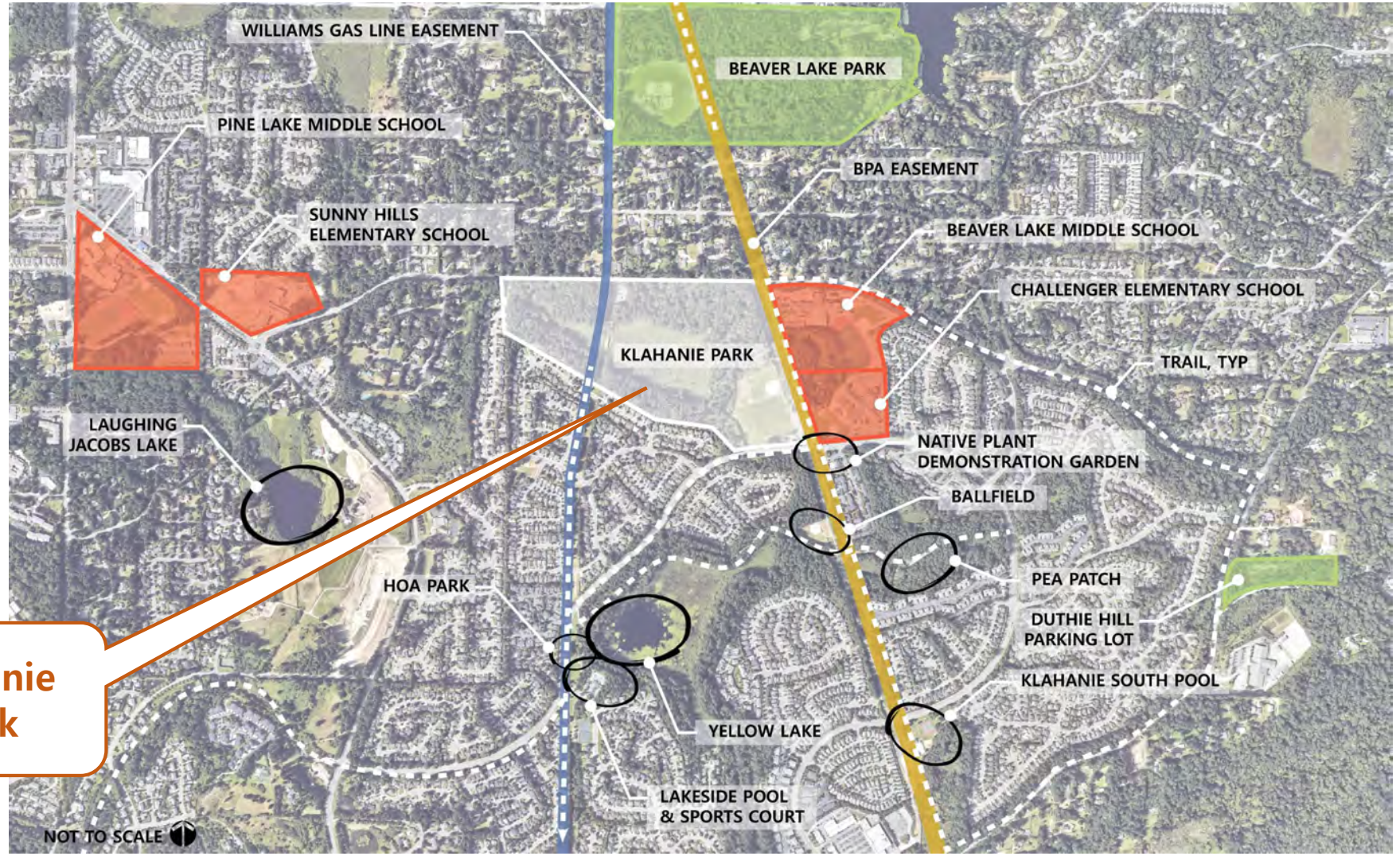
D. Next Steps ..... 3 minutes

Location & Context

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
You Are Here
228th Ave SE
SE Duthie Hill Rd
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park

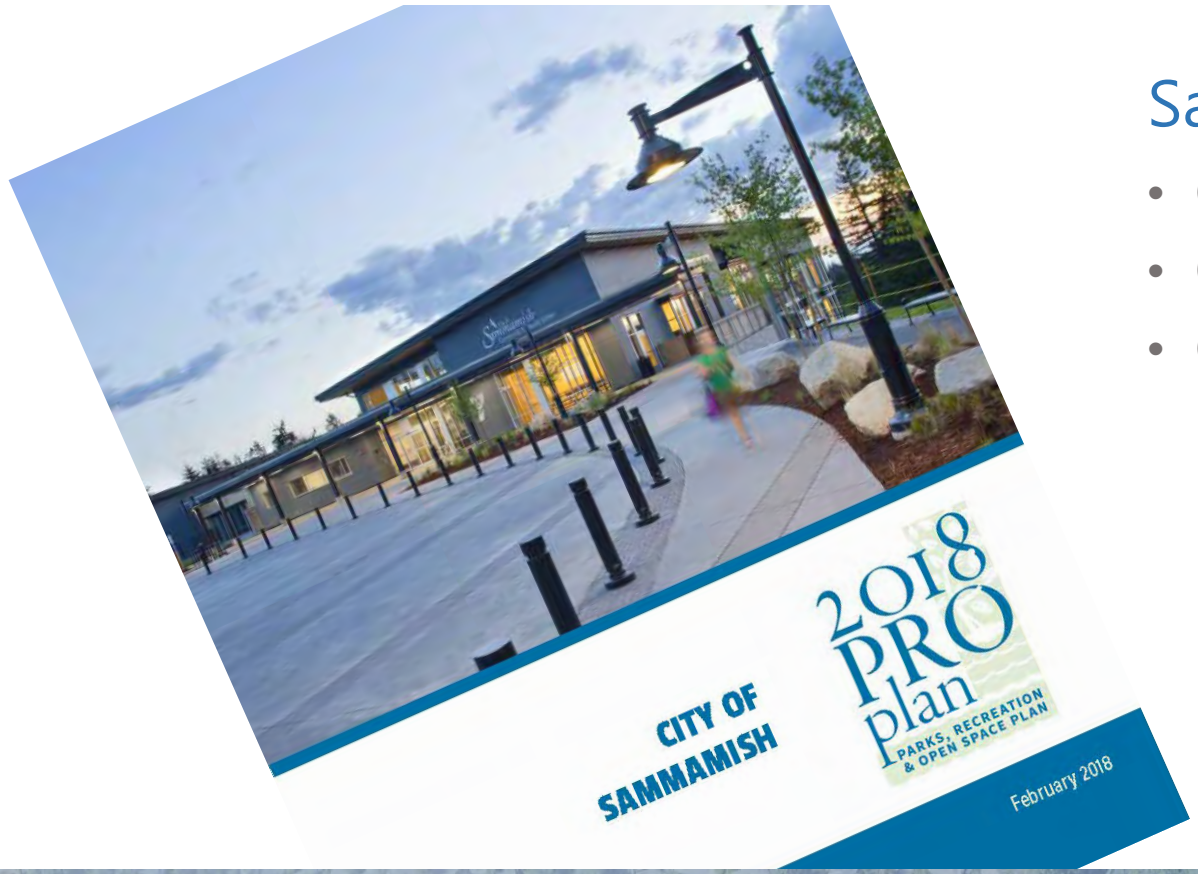
Site Context



Klahanie Park

2018 Parks, Recreation & Open (PRO) Space Plan Vision

The overall vision for Sammamish's Parks and Recreation system sees parks as an integral part of our healthy and sustainable community by connecting people to nature, play, and culture.



Sammamish Parks & Recreation Goals

- Conservation of natural resources
- Opportunities to improve health and wellness
- Create social equity in access to parks and recreation for all residents

2018 PRO Plan

Missing Elements of the Existing Park & Recreation System…

Top priorities for active and passive use from online survey…

- Natural surface trails
- Boardwalk trails
- Playground
- Picnic areas
- Restroom
- Flexible space
- Multi-purpose fields

2018 PRO Plan

Community Park

- *15 to 60 acres* in size
- within a *two- to five-mile* travel distance from the park
- can also serve as local neighborhood parks
- offer *programmed activities*, as well as passive, unstructured recreation
- *require support facilities* such as restrooms, parking lots and maintenance facilities
- athletic fields may be *natural, synthetic turf, or a combination of surfaces*, with or without field lighting

Neighborhood Park

- *5 to 15 acres* in size
- within a *half-mile* walking or biking distance from the park
- provided by City or Homeowner Association
- offer active and passive activities on limited scale, used primarily for *unstructured recreation*
- *may have support facilities* such as restrooms and parking lots

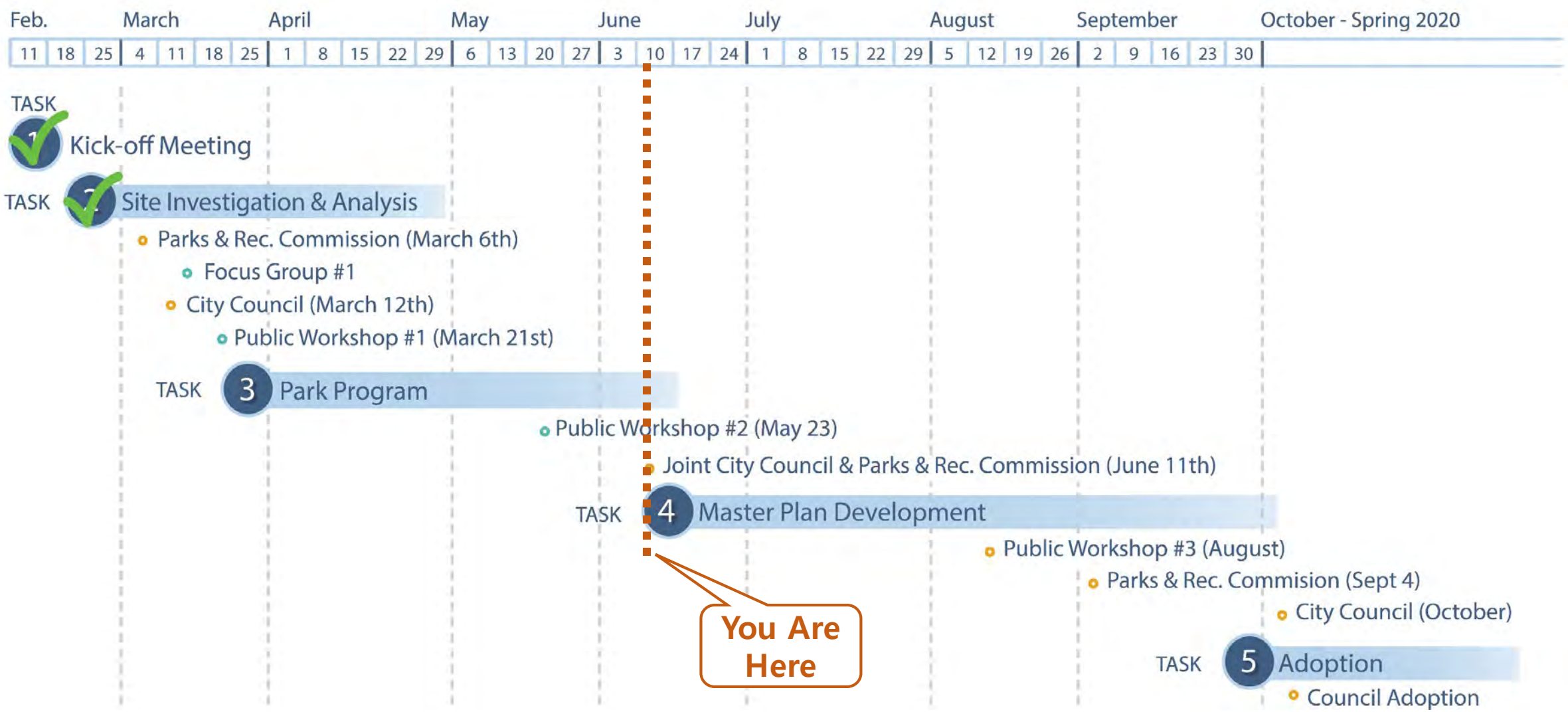
Park Type / Name	Classification	Acreage
Community Parks		
Beaver Lake Park	Community	79.2
Big Rock Park	Community	36.3
East Sammamish Park	Community	18.8
Klahanie Park	Community	64.1
Pine Lake Park	Community	19.0
Sammamish Commons	Community	39.1
Sammamish Landing Park	Community	7.8
Neighborhood Parks		
Ebright Creek Park	Neighborhood	12.3
NE Sammamish Park	Neighborhood	5.7
Preserve / Natural Areas		
Illahee Trail Park	Natural Area	12.7
30 Acres Park	Natural Area	29.9
Beaver Lake Preserve	Preserve	55.7
Evans Creek Preserve	Preserve	213.2
Steven & Rosina Kipper Preserve	Preserve	17.1
	Total	**611.0**

Timeline & Project Background

Background & History

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2018 – PRO Plan completed
- 2019 – Master Plan commences

Project Timeline



Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ☑ Hopes, Dreams, & Concerns
- ☑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ☑ Schematic Concepts
- ☑ Project Goals & Objectives
- ☑ Design Alternatives
- ☐ City Council & Parks & Recreation Commission Updates

5. State Environmental Policy Act (SEPA)

6. Master Plan Adoption

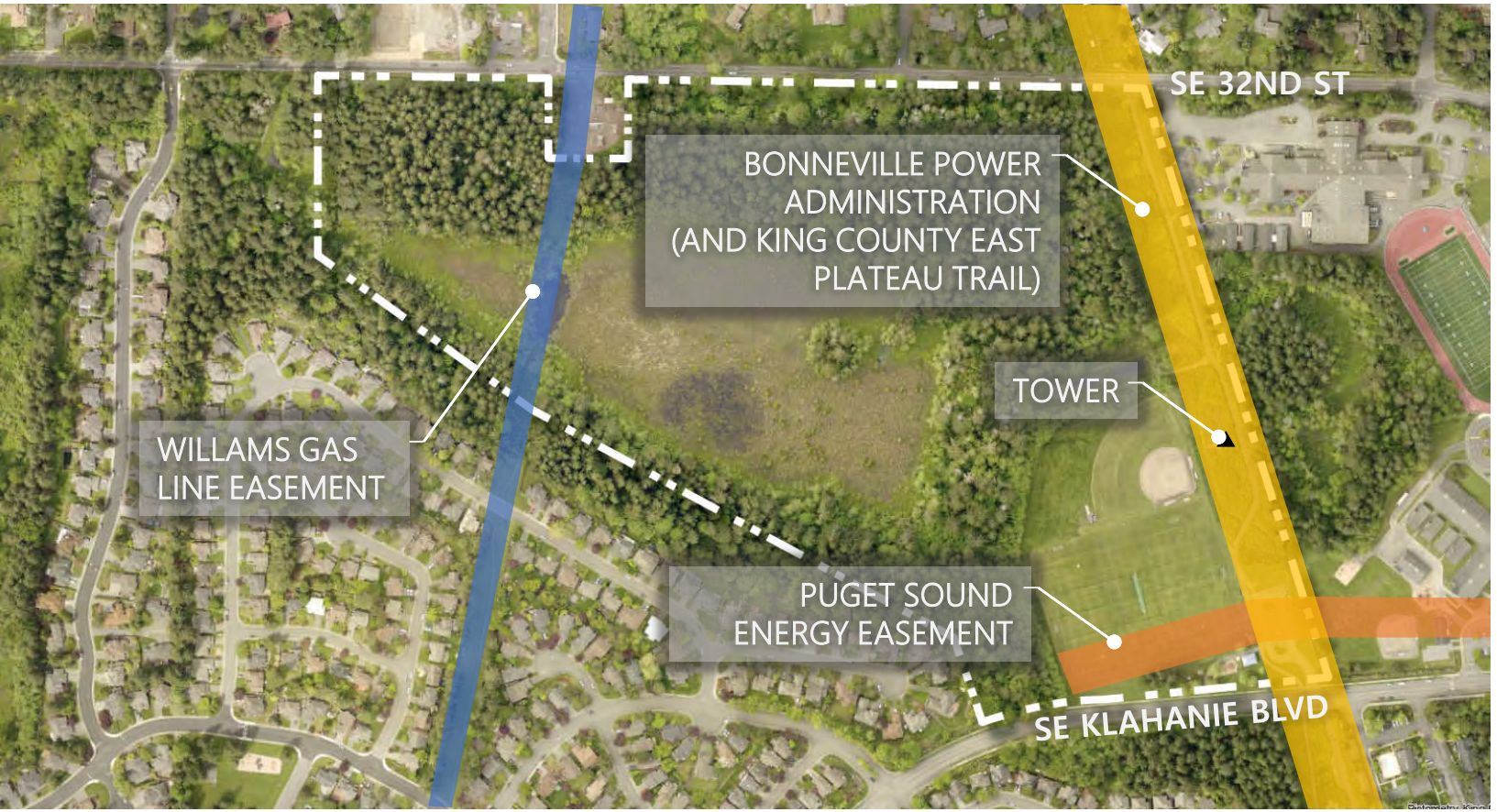
Existing Conditions

Existing Conditions

Existing Features

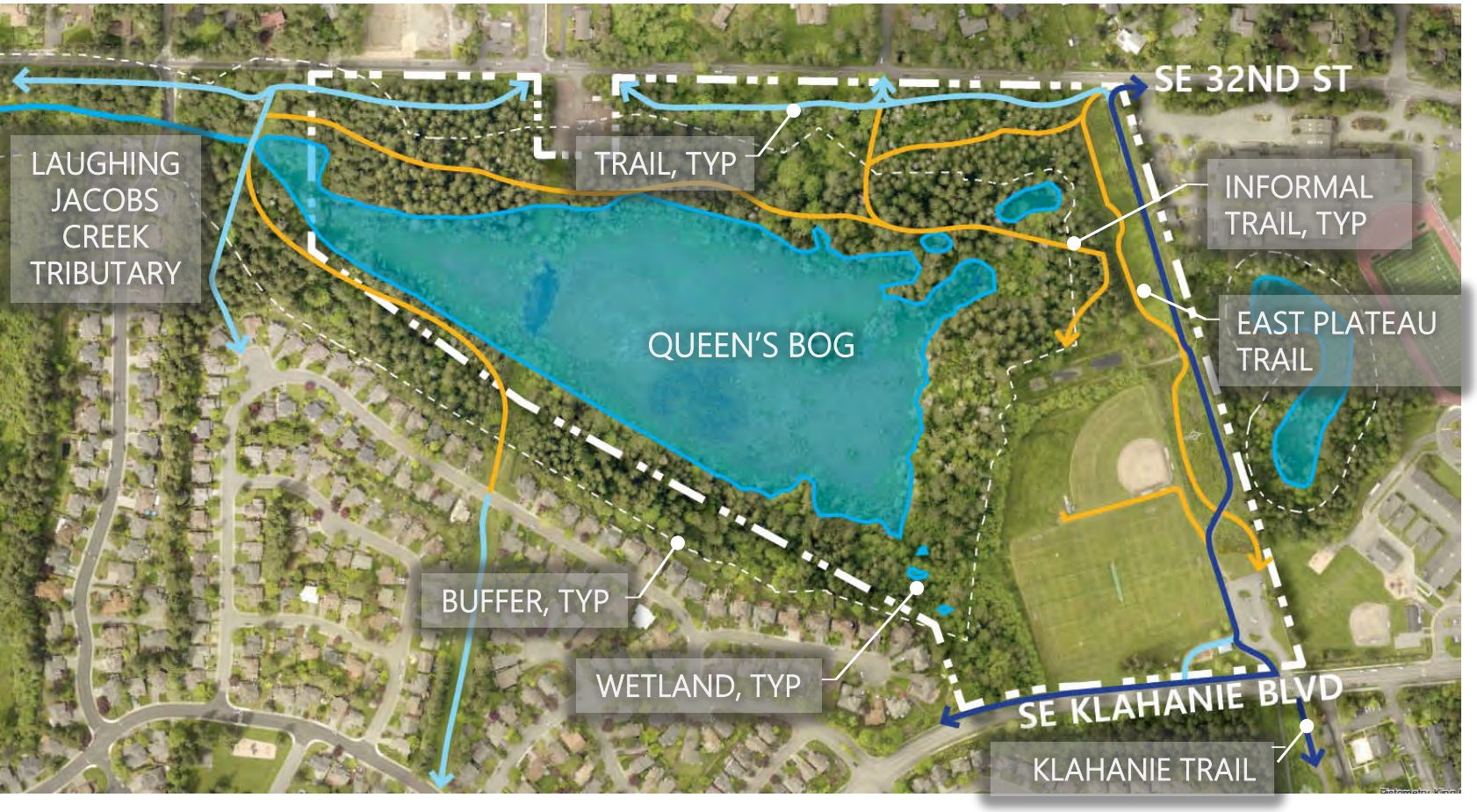
- Queen's Bog
- Trails
- Athletic Fields
- Play Area
- Restroom
- Parking

Easements


SE 32ND ST
BONNEVILLE POWER ADMINISTRATION (AND KING COUNTY EAST PLATEAU TRAIL)
TOWER
WILLAMS GAS LINE EASEMENT
PUGET SOUND ENERGY EASEMENT
SE KLAHANIE BLVD

Active Recreation Areas

Bog, Critical Areas, & Trails



Outreach Summary

Workshop #1

- Protect the environment
  the bog is a treasured resource, as are the adjacent wetlands and wildlife that inhabit the park, keep any new improvements away from buffers and include restoration, education, etc. to celebrate the environment (without allowing access directly to it)
- More family activities
  picnic areas and shelters, group picnic, unprogrammed open space for informal pick-up games and lawn games
- Gathering areas and events
  ways to come together as a community, hold large and small events, celebrate
- Community garden areas
  pollinator plants, native plant demonstration, sensory gardens, p-patch
- Balance active and passive areas
  the fields are used, but it leaves no space for informal, passive activities when the fields are programmed – especially during prime weekend times; more flexibility of uses would be beneficial

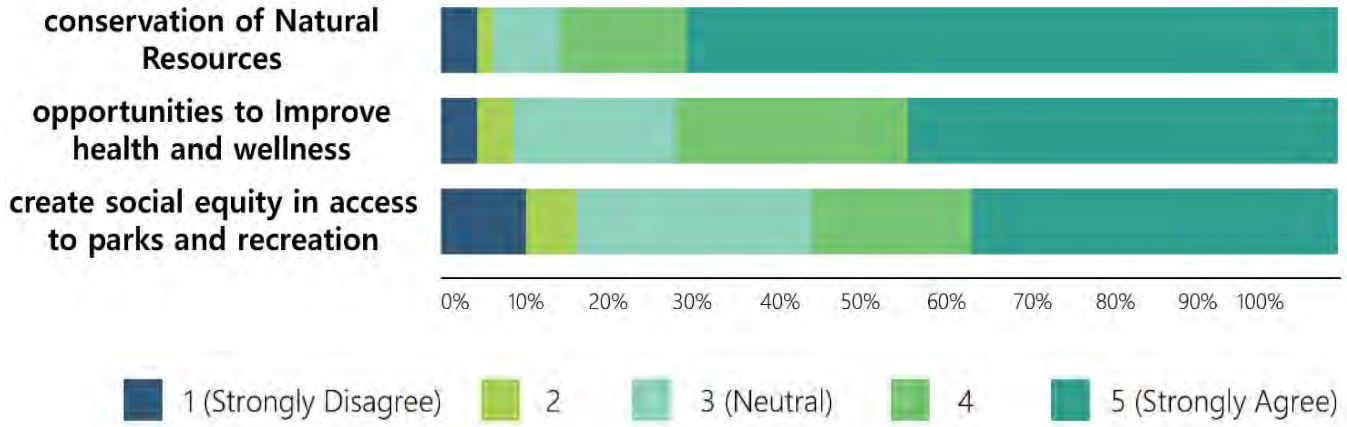
Open House #1 – Survey

677

Survey Participants

68% of survey participants visit the park regularly (at least weekly) and live within 3 miles of Klahanie Park

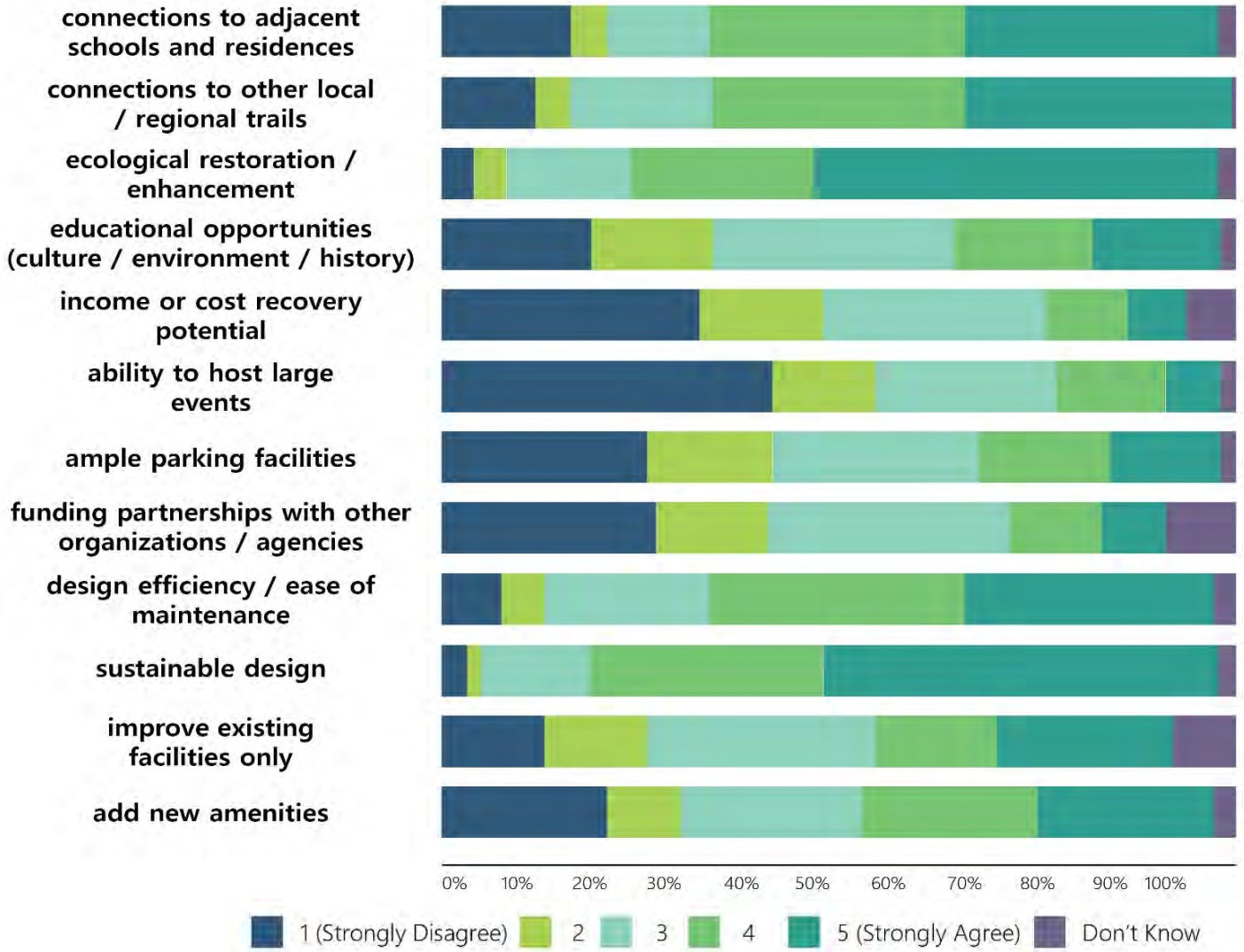
What extent should Klahanie Park support each vision & mission?



Open House #1 – Survey

What one word would you use to describe your vision for Klahanie Park?

How important are each of the following principles to Klahanie Park?



Open House #1 – Survey

What do you like **best** about Klahanie Park?

What do you like **least** about Klahanie Park?

Goals & Objectives

The overall vision for Klahanie Park is a place to . . .

1. **Protect Queen's Bog . . .**

   .... and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

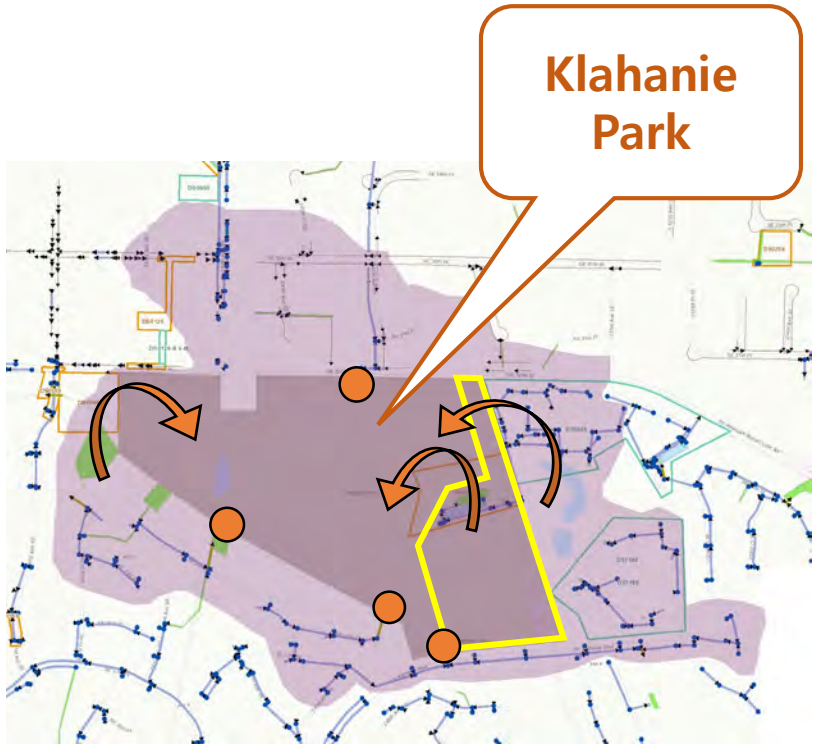
2. **Gather and celebrate . . .**

   .... to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

3. **Balance passive and active activities . . .**

   .... recognizing the park serves a larger community need but should still retain its neighborhood scale and character.

Programming Alternatives – Queen's Bog



175.5 acres of stormwater makes its way to the bog

1.9 miles of new trails proposed

14.5 acres of park re-development proposed

4 points of discharge

3 indirect overflow routes

** Existing stormwater facility is inspected and maintained by the City annually.*

Programming Alternatives – Queen's Bog

- Redirect stormwater through raingardens, biofiltration swales, and infiltration areas so it is treated before it reaches the bog
- Keep proposed improvements out of wetland and bog areas
- Improve buffers with understory vegetation, support natural tree succession
- Educate about the importance of the bog and the habitat / ecosystems they support
- Use full cut-off light fixtures and locate outside of buffer areas to limit light exposure on urban wildlife

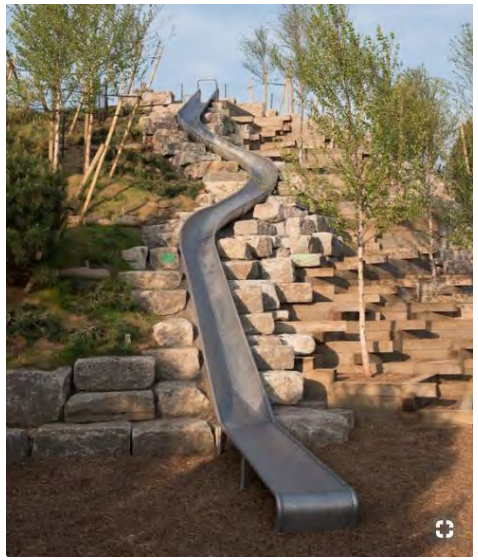
Programming Alternatives – Gathering Areas

Play-Structure

Playground

PLAYGROUND CHARACTER



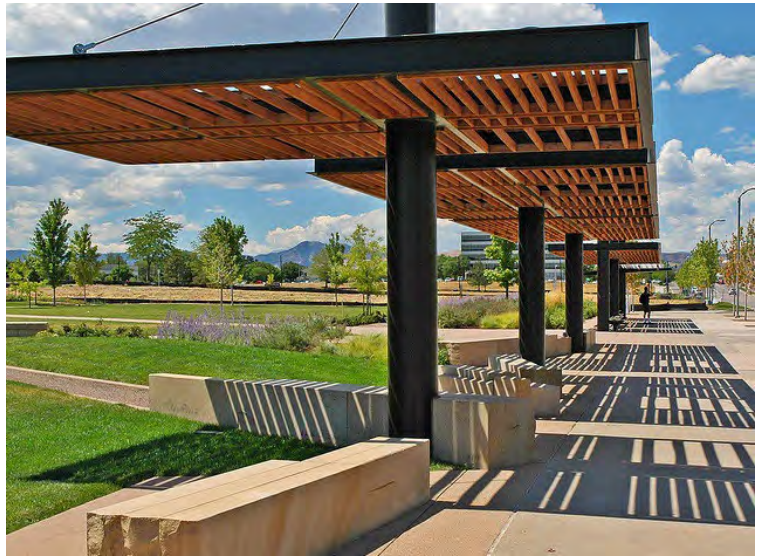


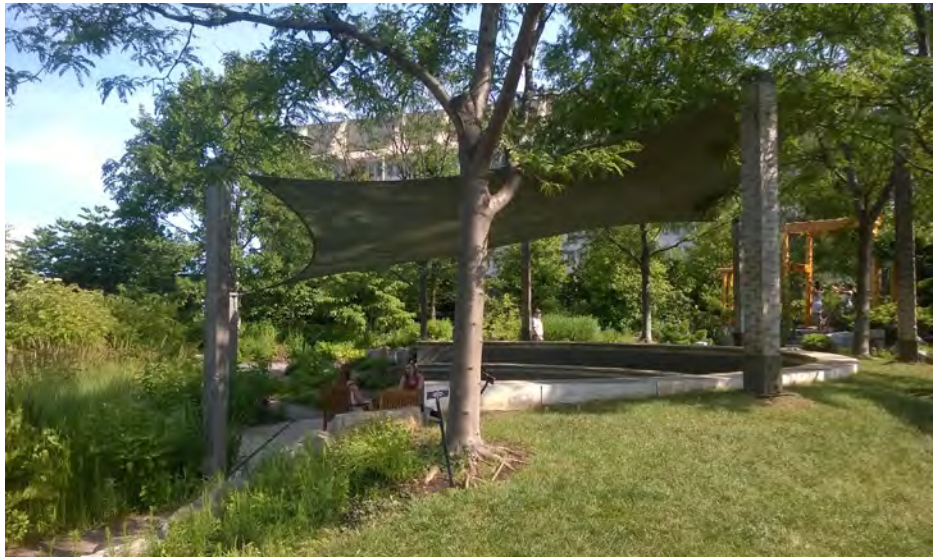
Programming Alternatives – Gathering Areas

Play-Structure Playground

Crowded Small Space

SHELTER / ARCHITECTURAL CHARACTER



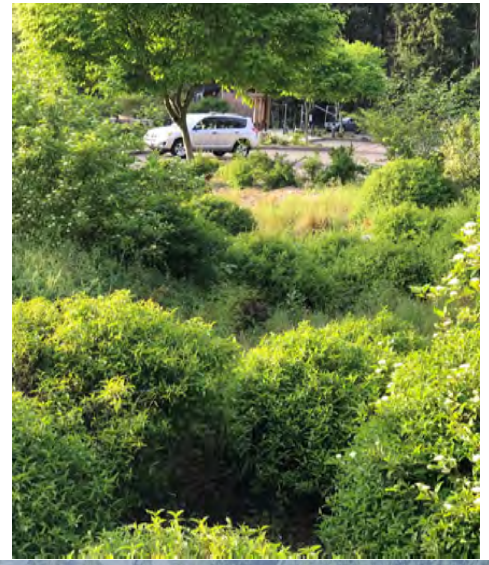
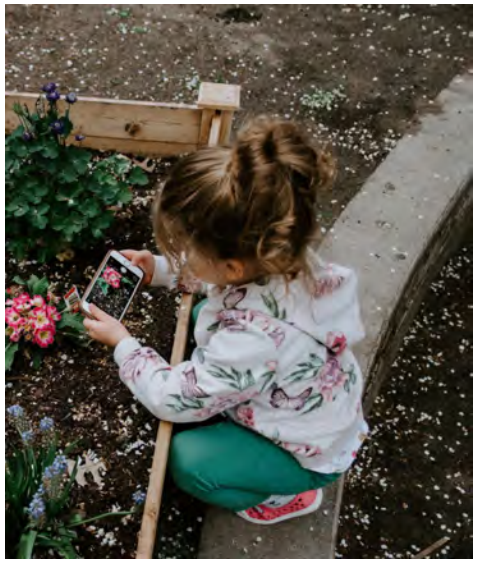


Programming Alternatives – Gathering Areas

Peaceful
Community
Flexible
Play-Structure
Playground
Crowded
Small
Space

DEMONSTRATION GARDEN CHARACTER

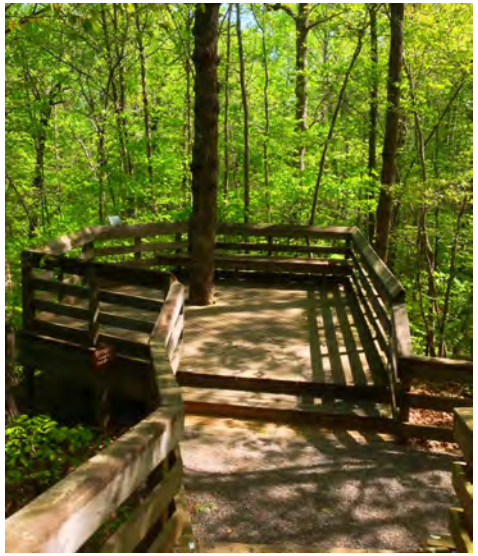


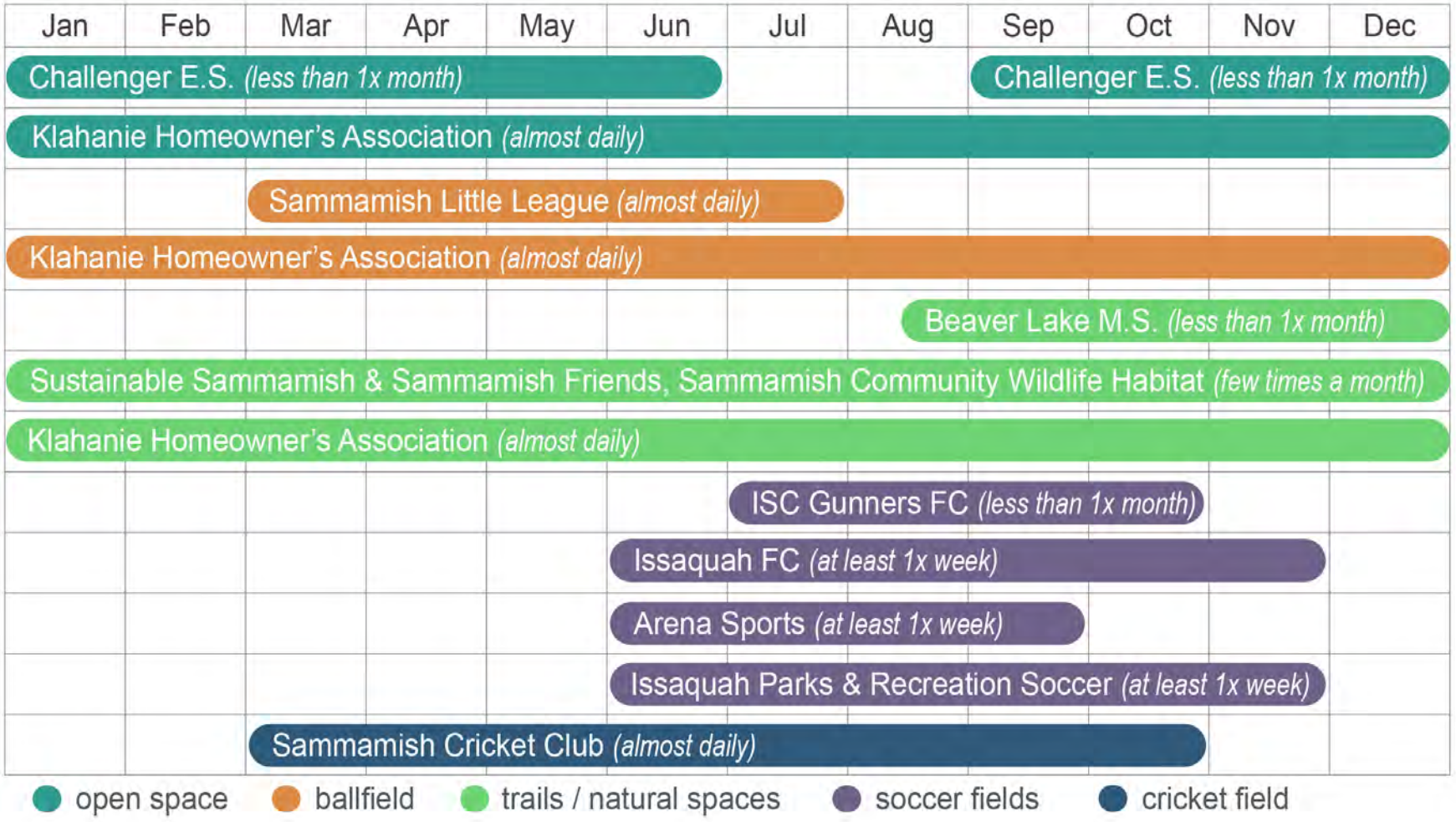

Programming Alternatives – Balanced Activities / Trails

TRAIL CHARACTER & EDUCATION OPPORTUNITIES





Programming Alternatives – Balanced Activities / Fields



5%-10%+

Estimated annual growth in participation

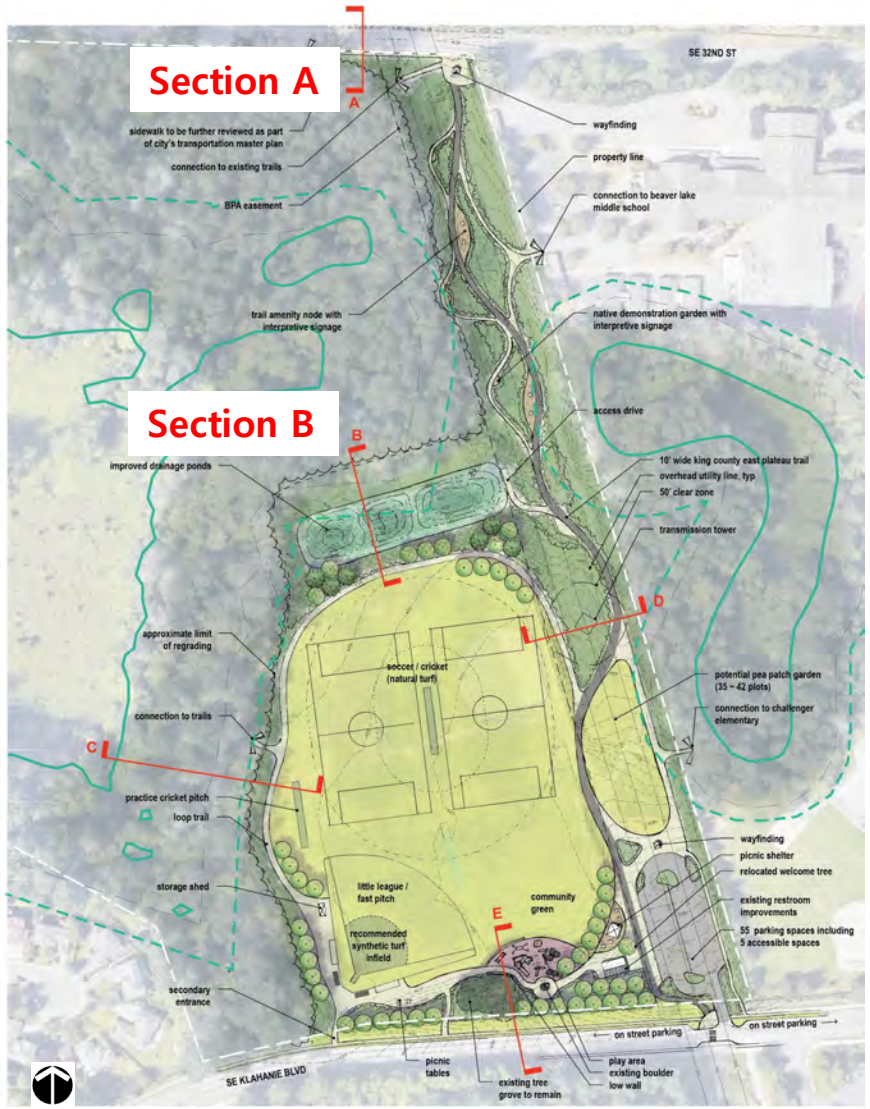
fully scheduled

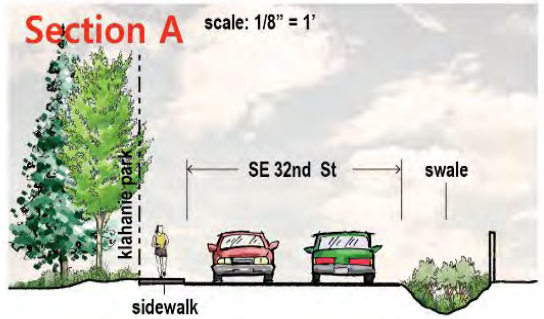
Afternoons and weekends for youth and adult leagues (9 months of the year)

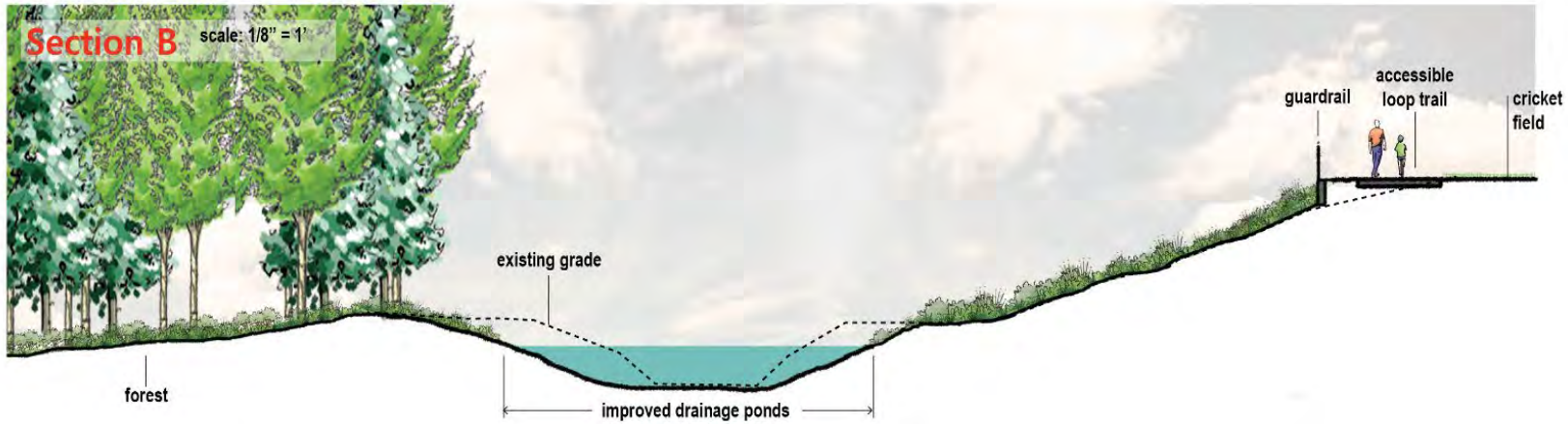
Concept Alternatives

Concept Alternatives

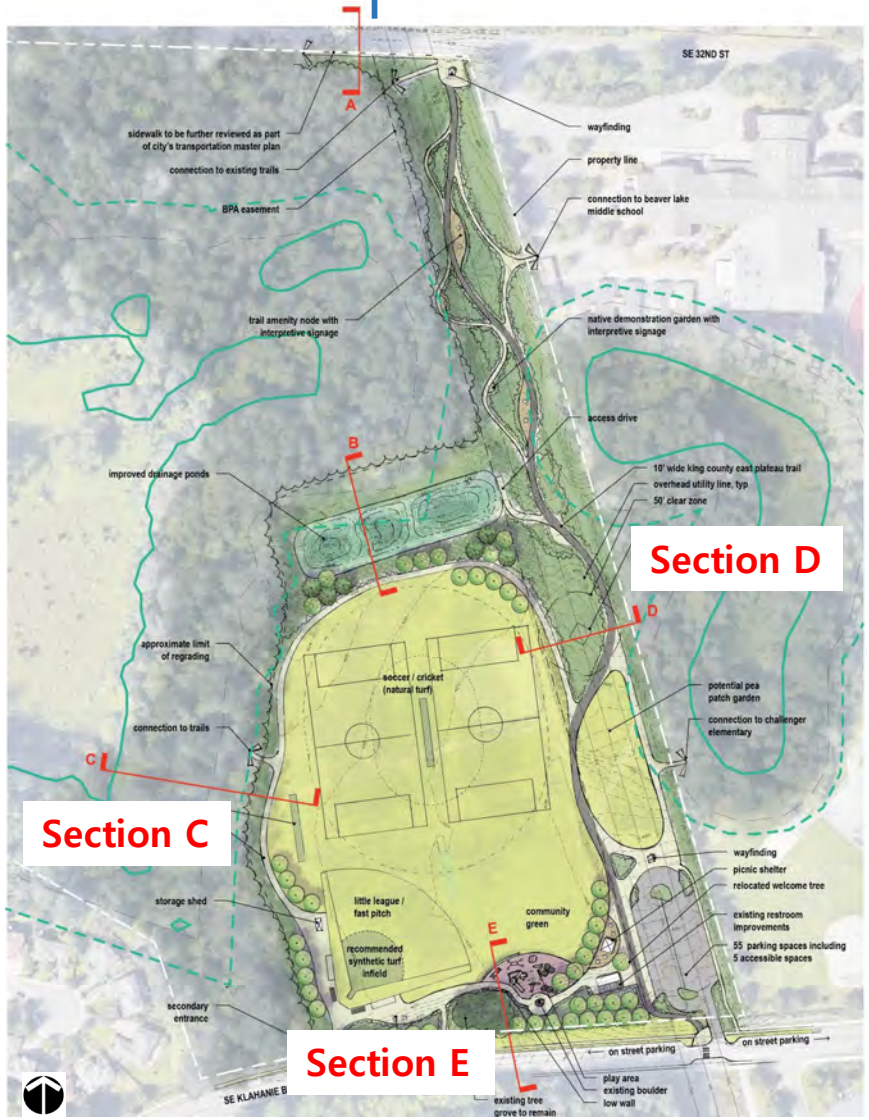
A







Concept Alternatives



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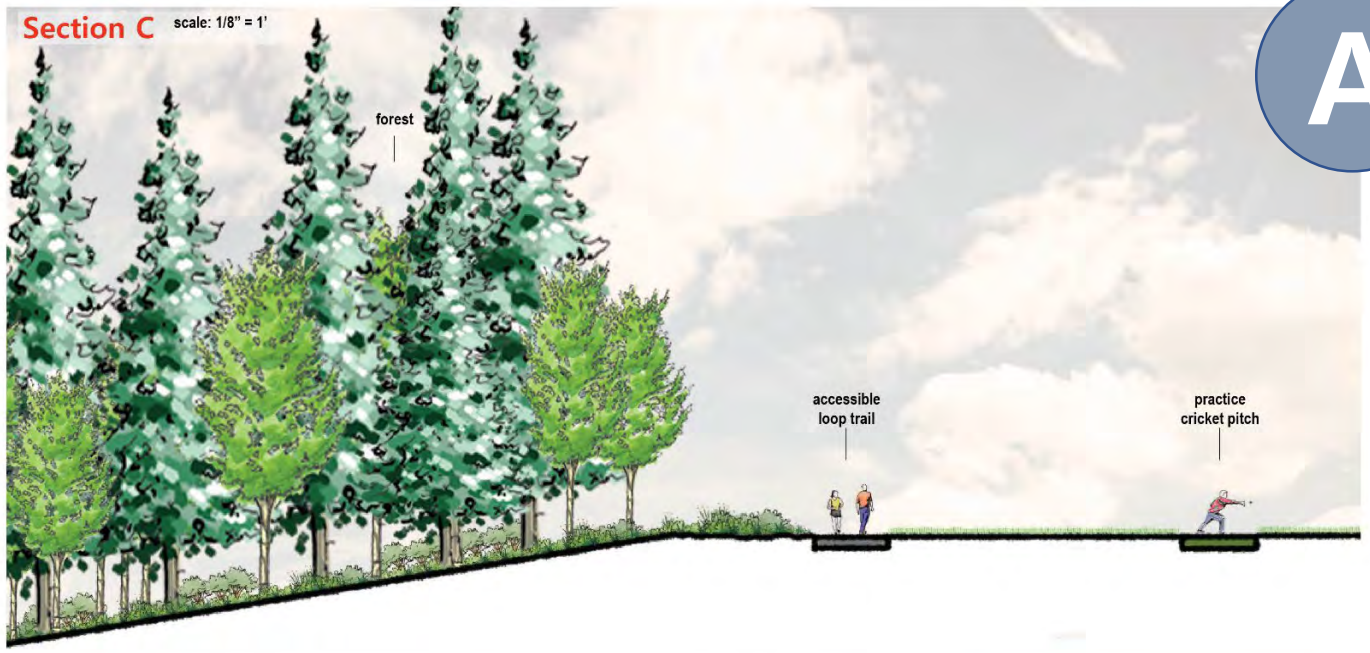
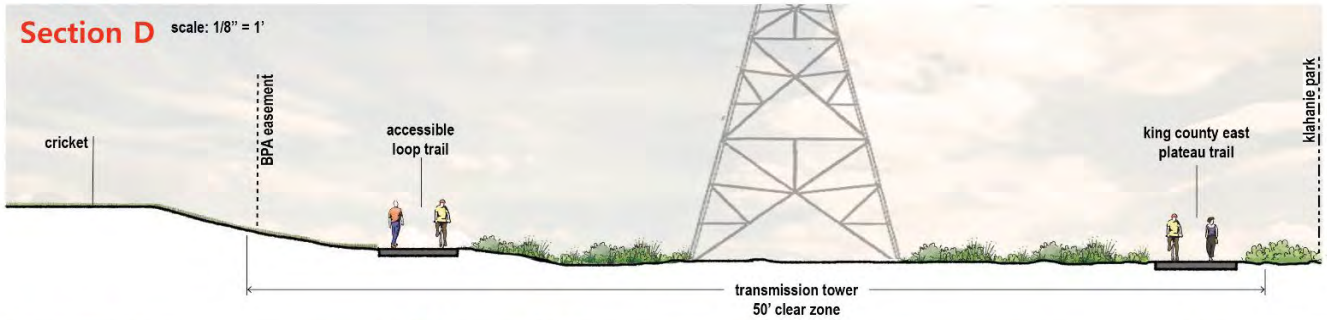
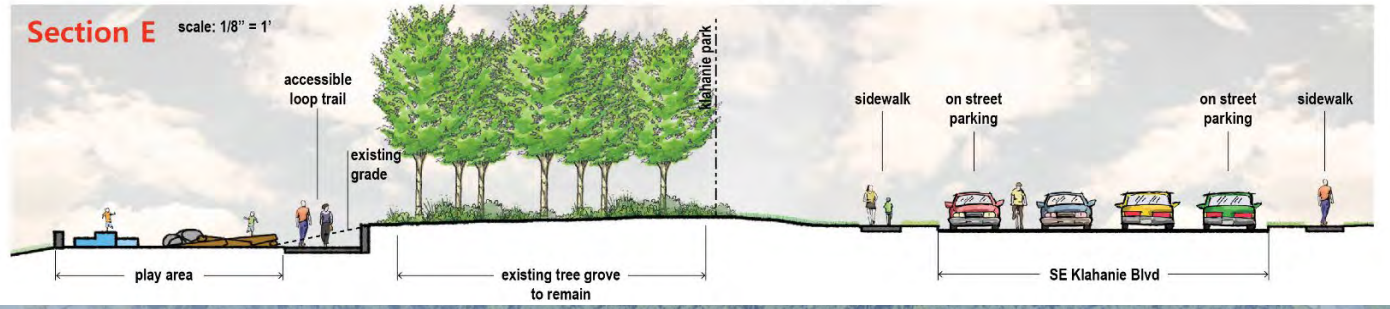


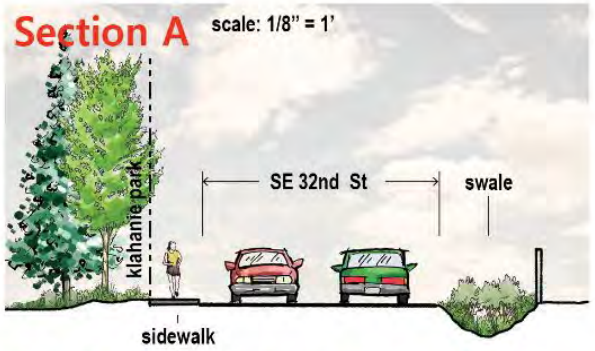


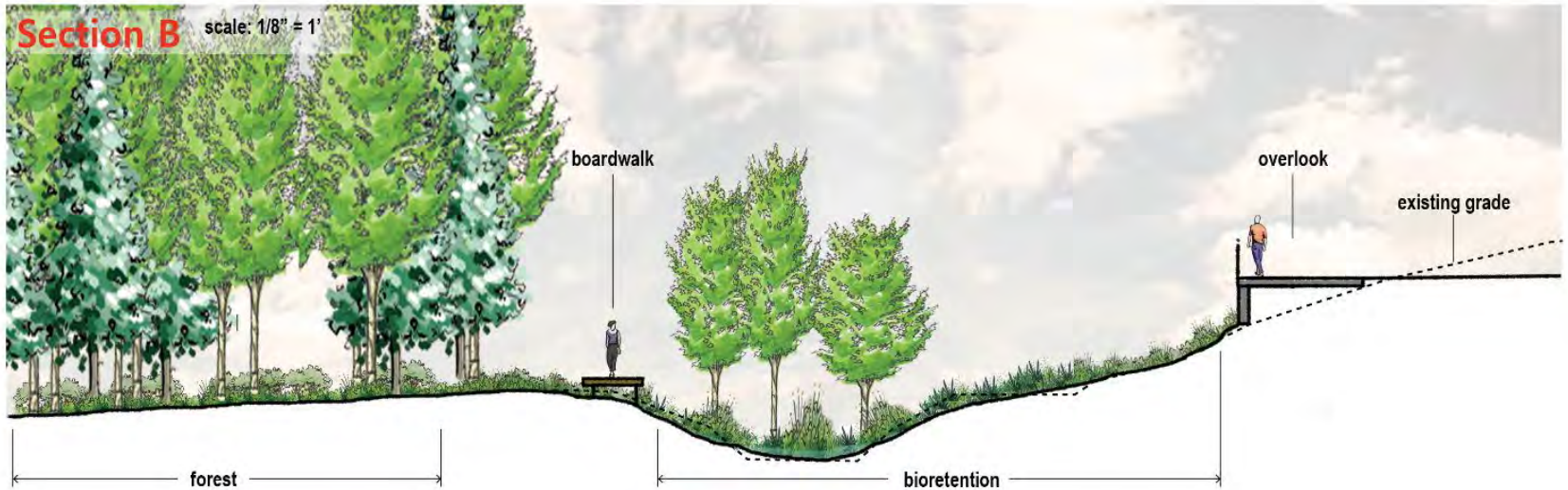


Concept Alternatives

Concept Alternatives

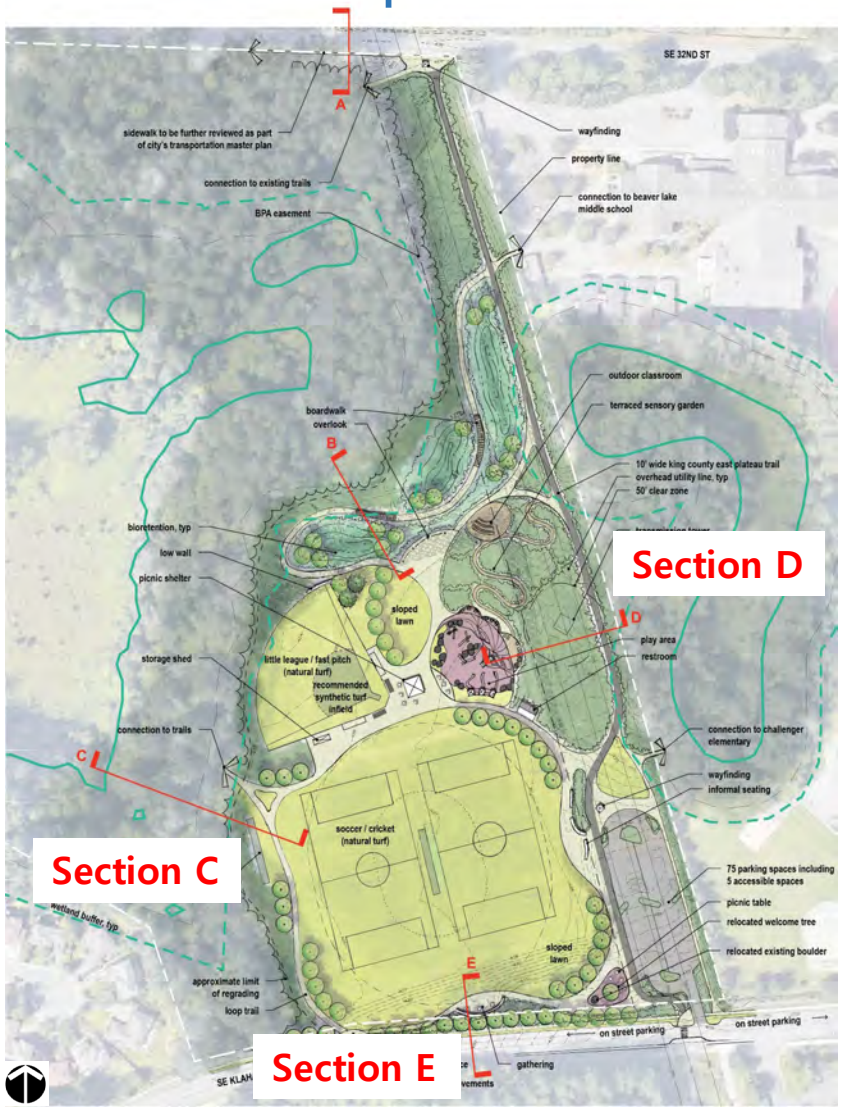
B

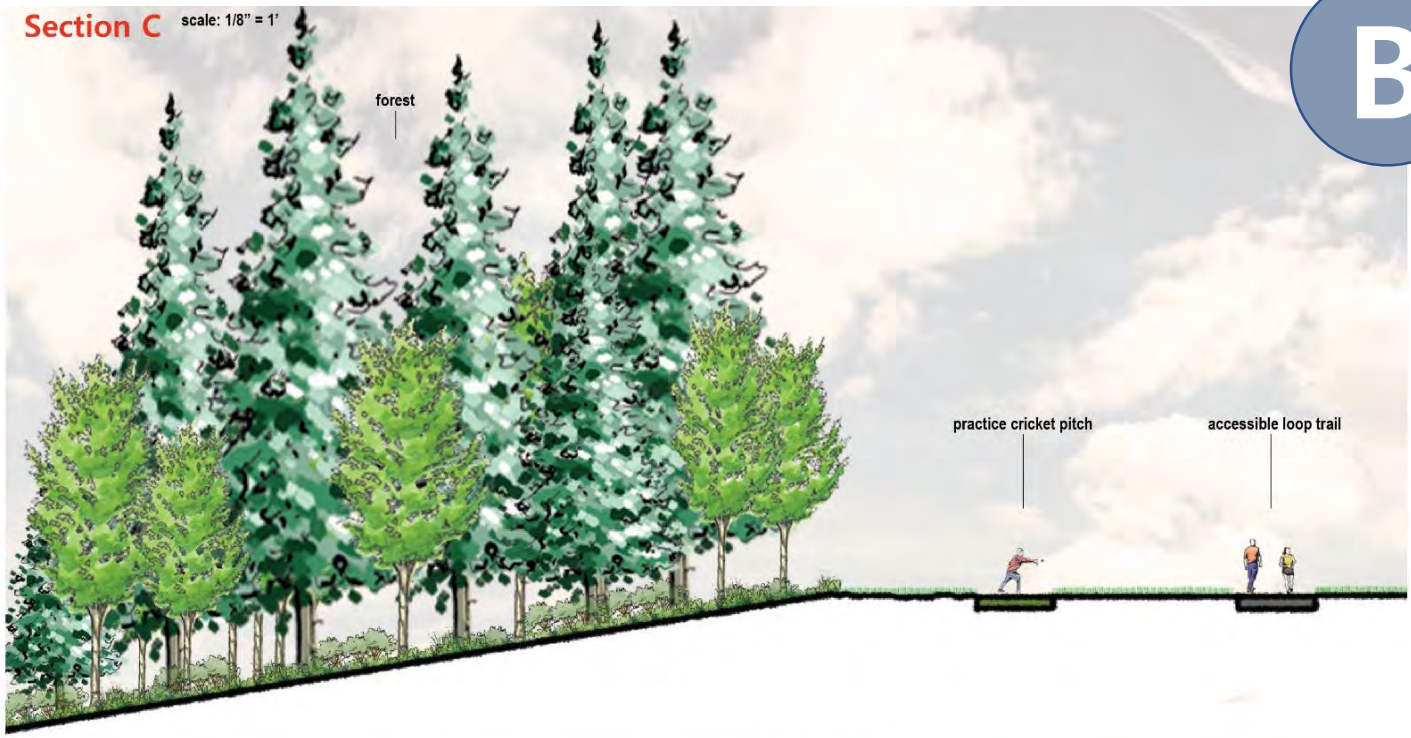


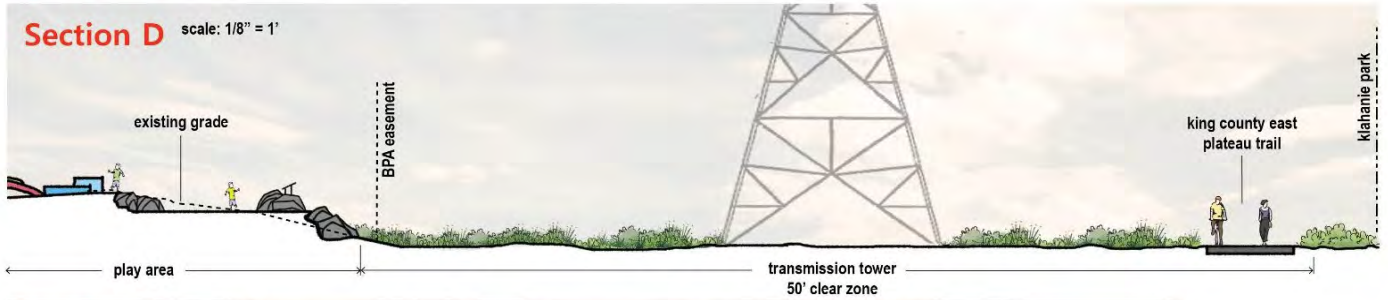


Concept Alternatives

B







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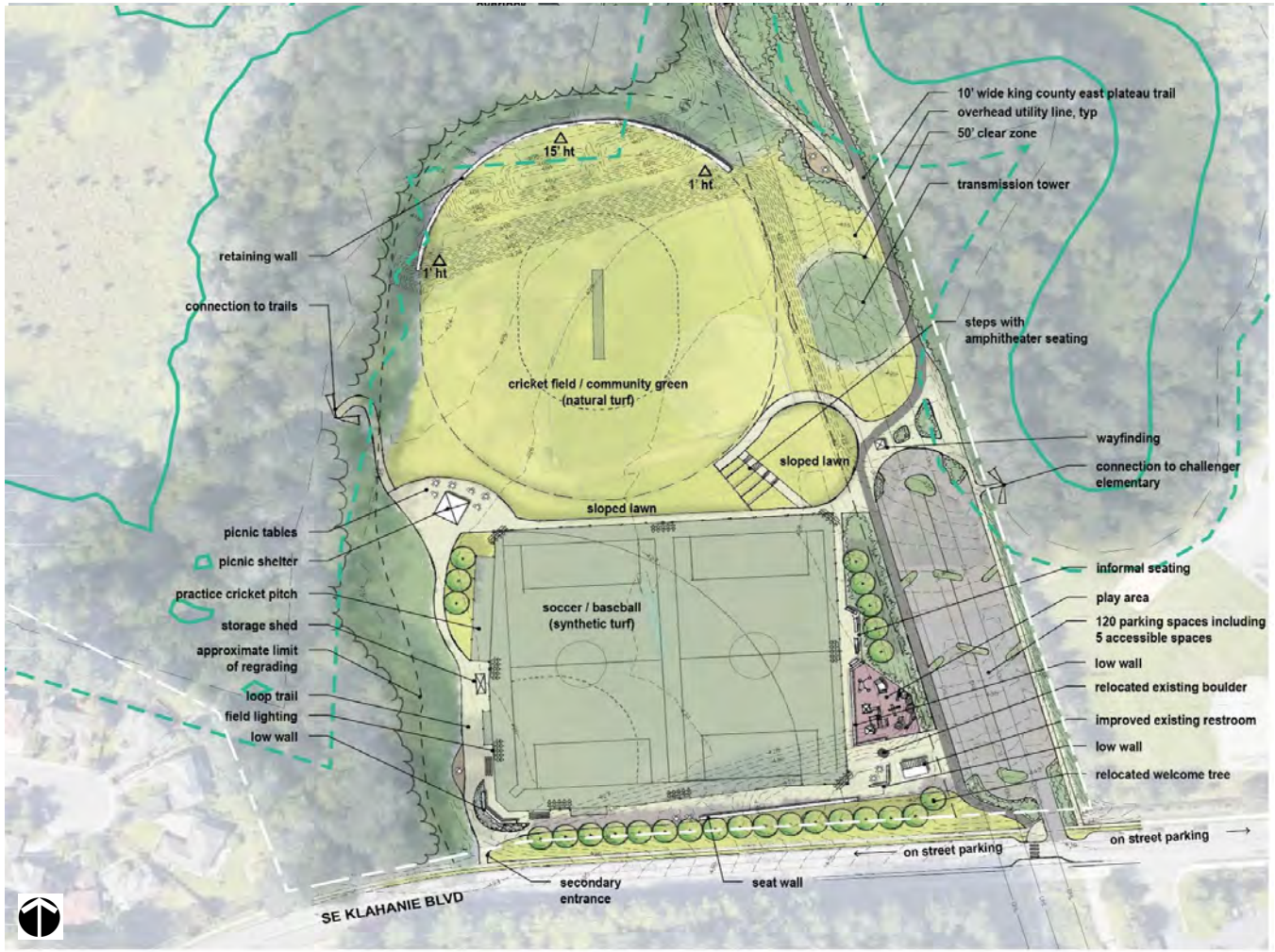
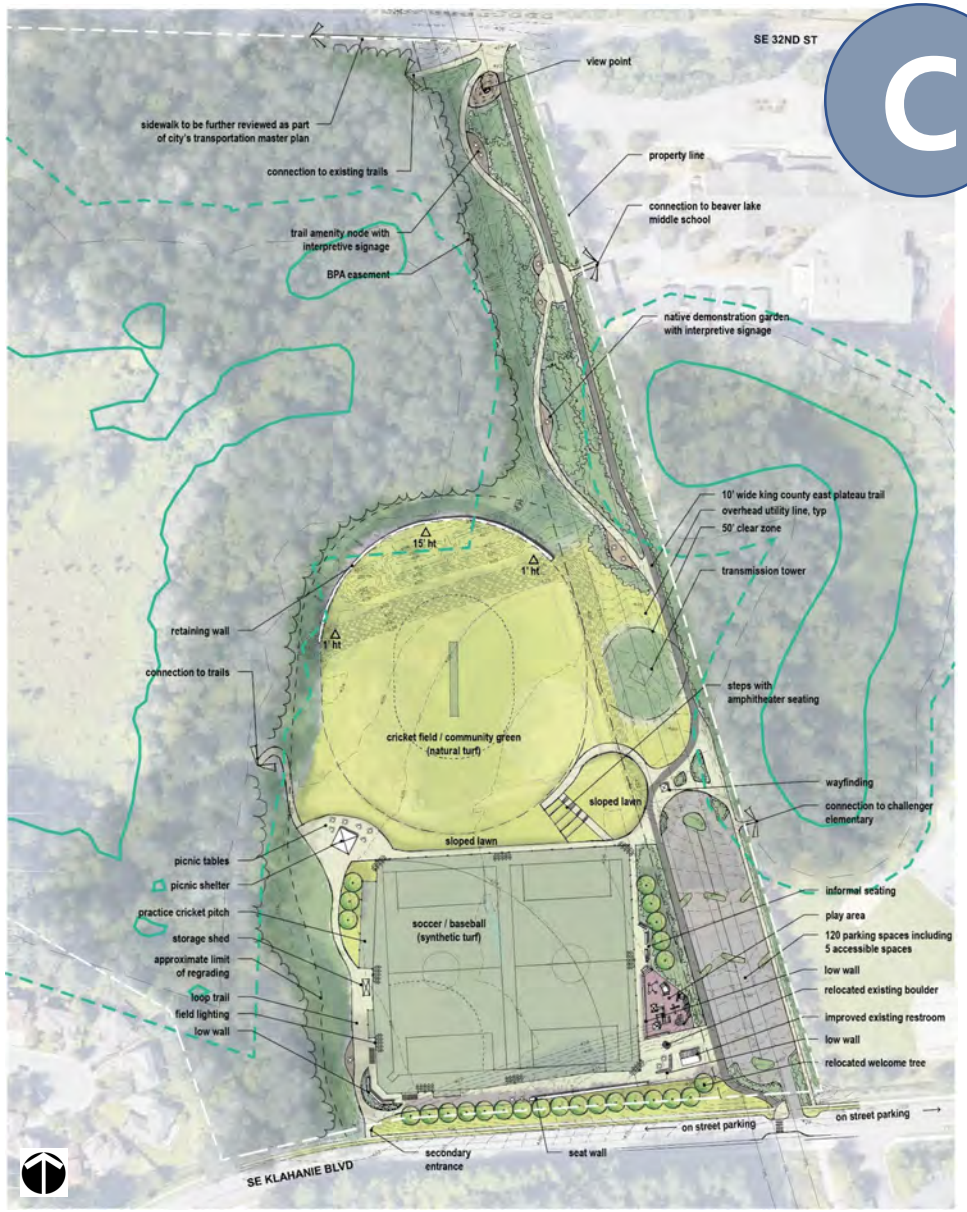
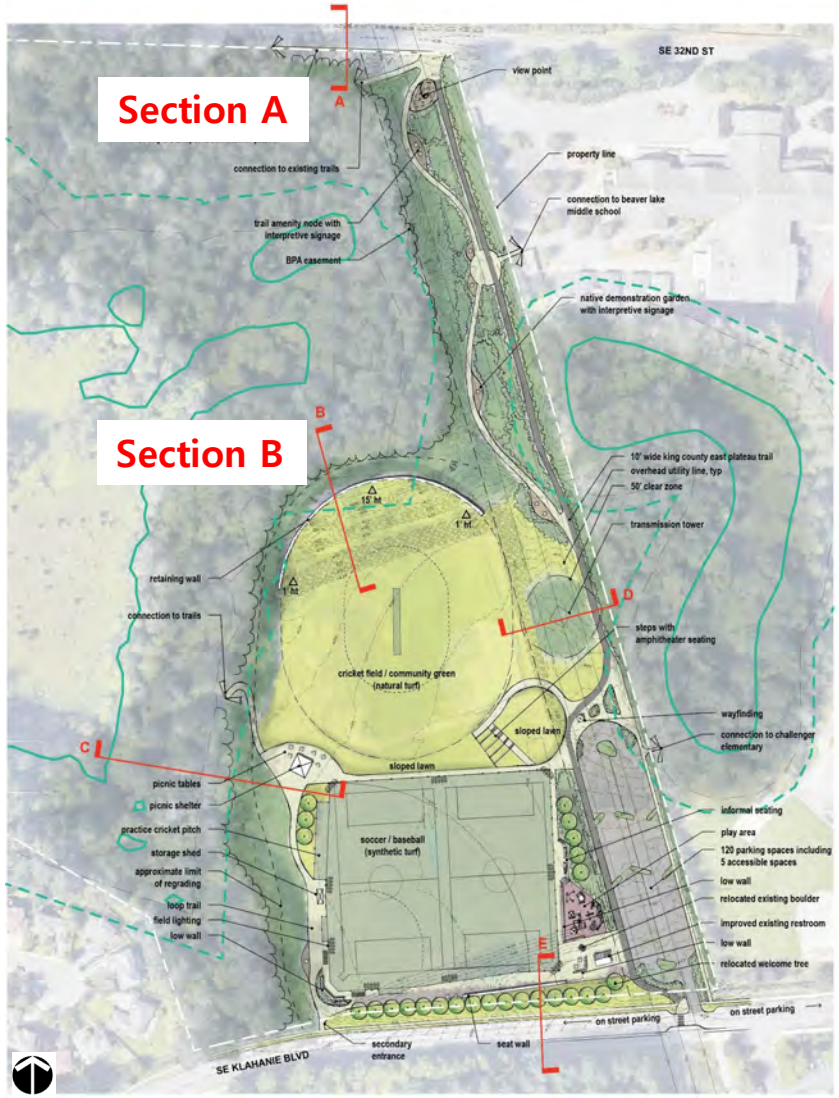
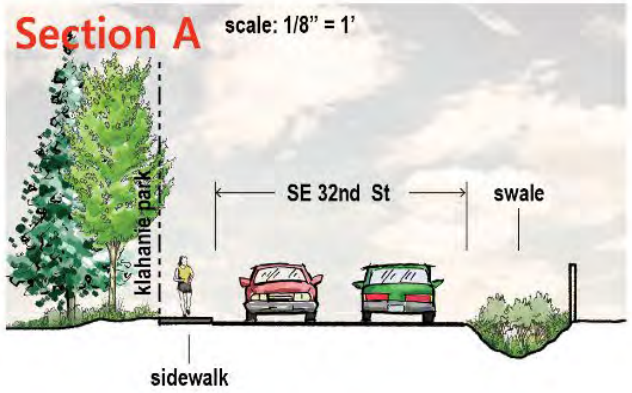


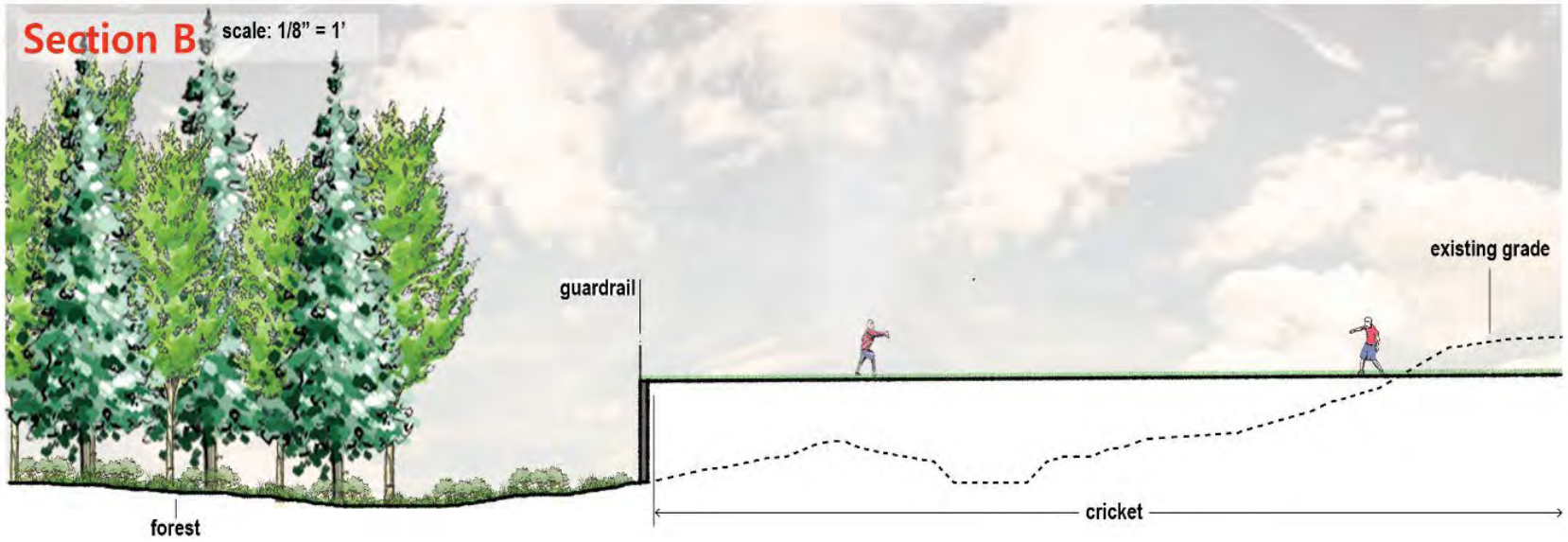


Concept Alternatives

C

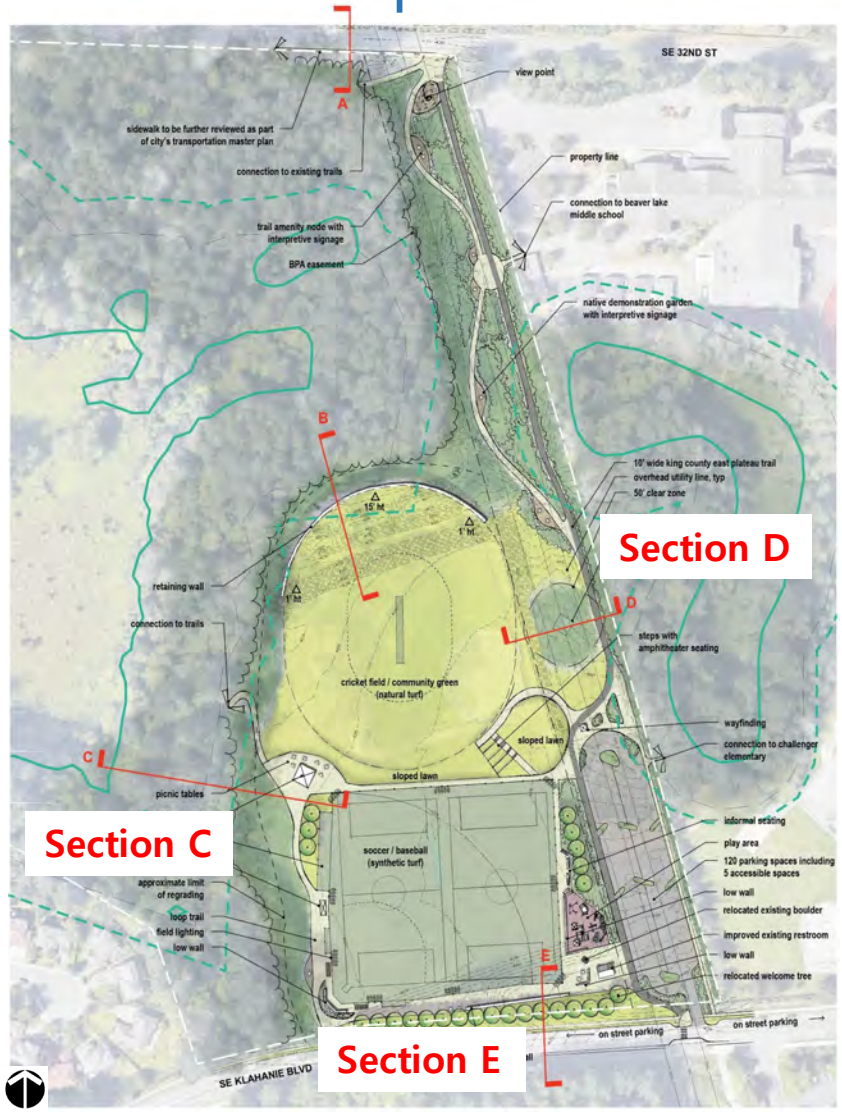


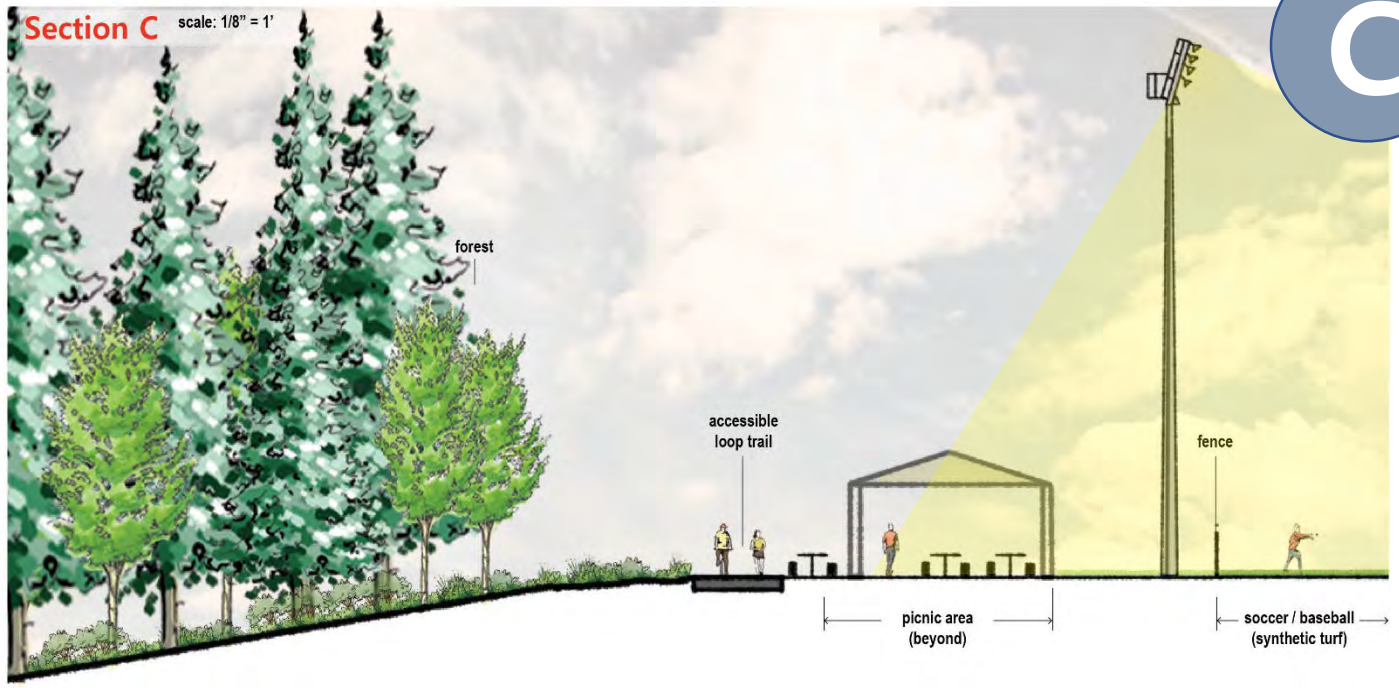


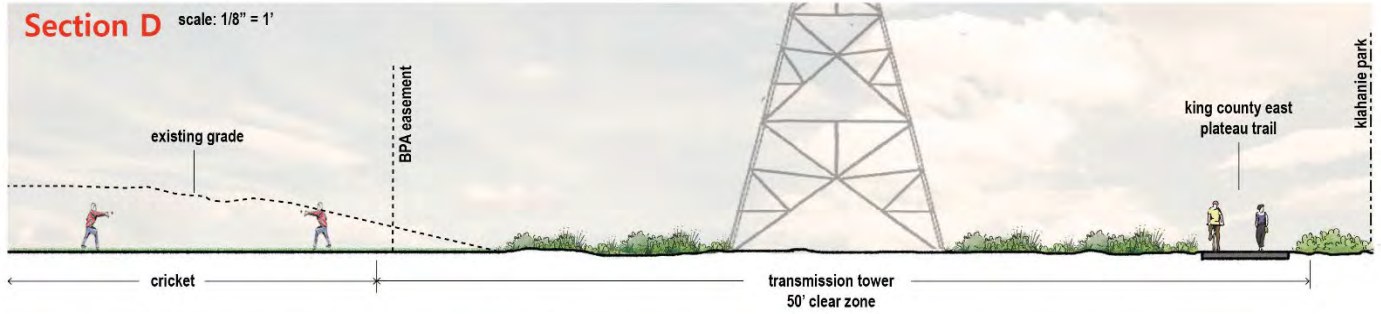


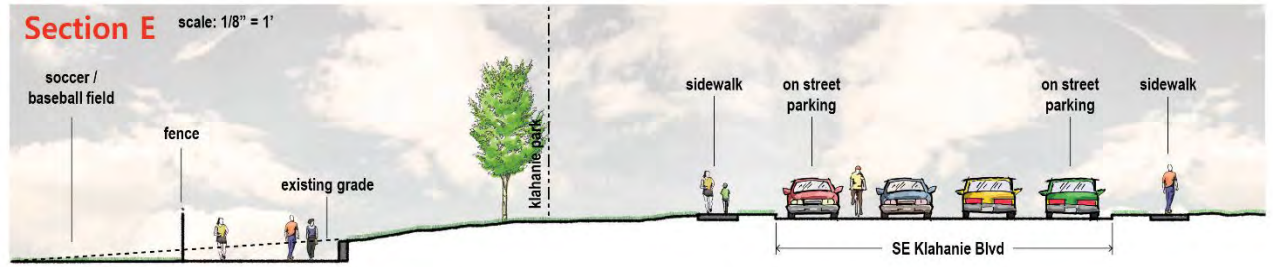
Concept Alternatives

C









Programming Alternatives – Balanced Activities / Fields

	Natural Grass	Synthetic Turf
Environmental Considerations **50%+** Increase in Use **100%** Increase in Reliability	• Routine mowing contributes to carbon emissions • Requires use of fertilizers, pesticides and herbicides that may leach into groundwater • Permeable surface filter stormwater • Biodegradable • High water use • Natural bacteria to process organic deposits • Requires establishment period and occasional 'resting' period prior to use • Use is limited by saturation after rain events	• Turf system has potential to be recycled, but costly • Retains heat contributing to urban heat index • Chemicals may be required to disinfect surface if needed; water wash-down optional • Minimal water-use except occasional cleaning • No natural bacteria to process organic deposit; additional fencing needed • No establishment or 'resting' period needed • Not susceptible to saturation after rain events

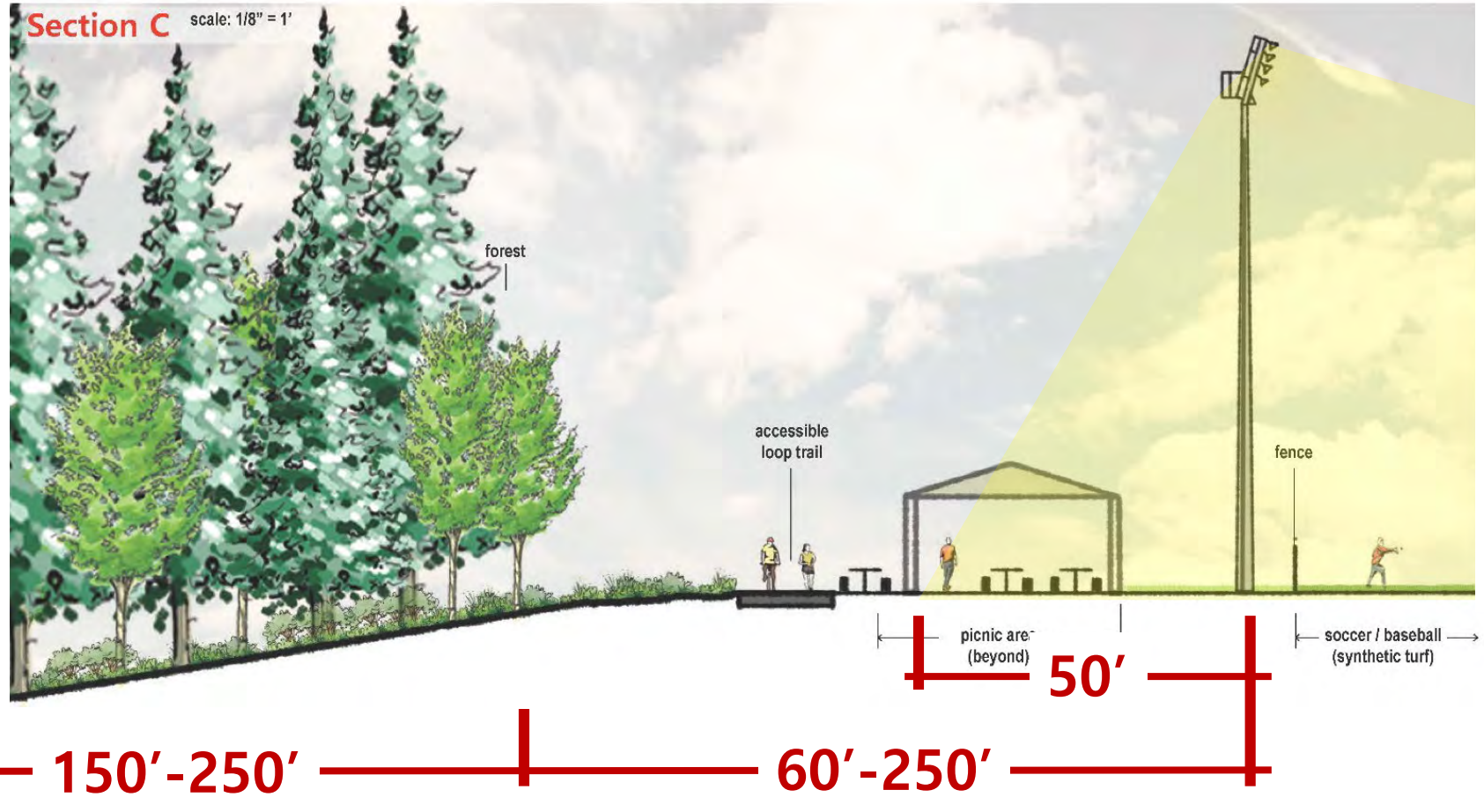
Programming Alternatives – Balanced Activities / Fields

	Natural Grass	Synthetic Turf
Installation Cost	$8 - $10 /sf Natural grass with underdrains	$15 – $18 /sf Synthetic surface, natural infill, with underdrains
Annual Maintenance	$50 - $75K / year (adequate maintenance) $100 - $150k / year (high level maintenance) More intensive regular maintenance	$20K - $40K /year Less intensive regular maintenance
Maintenance Equipment	Existing	Existing
Long-Term Replacement	Every 20 - 25 years ($6-$8 /sf) Surface and base materials	Every 8 - 12 years ($8-$12 /sf) Surface materials only
Stormwater	Collected and treated; overflow controlled by code	Collected and treated; overflow controlled by code
Materials	Natural grass; sand/topsoil base; underdrainage	Synthetic turf surfacing; cork or other natural infill; sand/gravel base; underdrainage

Programming Alternatives – Balanced Activities / Lights

- 70′ – 80′ pole height
- 60′ – 80′ tree height
- LED / cut-off fixtures
- Wireless, programmable controls

50%+
Increase in Use
(and wider age range)



Concept Alternatives

What we heard from Public Workshop #2. . .

LIKED the open space, the community gardens, the big rock and trees remain, loop trail, meandering easement trail with amenity nodes, natural turf

DISLIKED the fencing that would make the entrance feel less welcoming

LIKED the similar efficiency of the sports fields to the existing, natural grass, natural stormwater treatment, central play area, ballfield fences out of the way

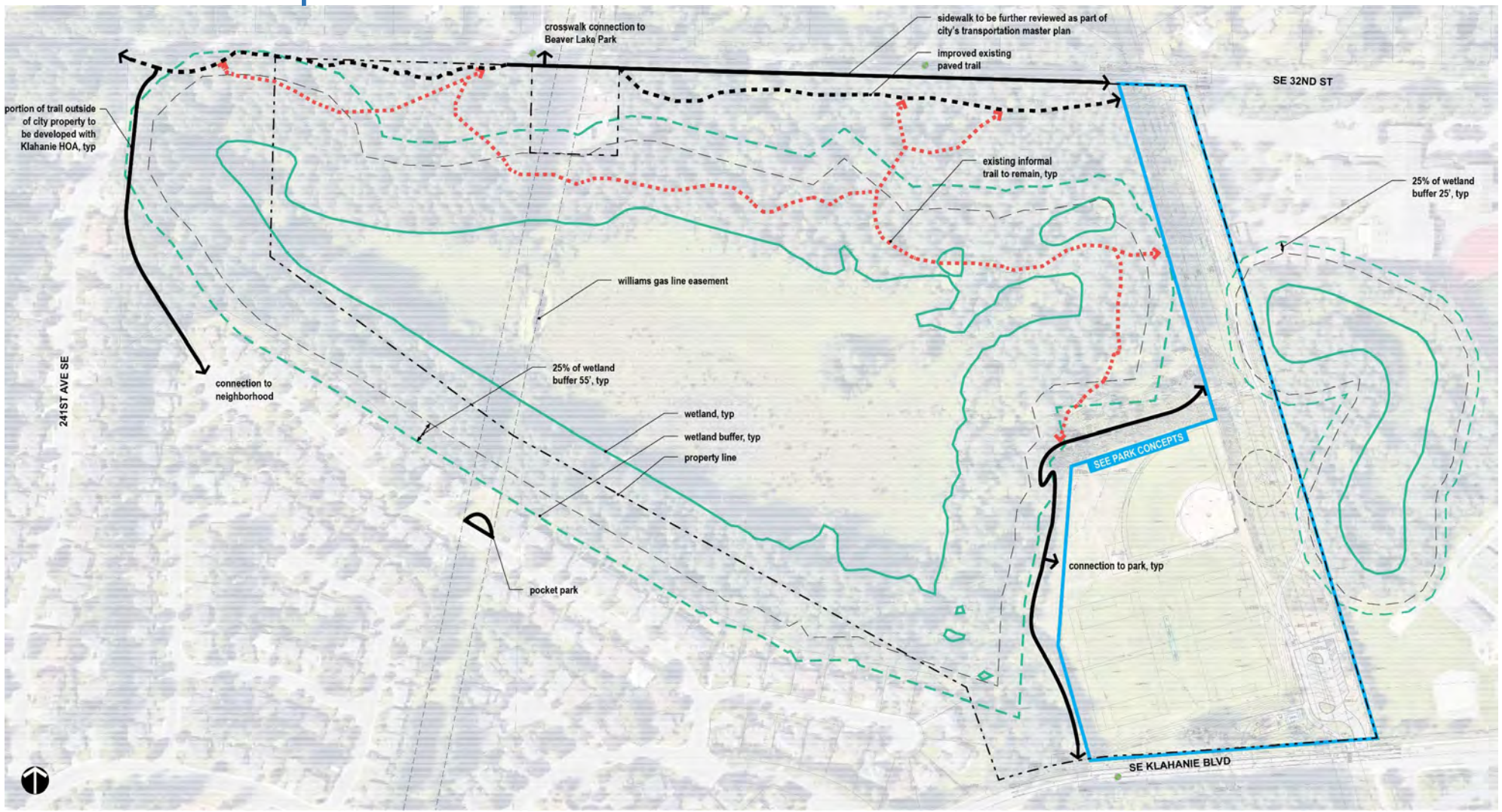
DISLIKED community open space is too small, distance of the play area to parking

LIKED artificial turf, field lighting, full adult softball field, cricket field separation

DISLIKED artificial turf, field lighting, loss of the neighborhood character, too much impact, loss of nature, stormwater redesign, fencing along Klahanie Blvd.

Concept Alternatives

1

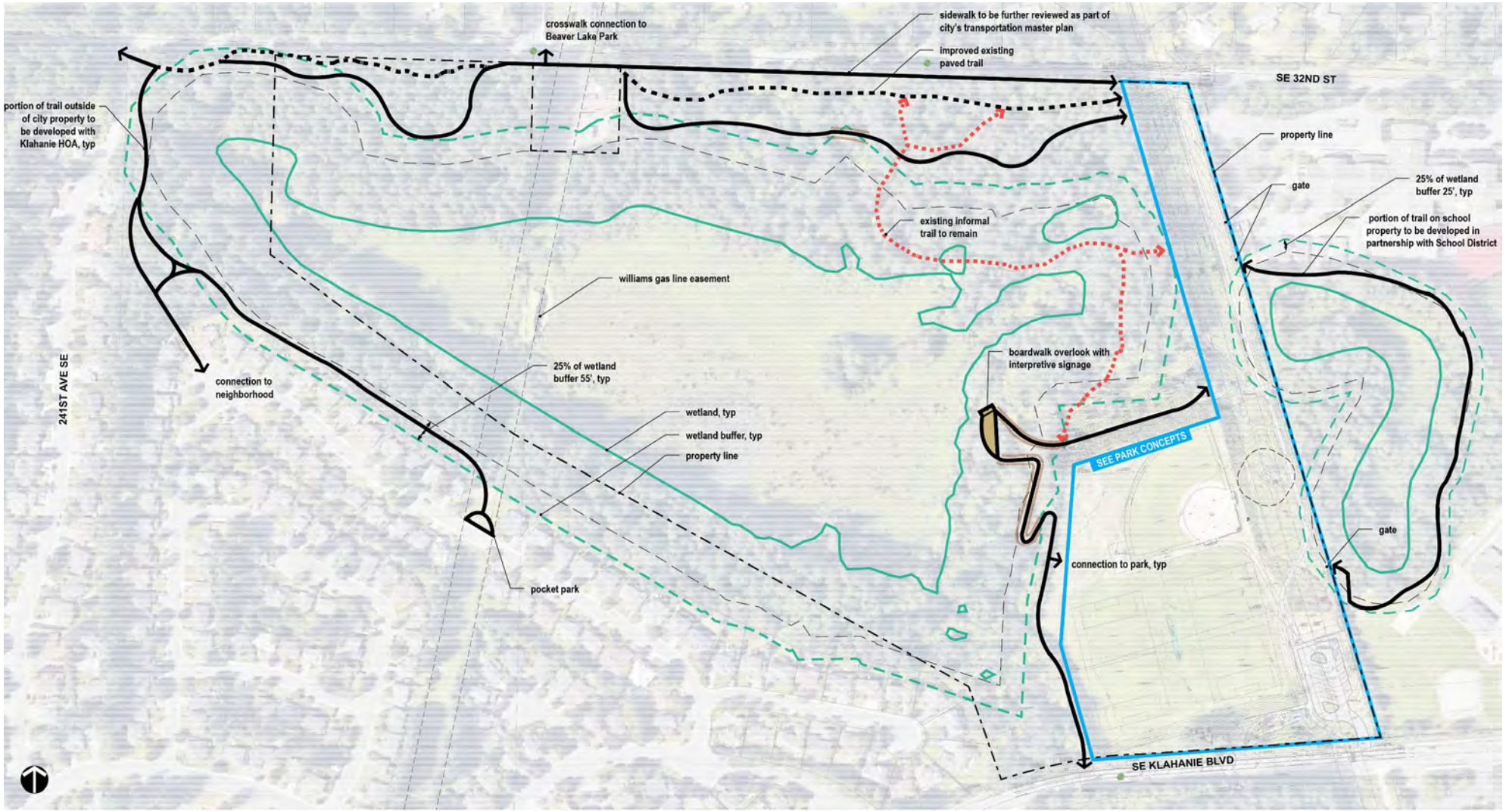


LEGEND

- park concept boundary
- wetland
- connections
- new trail
- existing trail
- existing informal trail

Concept Alternatives

2

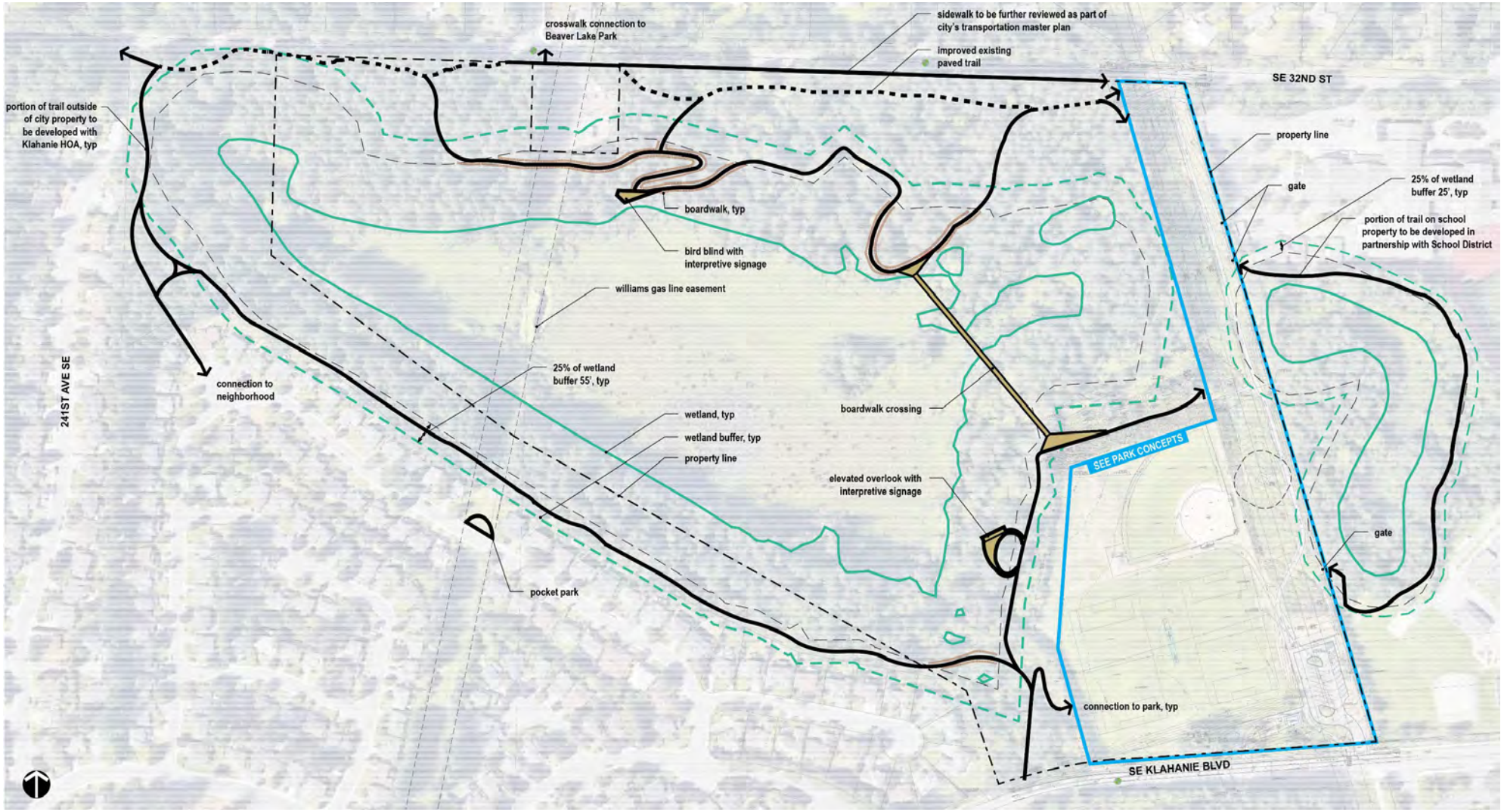


LEGEND

- park concept boundary
- wetland
- connections
- new trail
- existing trail
- existing informal trail
- boardwalk

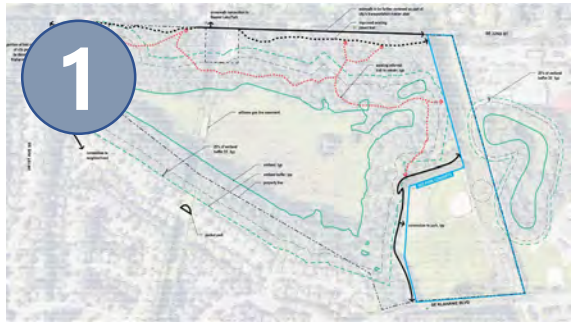
Concept Alternatives

3



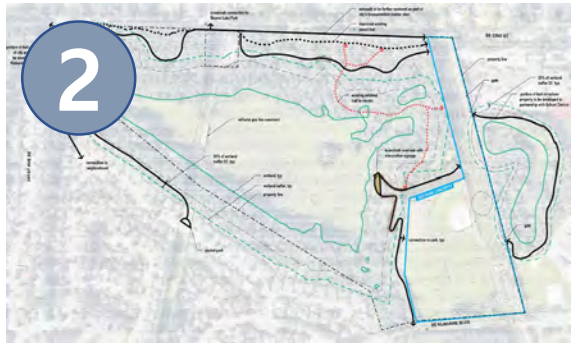
Concept Alternatives

What we heard from Public Workshop #2. . .



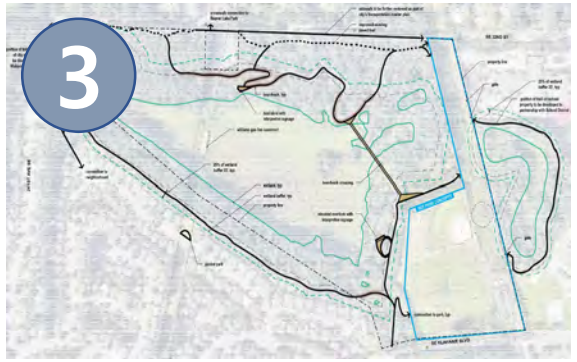
LIKED removed trails behind homes, minimum impact to the bog

DISLIKED



LIKED overlook but it needs to consider CPTED and impact on the environment, school wetland trail

DISLIKED trail behind homes



LIKED

DISLIKED trail behind homes, full loop trail has too much impact on bog, bridge over bog is too invasive, too much access to the bog

Discussion

Discussion

- What do you like about each alternative?
- What don’t you like about each alternative?
- Additional suggestions?
- What did we miss?

Next Steps

Next Steps

- Online survey (open June 5 – June 21)
- Preferred Concept development (Build a plan)
- Public Workshop #3 to review preferred concept (August)
- Present preferred concept to Parks & Recreation Commission (Sept. 4)
- Present preferred concept to City Council (October)

Memorandum

801 228th Avenue SE ▪ Sammamish, WA 98075 ▪ phone: 425-295-0500 ▪ fax: 425-295-0600 ▪ web: www.sammamish.us

DATE: May 31, 2019

TO: City Council and Parks & Recreation Commission

FROM: Shelby Perrault, Parks Project Manager
Anjali Myer, Parks & Recreation Deputy Director
Angie Feser, Parks & Recreation Director

RE: 3/6/19 Regular Meeting – Answers to Parks & Recreation Commission related to Klahanie Park Master Plan

3/12/19 Study Session – Answers to City Council Questions related to Klahanie Park Master Plan

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A representative from the consultant team, HBB, presented background information and an analysis of existing conditions and uses at Klahanie Park during the March 6, 2019 Parks & Recreation Commission meeting and March 12, 2019 City Council Study Session. During these meetings, City Council and the Parks & Recreation Commission discussed their hopes, dreams and concerns related to the master plan of Klahanie Park. The following answers are provided by the consultant team and city staff in response to questions raised by the Parks & Recreation Commission and City Council. The PowerPoint presentation referenced below is included as an exhibit in the Klahanie Park Master Plan discussion agenda bill for the June 11, 2019 City Council Joint Meeting with the Parks & Recreation Commission.

Responses to Parks & Recreation Commission Questions at March 6, 2019 Regular Meeting

A-1. How well used is the Klahanie P-Patch?

- The P-Patch in Klahanie is chartered under the Klahanie HOA and consists of 27 beds, 12 of which are currently rented. Each bed is 10’ x 20’. The Klahanie Pea Patch committee (KPPC) is currently working on a 5-year re-location plan for better access and sunlight exposure. The KPPC is in the first year of the re-location plan and a future location has not been identified.

A-2. Where is all the drainage going?

- All stormwater from the southern portion of the park, in addition to a portion of Beaver Lake Middle School, is currently being directed to the detention ponds which then either infiltrate or overflow into the bog. The developed area of Klahanie Park accounts for approximately 12% of the overall stormwater that makes its way to Queen’s Bog. Additional stormwater information related to Queen’s Bog is provided on slide 24 of the June 11, 2019 PowerPoint presentation.

A-3. Will synthetic turf provide extended use and is there a demand from the sports groups?

- Yes, synthetic turf will provide extended use compared to natural grass. Synthetic turf fields can be rented year-round, while natural grass is only available March through October. It is also important to note that rainouts on natural grass are inevitable during those times. This happens most typically through early summer, when soils are inundated with rains and are essentially unusable for possibly days after the rain ceases because stormwater has nowhere to go. Simple wear and tear on grass is another issue to consider. Synthetic turf surfaces do not experience either of these issues.

- Currently, youth sports groups are the primary renters of City fields. Conversion to synthetic turf and lights would allow additional youth, young adult and adult sports groups to utilize City fields. At this time, sports groups have significantly reduced their requests for City field rentals because the City's fields are at capacity.

A-4. Does synthetic turf have more significant negative environmental impacts than natural grass?

- There are environmental impacts for both synthetic turf and natural grass. These impacts are compared on slide 40 of the June 11, 2019 PowerPoint presentation.

A-5. Are maintenance practices/materials in maintaining synthetic turf different or worse than natural grass?

- Synthetic turf maintenance requires less frequent use of gas-powered equipment, significantly less water usage, and far fewer chemical inputs than natural grass.

A-6. What would be long-term maintenance costs for natural grass versus synthetic turf?

- Generally speaking, a natural grass field costs $50,000 - $75,000 annually for adequate maintenance (water and mowing) or $100,000 - $150,000 annually for a high level of maintenance (water, seed, fertilizer, and mowing). Whereas a synthetic turf field costs $20,000 - $40,000 annually for maintenance.

A-7. Can a cost comparison be provided for synthetic turf and natural grass systems for maintenance and value of use?

- Currently, the natural grass field revenue does not cover annual maintenance costs. If a synthetic turf system was selected, the field revenue would potentially cover annual field maintenance costs. Additional information related to maintenance costs is provided on slide 41 of the June 11, 2019 PowerPoint presentation.
- In response to value of use, it is difficult to quantify the value of cool, soft, natural grass to that of durable and reliable synthetic turf. There are intangible benefits to each system.

A-8. What are the costs for natural infill (i.e. cork), tradition infill materials, and natural turf?

- The Infill costs included below exclude the cost of adjacent improvements, fencing, etc.:
  - Sand-Based Natural Grass: $8-$10/sf
  - Synthetic Turf w/ Styrene Butadiene Rubber (SBR) Crumb Rubber: $12-$15/sf
  - Synthetic Turf w/Coated SBR Crumb Rubber: $13-$16/sf
  - Synthetic Turf w/Granular Cork on a Supplemental Pad*: $15-$18/sf
  - Synthetic Turf w/Thermo Plastic Elastomer (TPE) on a Supplemental Pad*: $16-$19/sf

  **Use of Infill option without supplemental pad not recommended*

A-9. What portion of the future turf replacement costs can be offset with field reservation revenue?

- The table on the following page provides a breakdown of current field reservation fees and availability for synthetic and natural turf fields that the City rents.

801 228th Avenue SE ▪ Sammamish, WA 98075 ▪ phone: 425-295-0500 ▪ fax: 425-295-0600 ▪ web: www.sammamish.us

Sammamish Athletic Field Rental Information

Comparison	Synthetic Turf	Natural Grass
Youth Reservations	$60 per hour	$17 per hour
Adult Reservations	$90 per hour	$30 per hour
Misc. Costs	$20 per hour - lights	$ 40 – field prep
Availability	9:00 a.m. – 9:00 p.m. Year-round	9:00 a.m. – Dusk March through October

A-10. What sports groups are playing during the February timeframe with synthetic turf? Additionally, how many sports groups are playing?

- February itself does not typically have any youth recreational activity, however there are year-round adult soccer leagues. In late February, high school softball, baseball, and soccer are gearing up for the season. Additionally, several youth sports are still active well into November, as well as year-round adult leagues.

Responses to City Council Questions at March 12, 2019 Study Session

B-1. What are the tree heights between the fields and the homes? What are the tree heights versus the field light heights? How much light would penetrate through the tree canopy?

- Tree heights between the fields and adjacent homes range from 60' to 80'. Field light heights range from 70' to 80'. Lighting would not penetrate through the tree canopy. Light screens would be used, and lights would only be turned on when needed. Field lighting can have a negative effect on habitat for nocturnal birds and bats. That said, the bog itself shouldn't be affected due to the protective nature of the buffer. Additional information related to field lighting is discussed on slide 42 of the June 11, 2019 PowerPoint presentation.

B-2. Is there capacity at Klahanie Park to be used as a community park that serves the City, versus a neighborhood park?

- The Parks, Recreation and Open Space Plan (PRO Plan) designates Klahanie Park as a community park. At 64 acres, it is the second largest community park in the City. Additional information on the different amenities provided in a community park and neighborhood park is identified on slide 8 of the June 11, 2019 PowerPoint presentation.

B-3. What kind of stewardship opportunities are there for students?

- Once a preferred master plan is developed, the City can work with adjoining schools to identify potential stewardship opportunities.

B-4. When was the pond last cleaned? Are there sand filters?

- The City began maintaining and inspecting the stormwater facility within Klahanie Park in 2017, following the Klahanie annexation. The most recent inspection was completed July 27, 2018 and there were no noted maintenance needs.
- There does not appear to be a sand filter. The facility uses a wet pond, followed by a bioswale for its water quality treatment.

B-5. How much water is flowing to the bog and where is it coming from?

- Please refer to response A-2.

B-6. How can we restore the bog?

- It is challenging to restore a bog. Once its chemistry begins to change, there is little to be done outside of reducing the overall impact. Going in to remove plants and re-planting with bog species would be damaging. The best thing to do is to stop stormwater entering the bog, or ensure it is properly treated before entering the bog. Lastly, the buffer should be enhanced for further protection.

B-7. Can utility agencies that own property just north of Queen's Bog make any environmental improvements on their property or park property?

- City staff have reached out to both utility agencies to discuss potential improvements on their property and/or park property.

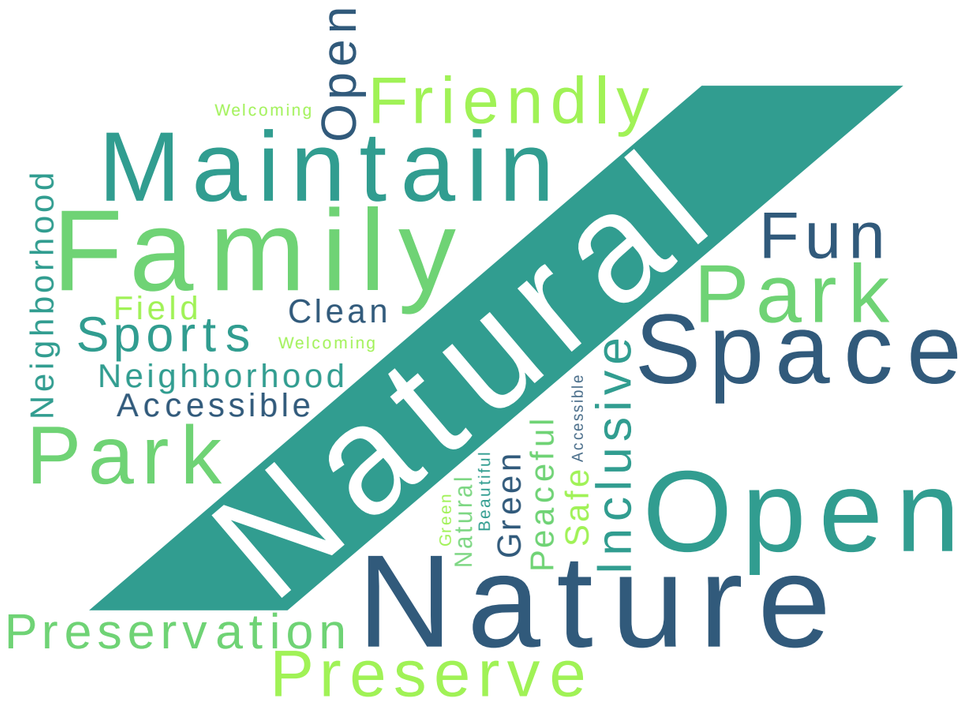
VISION & PROGRAMMING SURVEY

The vision and programming survey was available online and open to the public from 03/13/2019 through 04/19/2019 and worked in tandem with the feedback from Public Workshop #1 to kick-off the design process. This was not a statistically valid survey.

Some survey questions asked what the community likes and dislikes about the current park and a variety of answers were submitted. In general, the community enjoys the park's location and it's neighborhood park feel, the flexible open space, current activities including the sports fields, the natural spaces, and trails. The survey results also show that the current drainage/wet field conditions, the crowded fields and busy open spaces, current playground structure, restroom, the power lines, and the trails are what the community likes the least about the park. Some other comments received included:

- increased traffic and safety concerns
- impact on the environment
- concern with adding field lighting
- concern with using artificial turf
- keep the big boulder by the playground
- concern with the park becoming crowded with large groups / leagues using the park
- desire to keep the park as-is.

The survey asked what one word or phrase would you use to describe **your vision for the future of Klahanie Park** and here is what we heard. The larger the word, the more often it was mentioned in survey responses.



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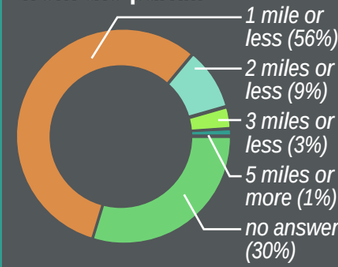
Survey Participants

Distance participants live from the park...



The majority of survey participants live a short distance from the park and visit weekly or more.

Average age of participants...

2% under 25 years

41% 26 - 45 years

46% 46 - 65 years

11% over 65 years

Vision & Mission

Conservation of natural resources:

86%

agreed or strongly agreed

Vision & Mission

Opportunities to improve health and wellness:

70%

agreed or strongly agreed

Vision & Mission

Create social equity in access to parks and recreation:

45%

agreed or strongly agreed

Above is the % of survey participants who agreed that Klahanie Park should support the City's mission to create a legacy of diverse and quality parks, exceptional recreation programs, and protected natural resources.

Top Perfect Fit Features...

#1 Restrooms

#2 Natural surface trails

#3 Playgrounds / natural play elements

Other perfect fit features included boardwalks, flexible space, picnic areas, and multi-purpose fields.

Top Non-Suitable Park Features...

#1. Skate park / skate features
#2. Frisbee golf course
#3. Amphitheater / stage
#4. Art murals & sculptures
#5. Single purpose sport fields

Other less desired features: zipline, climbing walls, parkour, sports courts, off-leash dog area, spray park.

Top Guiding Principles...

#1 Sustainable design

#2 Ecological restoration / enhancement

#3 Efficiency / ease of maintenance

Other guiding principles for the park design included connections to trails, schools, and residences.

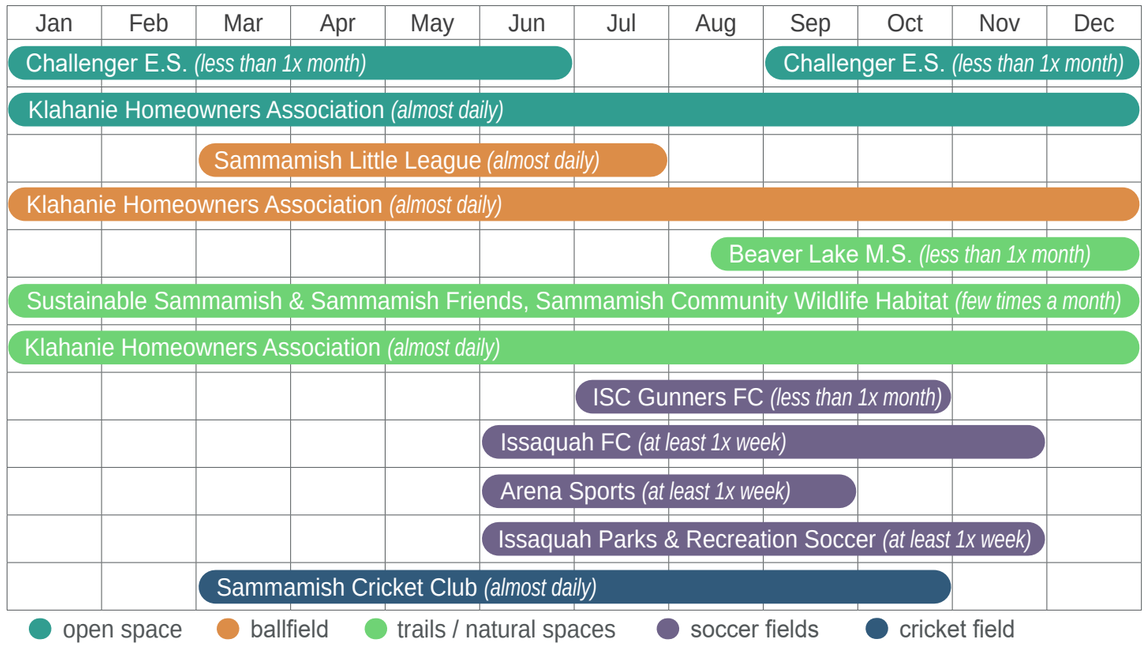
FOCUS GROUP MEETING & SURVEY

The design process included a focus group meeting and online survey. The focus group included stakeholders using the park for active and passive recreation, the school district, and three utility companies that have easements through the park. The survey was conducted from 03/12/2019 through 03/20/2019 and the focus group meeting was held on 03/14/2019. 18 participants took the survey. The feedback received in both the survey and meeting was essential in creating an initial menu of programming options for review by the larger community in Public Workshop #1. All three utility companies provided feedback and guidance for ensuring the final master plan remains compatible with their access and maintenance requirements. However, they are excluded from the data shown here because they have no recreation demands or requests. This was not a statistically valid survey

FOCUS GROUP PARTICIPANTS

- Sammamish Little League
- Challenger Elementary School
- Beaver Lake Middle School
- Klahanie Homeowners Association
- Sustainable Sammamish
- Sammamish Friends
- Sammamish Community Wildlife Habitat
- ISC Gunners FC
- Issaquah FC
- Arena Sports
- City of Issaquah Parks & Recreation Soccer
- Sammamish Cricket Club
- Williams Gas Company
- Bonneville Power Administration
- Puget Sound Energy

Of the groups and individuals who currently use the park for active recreation, the following chart shows who uses the various areas of the park throughout the year and how frequently the areas are currently being used.



Estimated size of the groups using the park and their average annual growth...

Sammamish Little League
800 - 900 / ~5% annual growth

Challenger Elementary School
570 / 3% - 4% annual growth

Beaver Lake Middle School
1,000 / ~less than 1% growth

Klahanie Homeowners Association
12,000 / ~1% annual growth

Sustainable Sammamish
10 - 15 / growth unknown

Sammamish Friends
10 - 15 / growth unknown

Sammamish Community Wildlife Habitat
15 -20 / ~5% annual growth

Issaquah P&R Soccer
3,000+ / ~5% annual growth

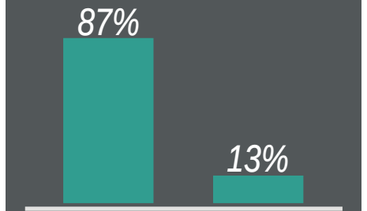
Arena Sports
150 / ~5%- 10% annual growth

ISC Gunners FC
2,000 / ~5% annual growth

Sammamish Cricket Club
300 / ~30% annual growth

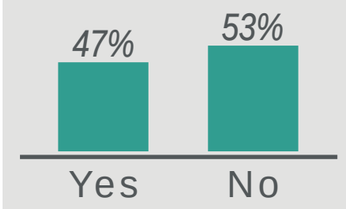
Issaquah FC
700 / ~5%-7% annual growth

Is the park sufficient for your current use?



The “No” responses are related to the ballfield and soccer fields.

Is the park sufficient for your desired / future use?



The “No” responses are related to all park areas (see right).

Wish List...

From the groups or individuals who’s recreation needs are not met in the park, the following wish list of improvements was requested to meet their desired or future use:

Ballfield:
- Artificial turf
- Field lighting
- Picnic shelter / bbq pits
- Playground
- Covered dugouts
- Improved fencing / backstop
- Spectator seating
- Accessible, shorter path from parking to field
- 1 additional ballfield
- Serve all ages

Overall:
- Improved drainage in open space and fields
- Increase parking
- Improve safety near the roadways
- Synthetic turf & light pollution are a concern

Open Space:
- Outdoor classroom
- Accessible play area
- Zipline
- Access to restrooms
- Community kiosk
- Gathering space
- Covered picnic shelter
- Family friendly activities

Soccer Fields:
- Preserve 2 soccer fields
- Artificial turf
- Field lighting
- Adequate parking
- Playground

Cricket Field:
- All natural grass, mowed short
- 2 practice wickets
- Seating
- Maintain or expand field size
- Lighting

Trails / Natural Spaces:
- X-Country course
- Boardwalks
- Preserve nature & bog
- User-friendly paths
- Connect the loop trail
- Don’t add trails
- Interpretive signage
- Bog viewing area
- Emergency access
- Clear noxious weeds
- Native plant & pollinator garden
- Celebrate & educate about the bog and natural spaces without negative impacts
- Stewardship opportunities

Agenda Bill

City Council Regular Meeting

December 03, 2019

SUBJECT:	Klahanie Park Master Plan Discussion - Preferred Master Plan Consensus
DATE SUBMITTED:	November 17, 2019
DEPARTMENT:	Parks & Recreation
NEEDED FROM COUNCIL:	☐ Action ☑ Direction ☐ Informational
RECOMMENDATION:	Review and reach consensus on the preferred master plan, provide input on phasing sequence, and authorize staff to proceed with the SEPA review process.
EXHIBITS:	1. Exhibit 1 - PowerPoint Presentation

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COUNCIL:

Shall City Council reach consensus on the Klahanie Park preferred master plan, provide input on phasing sequence, and authorize staff to proceed with the SEPA review process?

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is for City Council to reach consensus on the preferred master plan and phasing sequence for Klahanie Park. With consensus on the preferred plan and authorization from City Council, staff may proceed with the SEPA review.

Summary:

The public process for the Klahanie Park Master Plan is now complete. The consultant team has prepared a preferred master plan based on input from community members, City staff, the Parks &

Recreation Commission, and City Council. The components of the preferred plan are summarized below. With consensus from City Council on the preferred plan and phasing sequence, staff may begin the SEPA review process.

Preferred Master Plan:

The overall goals and objectives are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally. During the public outreach component of this effort, staff learned that the park was generally meeting the needs of the Klahanie community. That said, there were a selection of amenities that the community wanted to expand or modify. Examples of these include providing a separate community space (to avoid conflict with soccer and cricket) that would allow for unprogrammed play, expanding the play area for a larger age range to enjoy, increasing the amount of seating and picnic areas, and incorporating a community garden and native planting areas. We also heard concerns related to an increase in traffic with the park re-development, trail encroachment in natural areas, and the potential for noise and light pollution with the installation of synthetic turf and lights.

With this input in mind, the preferred plan provides a no net loss of amenities. As and when current park amenities are at the end of their life and need to be replaced, this plan will take those amenities and re-organize them in a manner that is safer, environmentally sensitive and more efficient.

The preferred master plan generally keeps the existing cricket and soccer fields in their current location while expanding the cricket field limits and delineating the field extents with a split rail fence along the loop trail. The little league / softball field is relocated to the west, opening up a centrally-located community green space, picnic plaza, and play area. The community green is a flexible open space that can be utilized for unstructured recreation, picnic areas, and events. The restroom is relocated near the community green for easy access from all the park activities and spaces. A new community garden includes accessible garden plots, picnic and seating space, and a storage shed. An accessible loop trail meanders around the cricket and soccer fields and community green and includes picnic nodes with small shelters, picnic tables, and other amenities. The large play area includes a formal play space with equipment designed for ages 2-5 and 5-12; a sloped play area with slides; and a natural play space with climbing rocks, boulders, and other play elements inspired by nature. The main picnic shelter and picnic area is centrally located between the fields, play area, loop trail, and community green. The parking lot is expanded slightly to increase capacity and to include a formal drop-off area.

<u>Trails</u>

After reviewing several trail design options, the preferred alternative calls for the decommissioning of trails surrounding Queen's Bog in an effort to reduce further impact to the sensitive area and its buffers from park users, and instead incorporate additional trails in areas that will be impacted by park re-development and BPA's utility corridor.

A small overlook near the north side of the open space serves as a trailhead to the boardwalk and trails along the utility corridor. Several amenity nodes are provided along these trails for native plant demonstration gardens, seating, wayfinding, and interpretive education. The forested area includes improvements to the existing paved trail near SE 32nd Street and the western trail is relocated to be in the outer 25% of the wetland buffer. The western trail is outside of the park boundary but within

Klahanie's Native Growth Protection Area (NGPA); development of this portion of the trail would require partnership with Klahanie HOA. Connections to all other existing trails in the forested area and wetland buffers will be planted with native wetland species for mitigation.

Field Surfacing and Lighting

The cricket and soccer fields are unlit and are comprised of natural grass surfacing, with synthetic surface cricket pitches. The southern edge of the cricket outfield will stop at the bottom of the sloped lawn. This configuration does not accommodate a full, adult-size cricket outfield in order to preserve the existing grove of trees and allows park visitors to use the existing sloped lawn for seating. The little league / softball field is also unlit and includes a natural grass outfield with a synthetic infield, spectator seating, covered dugouts, and other field amenities.

Stormwater Treatment

The existing stormwater ponds will be redeveloped to include a more natural drainage approach with cascading bioretention cells which will be planted with native species and small ornamental trees. These bioretention cells will capture stormwater from the park and allow it to infiltrate. Any overflow will utilize the existing or improved catch basins and stormwater system. Stormwater from pollution-generating surfaces such as the parking lot, the athletic fields, and vehicular paving will drain to the bioretention cells and also utilize a biofiltration system.

Park Development Phases:

In addition to discussing the preferred master plan, the consultant will identify the preliminary phasing options and seek input from City Council on sequence of park development. These phases are introduced below and will be discussed in further detail at the December 3, 2019 City Council Regular Meeting.

Trails Phase

- Removal / replanting of informal trails for buffer mitigation
- relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)
- Improve the existing asphalt trail near SE 32nd St
- BPA Easement trails and East Plateau trail improvements
- Boardwalk trail near the bioretention / stormwater area

Cricket and Soccer Fields Phase

- Natural grass cricket and soccer field
- Synthetic turf cricket pitch and practice pitch
- Loop trail
- Gathering and seating areas

Play area / Ballfield Phase

- Play area
- Community green
- Overlook
- Restroom

- Picnic Shelters
- Pedestrian entrances
- Relocate little league / softball field; natural grass outfield with synthetic turf infield; seating and storage

Support Facilities (shall be installed as part of the "Cricket and Soccer Field" or "Play area / Ballfield" phase, whichever comes first)

- Bioretention / stormwater area to the north of the open space
- Parking and entry improvements

Parks & Recreation Commission:

The preferred master plan and preliminary phases were presented at the November 6, 2019 Parks & Recreation Commission meeting. The Commission voted unanimously to recommend the City Council proceed with the preferred plan and select the cricket/soccer fields and support facilities as the initial phase of park development.

Master Plan Process:

The first set of meetings were held in March 2019 with the City Council, Parks & Recreation Commission, a focus group, and the community, to solicit input on hopes, dreams, and concerns related to the master plan. Two surveys were prepared as part of this first phase, one for a focus group and one for the public. Neither of the surveys were statistically valid.

A total of six concept alternatives were prepared, three park concepts and three trail concepts. The intent was to demonstrate a minimum, moderate, and maximum approach to park development. Based on the feedback received at the first set of workshops, the overall goals and objectives are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally.

A representative from the consultant team, HBB, will present a summary of the second public workshop, online public survey results, feedback received at the third public workshop, and discuss the preferred master plan in further detail at the December 3, 2019 City Council Regular Meeting. At that time, City Council will be asked to provide input on the preferred plan and the phasing sequence for park development. This information will be used, in conjunction with input received from the Parks & Recreation Commission, City staff, and the public, to assist with the refinement of the preferred plan to develop the final master plan.

Park Background:

Klahanie Park is a 64-acre park located in the southeast section of the City. The park is comprised of natural grass fields including two multi-purpose sports fields, one baseball field, and a cricket pitch. Additionally, the park features a small play structure, restrooms, parking, a segment of the East Plateau Trail, natural areas and Queen’s Bog, which is one of roughly fifty bogs located in Washington State. Having been in use for nearly 25 years with only minor improvements, park features are nearing the end of their life cycle or are in need of repair. This master plan project is the City’s first attempt to look at potential improvements to this park in a comprehensive manner utilizing a process that provides

opportunity for involvement of the entire community. It will also enable the City to consider how a previous County park will best incorporate into Sammamish's overall park system.

The park was built by the Homeowners Association and transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation. Since annexation, modest improvements have been made to the park, which include drainage modifications to the baseball field, installation of the City's first and only cricket pitch, turf aeration of the two multi-purpose sports fields, irrigation improvements and minor renovations to the restrooms.

Following annexation, the City took over field reservations for the two multi-purpose fields and baseball field. In addition, the City introduced annual recreation events during the summer, such as the Shakespeare in the Park and KidsFirst programs.

Timeline:

Hopes, Dreams, and Concerns

- Parks & Recreation Commission Meeting #1: March 6, 2019 (Complete)
- City Council Meeting #1: March 12, 2019 (Complete)
- Focus Group Meeting #1: March 14, 2019 (Complete)
- Public Meeting #1: March 21, 2019 (Complete)

Master Plan Alternatives

- Public Meeting #2: May 23, 2019 (Complete)
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019 (Complete)

Preferred Master Plan

- Public Meeting #3: October 10, 2019 (Complete)
- Parks & Recreation Commission Meeting #3: November 6, 2019 (Complete)
- **City Council Meeting #3: December 3, 2019**

Final Master Plan

- **SEPA Review: January - April 2020**
- **City Council Adoption of Master Plan: Spring 2020**

Next Steps:

Following the December 3, 2019 City Council Regular Meeting, the project consultant will refine the preferred master plan in to the final master plan and City staff will begin the SEPA process. Once the SEPA process is complete, staff will return to City Council for adoption of the final master plan.

FINANCIAL IMPACT:

N/A

OTHER ALTERNATIVES CONSIDERED:

If there are considerable objections to components of the preferred plan, City staff and the consultant team may revise the preferred plan. Based on the extent of changes, the revised plan could potentially require an additional round of public meetings with the community, Parks & Recreation Commission, and City Council.

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

2018 Parks, Recreation & Open Space (PRO) Plan

City Council Regular Meeting

December 3, 2019

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Overview: What we will be discussing

A. Introductions ..... 5 minutes

B. Presentation ..... 25 minutes

   a. Location & Context
   b. 2018 Parks, Recreation & Open Space Plan
   c. Timeline & Project Background
   d. Existing Conditions
   e. Outreach Summary
   f. Goals & Objectives
   g. Master Plan Alternatives
   h. Preferred Master Plan
   i. Next Steps

C. Discussion ..... 15 minutes

   a. Phasing Plan Priorities

Overview: What we are requesting

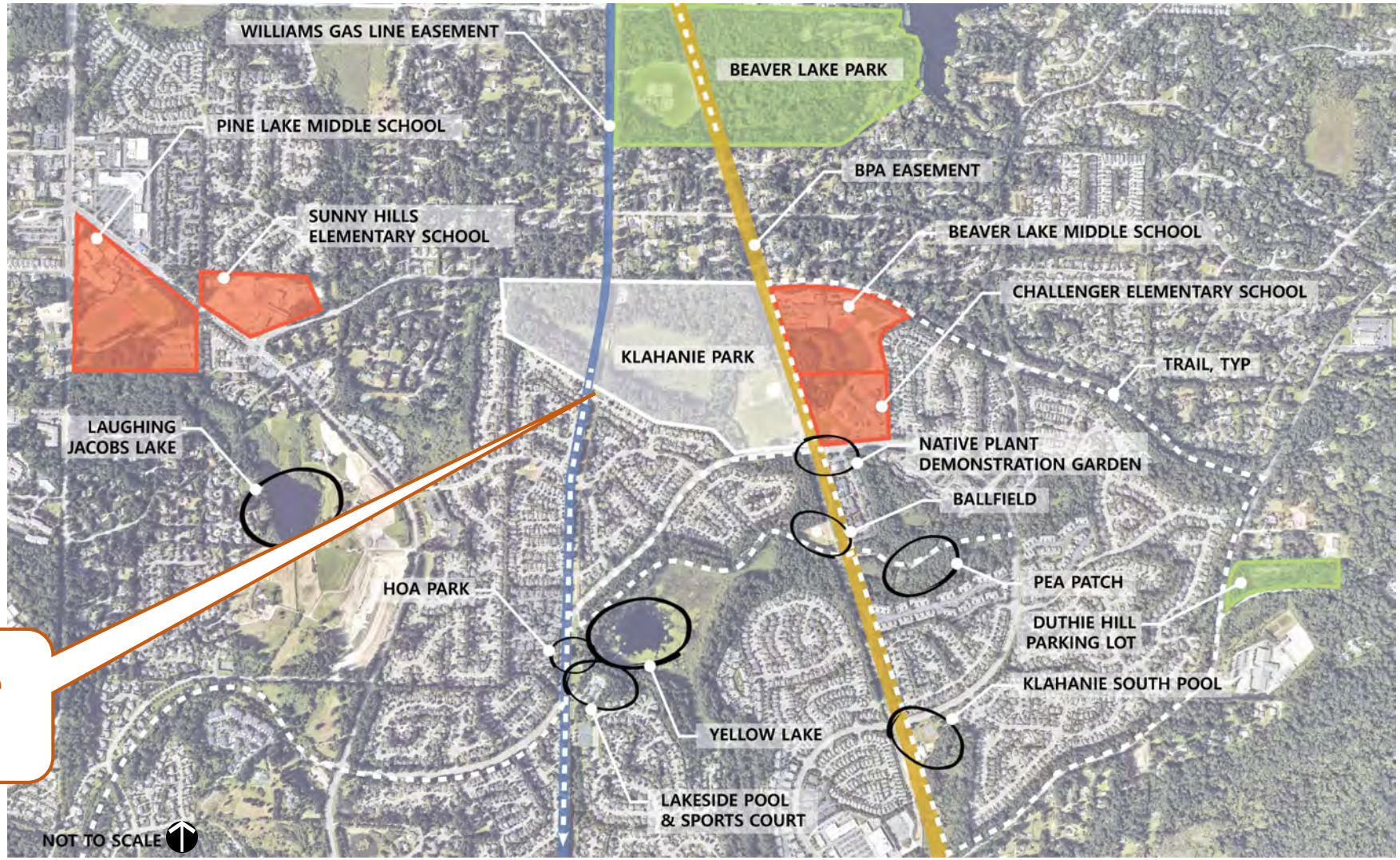
1. Consensus on the preferred master plan.
2. Input on phasing sequence for park development.
3. Authorization to proceed with SEPA review process.

Location & Context

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
You Are Here
228th Ave SE
SE Duthie Hill Rd
NOT TO SCALE
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park

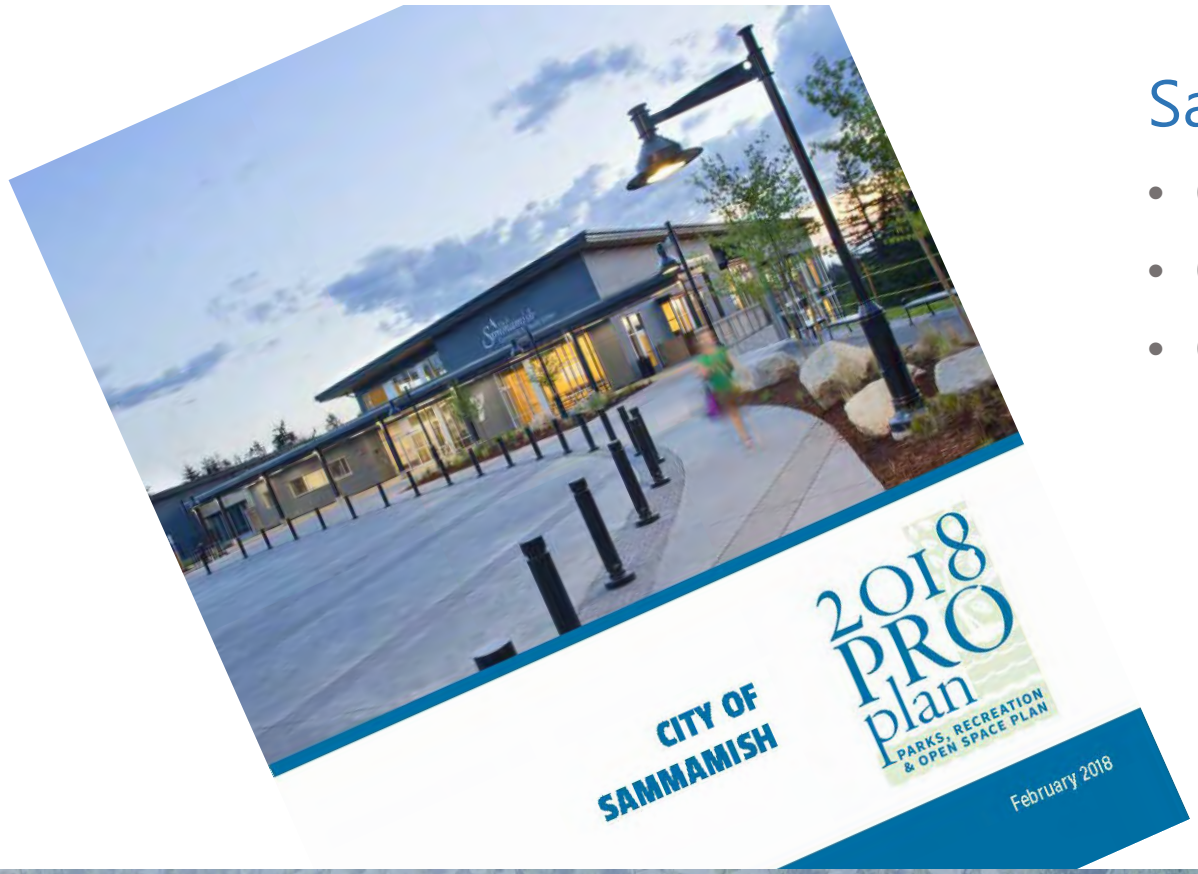
Site Context



Klahanie Park

2018 Parks, Recreation & Open (PRO) Space Plan Vision

The overall vision for Sammamish's Parks and Recreation system sees parks as an integral part of our healthy and sustainable community by connecting people to nature, play, and culture.



Sammamish Parks & Recreation Goals

- Conservation of natural resources
- Opportunities to improve health and wellness
- Create social equity in access to parks and recreation for all residents

2018 PRO Plan

Missing Elements of the Existing Park & Recreation System…

Top priorities for active and passive use from online survey…

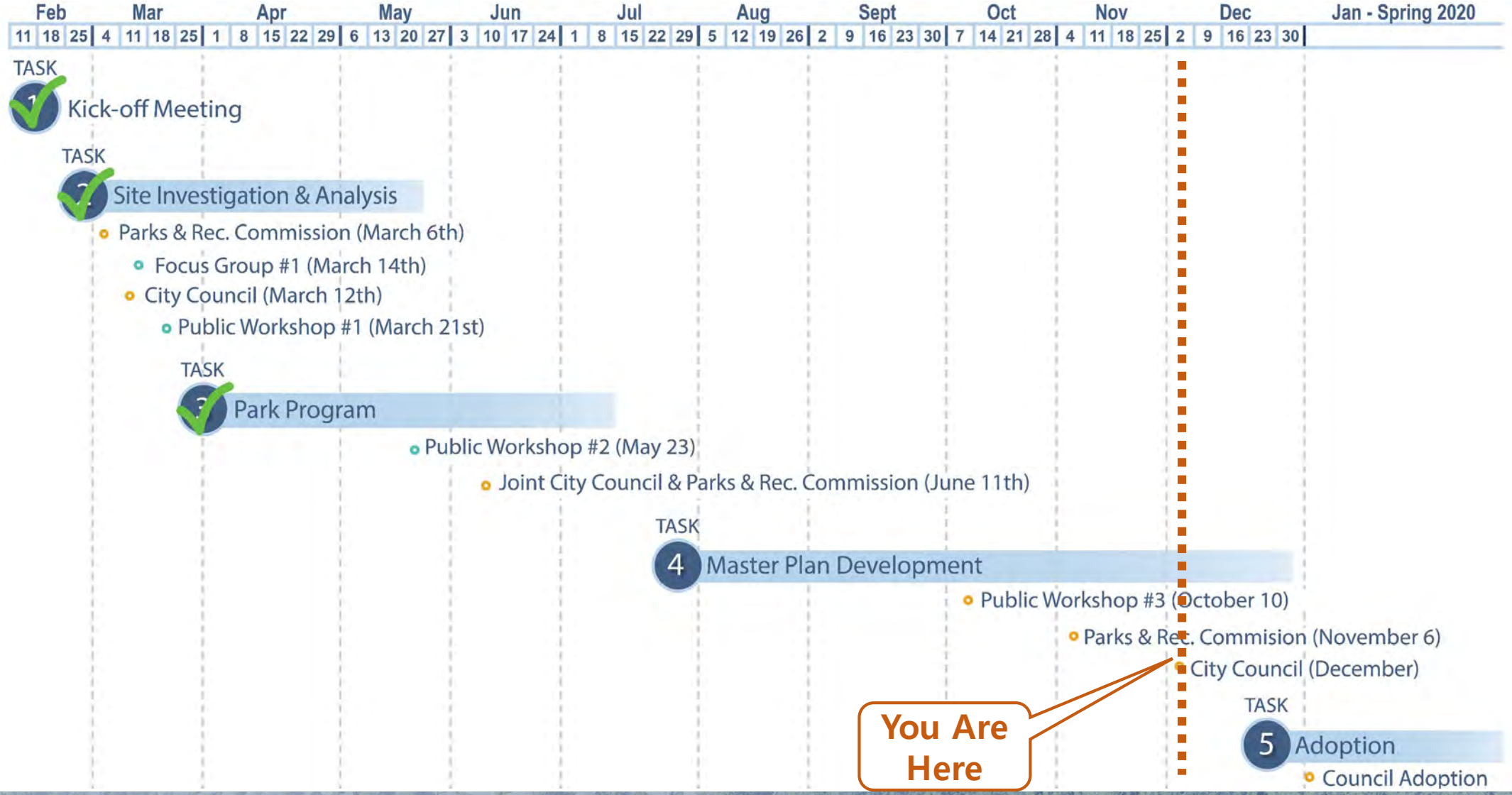
- Natural surface trails
- Boardwalk trails
- Playground
- Picnic areas
- Restroom
- Flexible space
- Multi-purpose fields

Timeline & Project Background

Background & History

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2018 – PRO Plan completed
- 2019 – Master Plan commences

Project Timeline



Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ☑ Hopes, Dreams, & Concerns
- ☑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ☑ Schematic Concepts
- ☑ Project Goals & Objectives
- ☑ Design Alternatives
- ☑ City Council & Parks & Recreation Commission Updates

5. State Environmental Policy Act (SEPA)

6. Master Plan Adoption

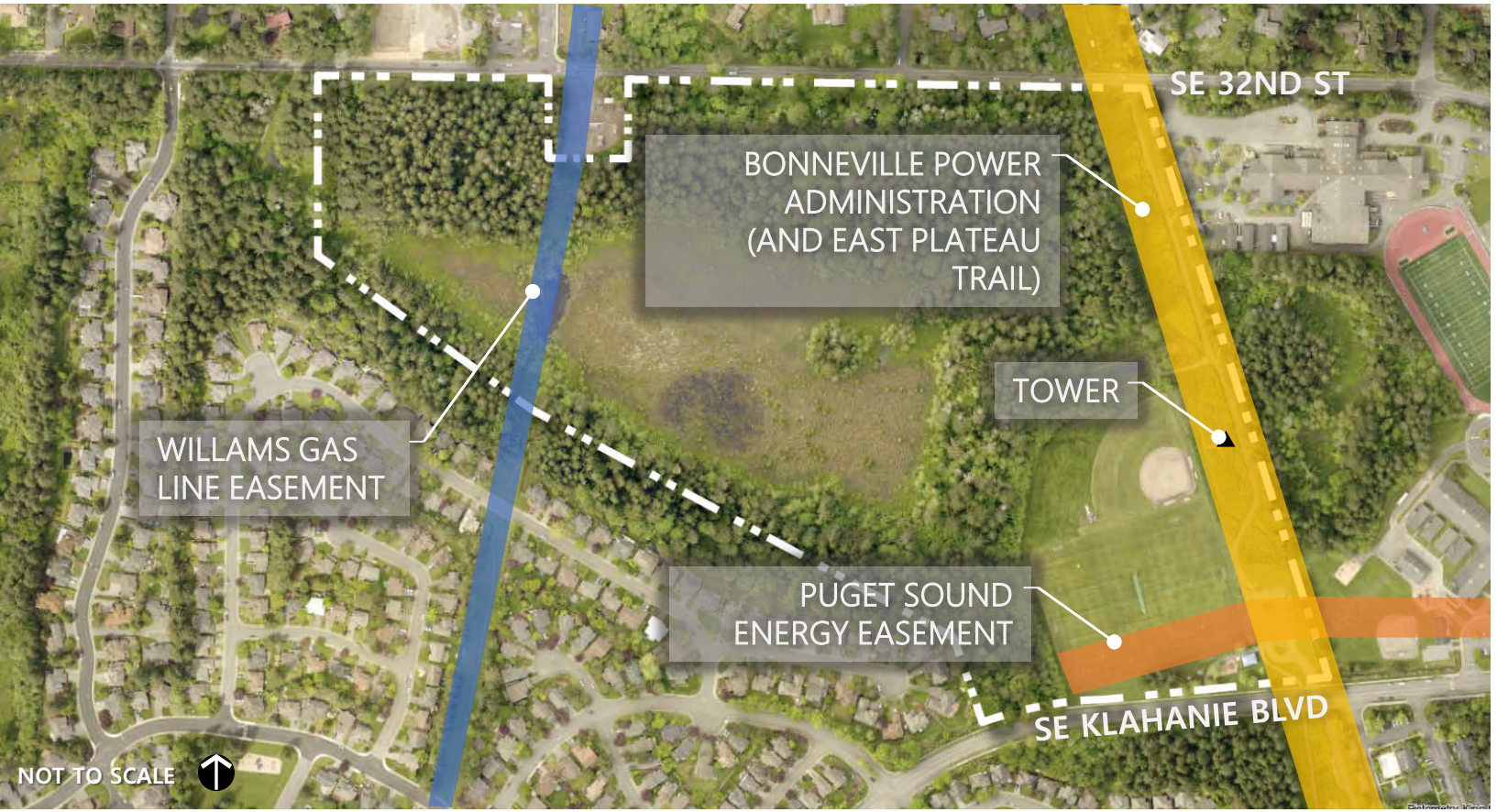
Existing Conditions

Existing Conditions

Existing Features

- Queen's Bog
- Trails
- Athletic Fields
- Play Area
- Restroom
- Parking

Easements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TOWER
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SE KLAHANIE BLVD
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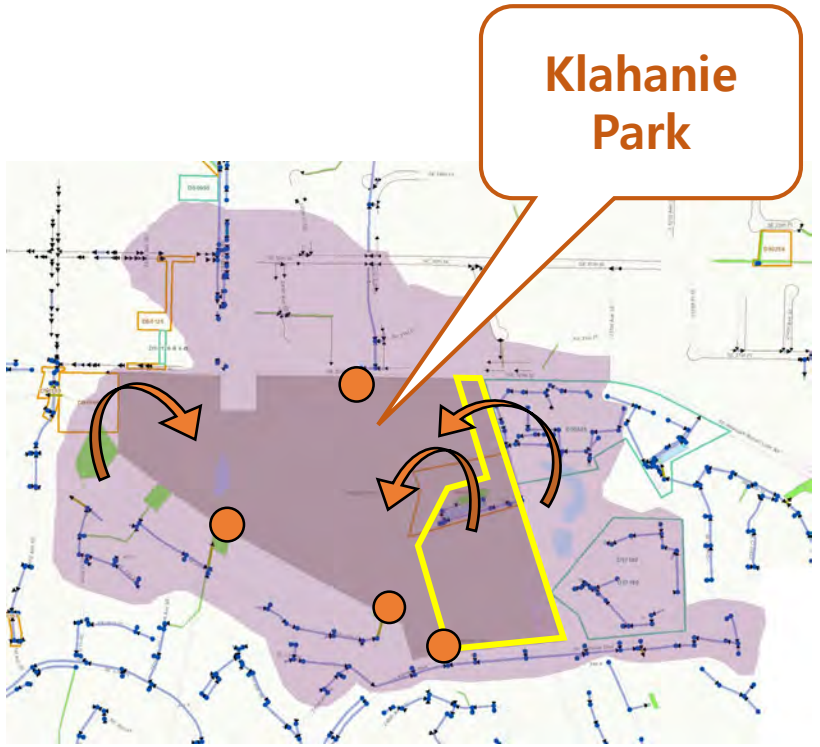
Active Recreation Areas

Bog, Critical Areas, & Trails

Stormwater – Queen's Bog



175.5 acres of stormwater makes its way to the bog

1.9 miles of new trails proposed

14.5 acres of park re-development proposed

4 points of discharge

3 indirect overflow routes

** Existing stormwater facility is inspected and maintained by the City annually.*

Outreach Summary

Visioning

Process

1. Parks & Recreation Commission Meeting
2. City Council Meeting
3. Focus Group Meeting and Survey
4. Workshop #1 and Site Walk-Through
5. Vision & Programming Survey

Visioning: What We Heard

The overall vision for Klahanie Park is a place to . . .

1. **Protect Queen's Bog . . .**

   .... and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

2. **Gather and celebrate . . .**

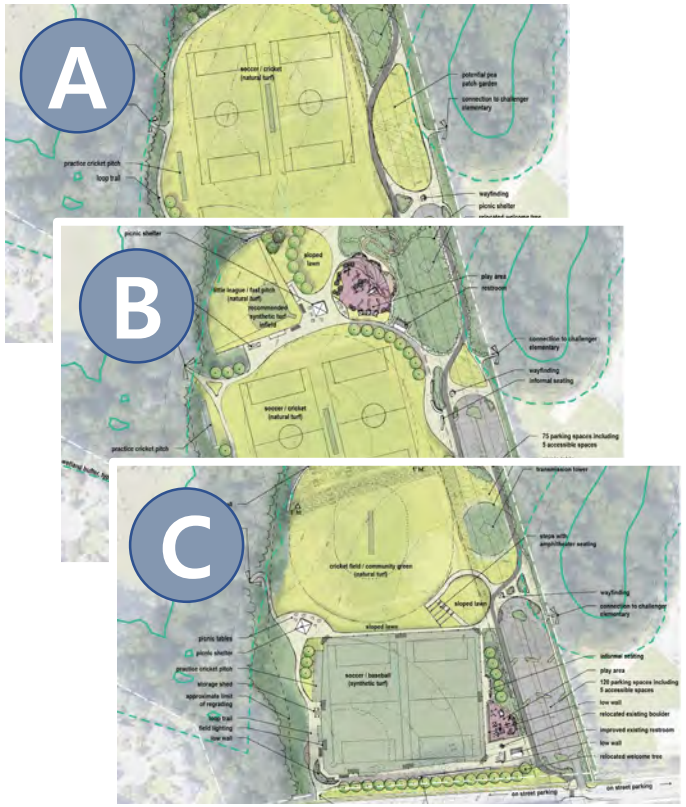
   .... to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

3. **Balance passive and active activities . . .**

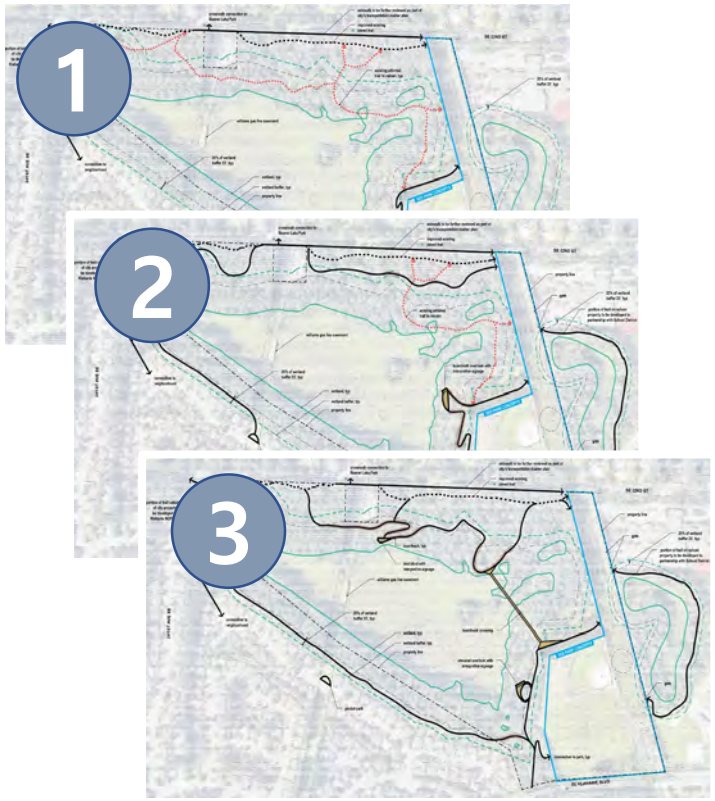
   .... recognizing the park serves a larger community need but should still retain its neighborhood scale and character.

Master Plan Alternatives

Open Space Alternatives



Trail Alternatives



Park Character Alternatives

Master Plan Alternatives: What We Heard

LIKED the unprogrammed open space, the community gardens, the big rock and trees remain, loop trail, meandering easement trail with amenity nodes, natural grass

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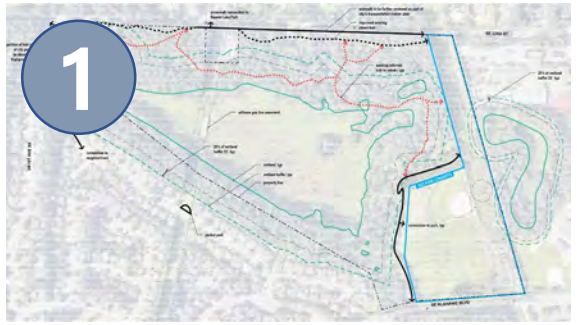
Master Plan Alternatives: What We Heard



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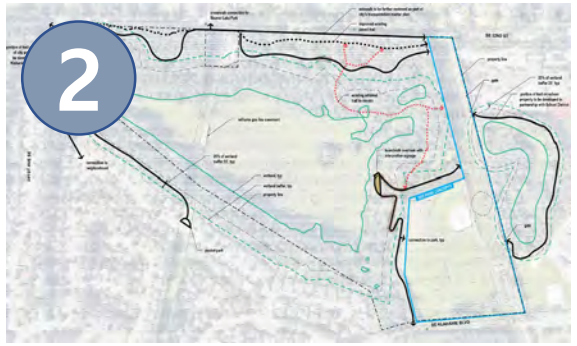

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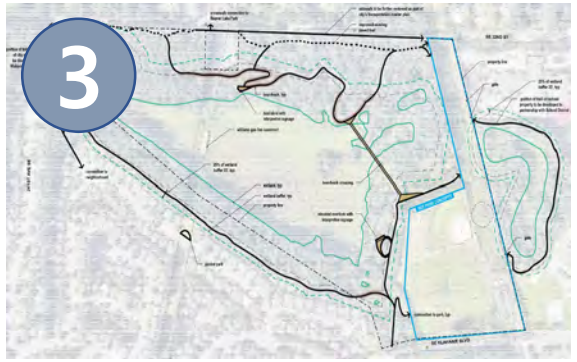

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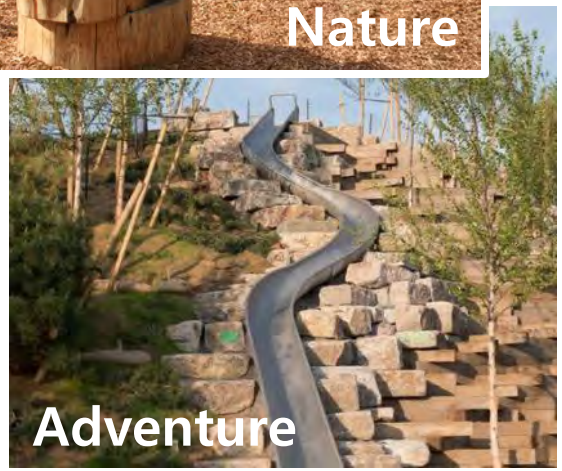
Master Plan Alternatives: What We Heard

Top Play Preferences



Top Garden Preferences

Top Shelter Preferences

Master Plan Alternatives: What We Heard

345

Survey Participants

- 58% of survey participants visit the park at least weekly

How important is it to provide an overlook to Queen's Bog?

- 40% not very or not important at all
- 18% no preference
- 42% somewhat or very important

How important is it to provide an overlook to the wetlands?

- 42% not very or not important at all
- 30% no preference
- 28% somewhat or very important

How important is it to provide trails or boardwalks in the wetland buffers?

- 44% not very or not important at all
- 12% no preference
- 44% somewhat or very important

Preferred Master Plan

Preferred Master Plan

1. Beaver Lake Middle School
2. Challenger Elementary School
3. Wetland
4. Queen's Bog
5. BPA Easement
6. Williams Gas Line Easement
7. Klahanie Trail
8. Pocket Park to be developed by Klahanie HOA and Williams Gas Line
9. Informal trails to be removed and planted with native wetland species for mitigation
10. Existing asphalt / gravel trail to be removed and replanted for mitigation- relocated to buffer edge

Open Space Enlargement

1. Play area (w/ relocated boulder)
2. Community green
3. Restroom
4. Community garden
5. East Plateau Trail
6. Existing tree grove to remain
7. Lawn with cricket and soccer fields
8. Little League / Softball natural grass with synthetic turf infield
9. Bioretention / stormwater area
10. Paved loop trail
11. Boardwalk
12. Gathering / picnic area
13. Overlook

Park Character

Park Character

How would you prioritize the development of the park?

Trails Phase:

a. Removal / replanting of informal trails for buffer mitigation

b. Relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)

c. Improve existing asphalt trail near SE 32nd St

d. BPA Easement trails and East Plateau Trail improvements

e. Boardwalk trail near the bioretention / stormwater area

How would you prioritize the development of the park?

Cricket and Soccer Fields Phase:

a. Natural grass cricket and soccer field
b. Loop trail
c. Gathering and seating areas

How would you prioritize the development of the park?

Play Area/ Ballfield Phase:

a. Play area
b. Community green
c. Overlook
d. Community garden
e. Restroom
f. Picnic shelters
g. Pedestrian entrances
h. Relocate little league/softball field; natural grass outfield with synthetic infield; including seating and storage

How would you prioritize the development of the park?

Support Facilities:

(In either 'Soccer and Cricket Field' or 'Play Area/ Ballfield' phase, whichever is first)

a. Bioretention / stormwater area to the north of the open space

b. Parking and entry improvements

Preferred Plan Feedback

A. Parks & Recreation Commission voted unanimously to:

1. Recommend City Council proceed with the preferred plan and;
2. Select the cricket/soccer fields and support facilities as the 1st phase of development

B. Feedback from Klahanie Association:

1. Klahanie Community Manager voiced support of preferred plan at Public Workshop #3 and by email to City staff.

Questions?

Discussion

Overview: What we are requesting

1. Consensus on the preferred master plan.
2. Input on phasing sequence for park development.
3. Authorization to proceed with SEPA review process.

Next Steps

Next Steps

- Develop the Final Master Plan.
- SEPA Checklist Submittal and Approval.
- Present Final Master Plan to City Council for Adoption (spring 2020).

Agenda Bill

City Council Study Session

January 11, 2022

SUBJECT:	Klahanie Park Master Plan Discussion - Preferred Master Plan
DATE SUBMITTED:	December 21, 2021
DEPARTMENT:	Parks, Recreation & Facilities
NEEDED FROM COUNCIL:	☐ Action ☑ Direction ☐ Informational
RECOMMENDATION:	Review and reach consensus on proceeding with the preferred master plan and authorize staff to proceed with the SEPA review process.
EXHIBITS:	1. Exhibit 1 - PowerPoint Presentation 2. Exhibit 2 - Adopted Master Plan Process

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COUNCIL:

Should the City Council reach consensus on proceeding with the Preferred Master Plan for Klahanie Park and authorize staff to proceed with the SEPA review process?

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to update City Council on the findings of the Athletic Field Study and how they relate to Klahanie Park, re-introduce the preferred master plan, and reach consensus on whether or not to proceed with the SEPA review process.

The preferred master plan for Klahanie Park was discussed at the December 3, 2019 City Council Regular Meeting. During this meeting, Council expressed significant concern, specifically with the magnitude of costs when compared to the amenities gained. City Council moved to not vote on the preferred option for the Klahanie Park Master Plan and asked to see the results of a comprehensive Athletic Field Study for the city. Staff have subsequently completed the Athletic Field Study that provides information on the condition of the existing athletic fields and will present these findings to City Council at the upcoming

study session on January 11, 2022. At that time, staff will provide updated cost ranges for the preferred master plan, and discuss how an adopted master plan will allow staff to make improvements to the park when park amenities reach the end of their life cycle.

Athletic Field Study:

A City-wide Athletic Field Study was completed in 2020. As part of this study, the Consultant completed an assessment of the existing field inventory to identify deficiencies and provide recommendations for improvements to remedy deficiencies and add capacity while emphasizing cost saving measures. The fields at Klahanie Park were built by the Homeowners Association and transferred to King County in 1994 following construction. The City took over maintenance of the fields following the Klahanie annexation in 2016.

In reviewing the service life of the three fields, the baseball field was observed to be declining in performance, specifically the infield, with observable corrective maintenance and/or repairs required. The two multipurpose fields are nearing the end of their service life; they require constant attention, have consistently substandard performance, and fail most functional requirements.

While it is difficult to outline a specific date for when the fields will no longer be playable, it is generally understood that natural grass fields have a service life of 20 - 25 years. As the fields continue to age, more frequent maintenance and repairs are required to maintain a similar quality of play.

<u>Usage at Klahanie Park</u>

The Athletic Field Study also compared the number of hours City-owned/managed fields were rented to help determine which fields should be prioritized for increasing capacity. The multi-purpose fields at Klahanie Park are the highest used fields after the synthetic turf fields at Eastlake High School, with hours rented nearly at capacity for natural grass fields. Of these hours rented, cricket accounts for approximately half; Klahanie Park is the only city park with a cricket pitch.

Upgrading these existing natural grass multipurpose fields per the Preferred Master Plan would not likely increase capacity in terms of hours rented, but would improve the overall quality, performance, and reliability of the fields. Additionally, a complete renovation would better equip the fields to tolerate heavy use while reducing the frequency of maintenance and repairs. Options were explored to convert the multipurpose fields to synthetic turf with lights, which would increase capacity in terms of usable hours. This option is preferred by the soccer leagues but is not preferred by the cricket league, who represent the biggest user group. Furthermore, converting these fields to synthetic turf with lights was widely opposed by the community during the outreach process of the master plan.

Master Plan Process:

Prior to commencing extensive development or improvement on City parkland, a master plan is completed by following the City adopted master plan process. The intent in following this process is to look at the parkland in a comprehensive manner, utilizing a process that involves the entire community.

Throughout the master plan process, the City is able to engage with the community at large, community stakeholders, City staff, the Parks and Recreation Commission, and City Council to solicit input and feedback on the park's program and proposed sequencing. The final master plan establishes a comprehensive design program that provides a framework for addressing development and improvements of the park, rather than a fragmented approach to making improvements on an as-needed basis.

In addition to providing the framework for development and improvements, an adopted master plan report formalizes the extensive public process and approval of the program and sequencing, thereby reducing the need for the same extent of public engagement when different phases of work are initiated.

Klahanie Park Preferred Master Plan:

The overall goals and objectives of this master plan are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally. During the public outreach component of this effort, staff learned that the park was generally meeting the needs of the Klahanie community. That said, there were a selection of amenities that the community wanted to expand or modify. Examples of these include providing a separate community space (to avoid conflict with soccer and cricket) that would allow for unprogrammed play, expanding the play area for a larger age range to enjoy, increasing the amount of seating and picnic areas, and incorporating a community garden and native planting areas. We also heard concerns related to an increase in traffic with the park re-development, trail encroachment in natural areas, and the potential for noise and light pollution with the installation of synthetic turf and lights.

With this input in mind, the preferred plan provides a no net loss of park amenities. Additionally, when current park amenities reach the end of their life and need to be replaced, this plan will:

1. Prioritize the sequence of improvements
2. Reorganize and build the amenities in a manner that is safer, environmentally sensitive, and efficient

The preferred master plan generally keeps the existing cricket and soccer fields in their current location while expanding the cricket field limits and delineating the field extents with a split rail fence along the loop trail. The little league / softball field is relocated to the west, opening up a centrally-located community green space, picnic plaza, and play area. The community green is a flexible open space that can be utilized for unstructured recreation, picnic areas, and events. This community green resulted from the community's desire to have open space that was not specifically programmed for recreational sports. The restroom is relocated near the community green for easy access from all the park activities and spaces. A new community garden includes accessible garden plots, picnic and seating space, and a storage shed for gardeners. A 1/3 mile accessible loop trail meanders around the cricket and soccer fields and community green and includes picnic nodes with small shelters, picnic tables, and other amenities. The large play area includes a formal play space with equipment designed for ages 2-5 and 5-12; a sloped play area with slides; and a natural play space with climbing rocks, boulders, and other play elements inspired by nature. The main picnic shelter and picnic area is centrally located between the fields, play area, loop trail, and community green. The parking lot is expanded slightly to increase capacity and to include a formal drop-off area.

The following work segments have been identified to group similar amenities and implement the preferred master plan methodically.

<u>Trails:</u> Makes improvements to help protect Queen's bog, enhance the trail network and public access points

- Removal / replanting of informal trails for buffer mitigation
- Relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)
- Improve the existing asphalt trail near SE 32nd St
- BPA Easement trails and East Plateau trail improvements
- Boardwalk trail near the bioretention / stormwater area

Cricket & Soccer Fields: Improvements expand play fields and provide an accessible loop trail with gathering spaces

- Natural grass cricket and soccer field
- Synthetic turf cricket pitch and practice pitch
- Accessible loop trail
- Gathering and seating areas

Play area / Ballfield: Improvements relocate and expand play areas, provide gathering spaces, and build ballfield

- Play area
- Community green
- Community garden
- Restroom
- Picnic shelters
- Pedestrian entrances
- Relocate little league / softball field; natural grass outfield with synthetic turf infield; seating and storage

Support Facilities (shall be installed as part of the "Cricket and Soccer Field" or "Play area / Ballfield" work, whichever comes first): necessary facilities to support park development

- Bioretention / stormwater area to the north of the open space
- Parking and entry improvements

Parks & Recreation Commission:

The preferred master plan and preliminary segments were presented at the November 6, 2019 Parks & Recreation Commission meeting. The Commission voted unanimously to recommend the City Council proceed with the preferred plan and select the cricket/soccer fields and support facilities as the initial segment of park development. The preferred master plan and segments were re-introduced at the October 6, 2021 Parks & Recreation Commission meeting to the new Commissioners and there were no concerns with the previous recommendation.

Preliminary Costs:

As part of the master plan process, preliminary cost ranges have been prepared for each segment of the preferred plan. That said, the approval to proceed with the SEPA process and the subsequent adoption of the master plan report does not trigger development of these improvements. These improvements would be implemented when amenities reach the end of their life and they would need to be included in the 6-year Parks Capital Improvement Plan. There will be significant costs associated with the replacement/development of amenities at the end of their life cycle, regardless of proceeding with the preferred plan.

FINANCIAL IMPACT:

Regarding the costs of the different segments of the preferred plan, there is no financial impact at this time. Funds for implementing the master plan may be budgeted and improvements completed in phases from the Parks Capital Improvement Plan (CIP). Funds for the initial improvements are not currently identified in the 2021-2026 Parks CIP. An overview of preliminary cost ranges for each segment of improvements is provided below.

- Trails: $3.5M - $4M
- Cricket and Soccer Fields: $6M - $6.5M

- Play area / Ballfield: $9M - $9.5M
- Support Facilities*: $2M - $3M

* Not intended to be stand-alone improvements. Support facilities will need to be constructed with either the 'Cricket and Soccer' or 'Play Area and Baseball' segment, whichever is implemented first.

As mentioned earlier in the agenda bill, there will be significant costs associated with the replacement/development of amenities, regardless of proceeding with the preferred plan. If City Council elects not to proceed with the master plan, the Consultant has provided an approximate cost for only upgrading the amenities in their existing configuration. The anticipated preliminary project cost is $14,430,860 if all existing amenities were developed in one phase. This cost includes construction costs, applicable taxes, contingencies, and soft costs. Please note this cost is based on a schematic level of design and further site studies would need to be conducted.

OTHER ALTERNATIVES CONSIDERED:

1. If there are considerable objections to components of the preferred plan, City staff and the consultant team may revise the preferred plan. Based on the extent of changes, the revised plan could potentially require an additional round of public meetings with the community, Parks & Recreation Commission, and City Council. There are not sufficient funds remaining in the Consultant's contract to complete this and would require allocation of additional funds.
2. City Council may elect to not proceed with the master plan process. That said, there would be no guiding document for improvements to the park or inclusion of phased improvements in the 6-year Parks CIP. If a project were initiated, it would require a public outreach process in addition to approval by City Council.

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

Adopted Master Plan Process, see Exhibit 2

City Council Study Session

January 11, 2022

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Overview: What we will be discussing

A. What is a Master Plan?

B. Klahanie Park Master Plan Process

- o Location & Context
- o Timeline & Project Background
- o Existing Conditions
- o Outreach Summary
- o Preferred Master Plan

C. Athletic Field Study

D. Next Steps

Overview: What we are requesting

1. Consensus on proceeding with the preferred master plan.

2. Authorization to proceed with SEPA review process.

What is a Master Plan?

What is a Master Plan?

- City adopted process that looks at park comprehensively and involves entire community
- Establishes design program that provides framework for addressing park improvements
- Report is end product of process

3 Primary Phases:

1. Site Investigation & Analysis
2. Park Program*
3. Master Plan Development*

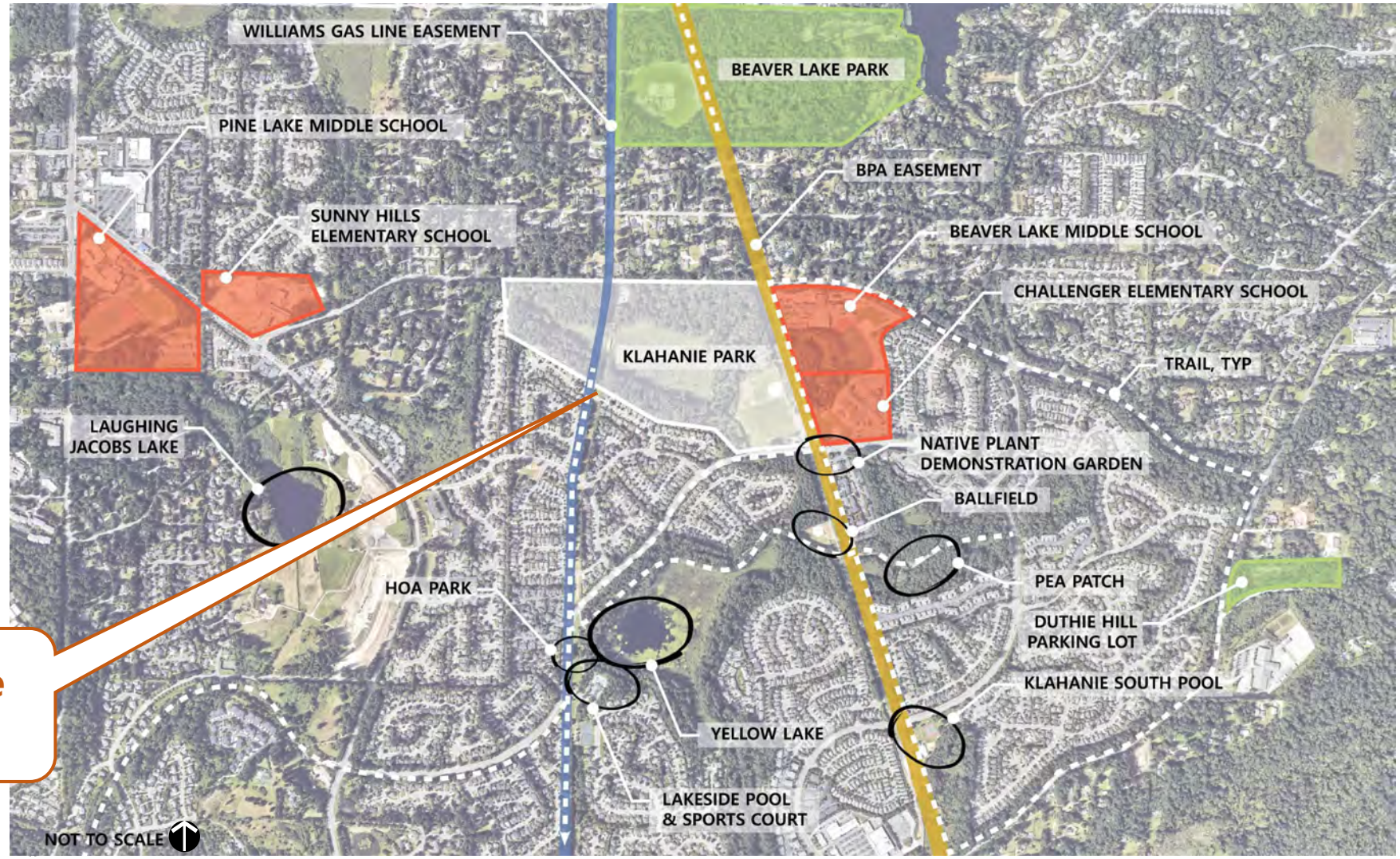
** Includes engagement with community at large, City staff, Parks & Recreation Commission, and City Council*

Location & Context

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
You Are Here
228th Ave SE
SE Duthie Hill Rd
NOT TO SCALE
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park

Site Context



Klahanie Park

Timeline & Project Background

Background & History

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2018 – PRO Plan completed
- 2019 – Master Plan commences
- 2020 – Athletic Field Study completed
- 2021 – Reintroduction of Master Plan

Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ☑ Hopes, Dreams, & Concerns
- ☑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ☑ Schematic Concepts
- ☑ Project Goals & Objectives
- ☑ Design Alternatives
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5. State Environmental Policy Act (SEPA)

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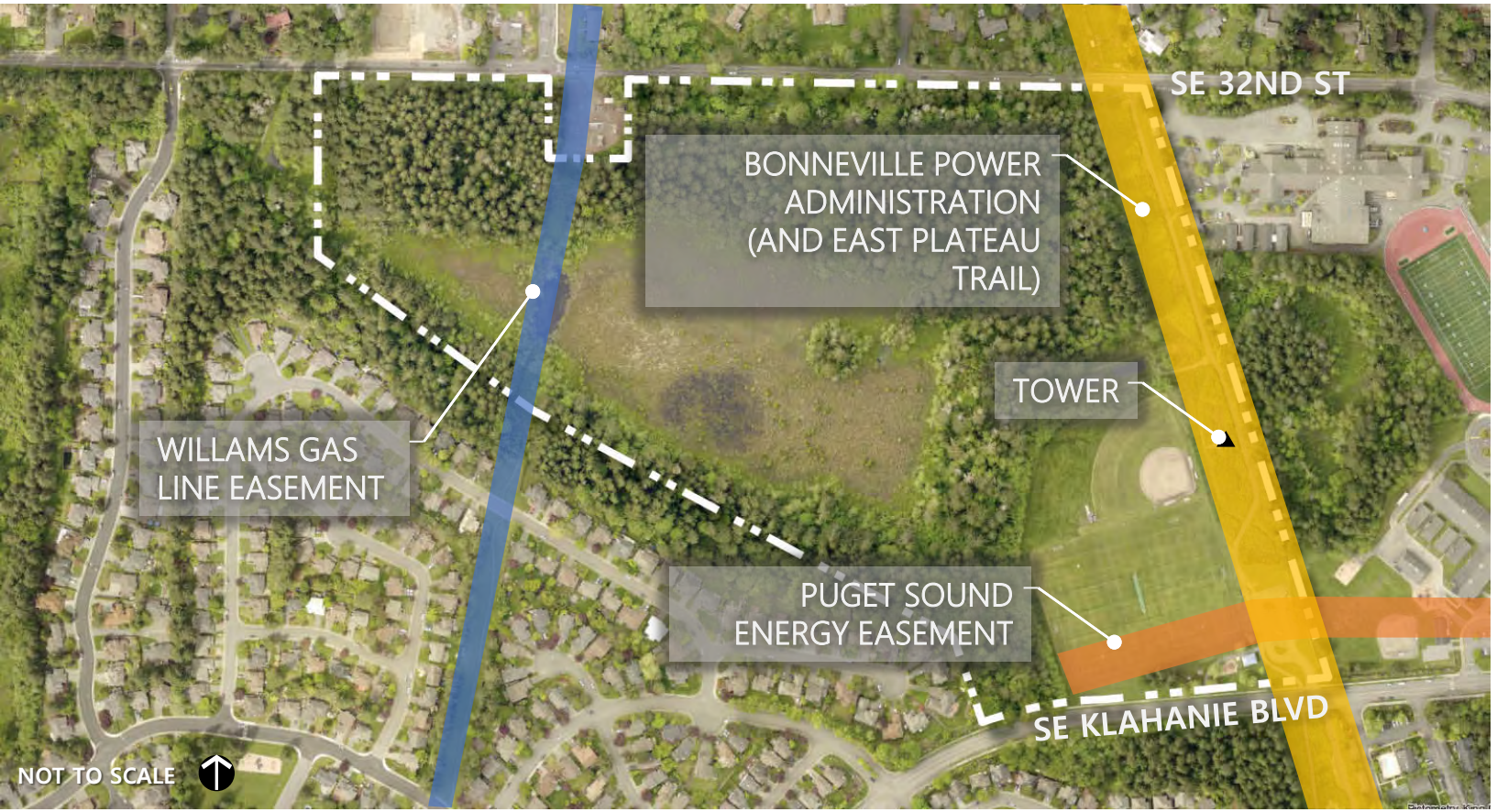
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Bog, Critical Areas, & Trails

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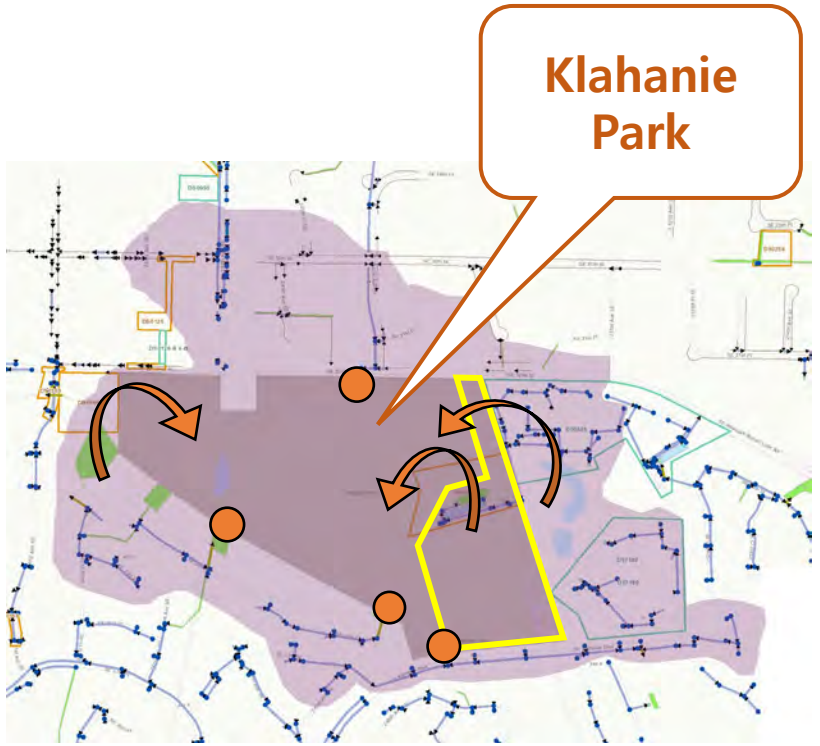

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2. **Gather and celebrate . . .**

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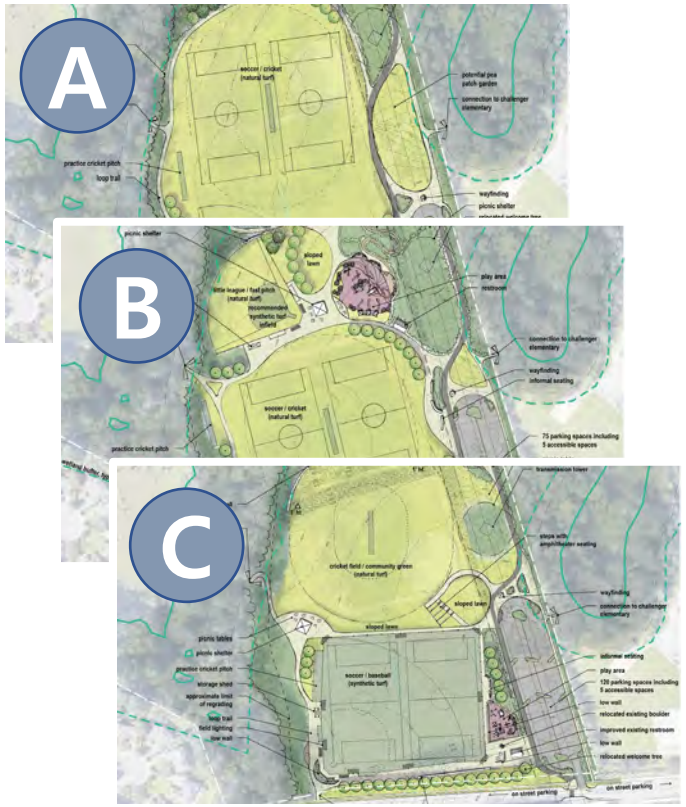

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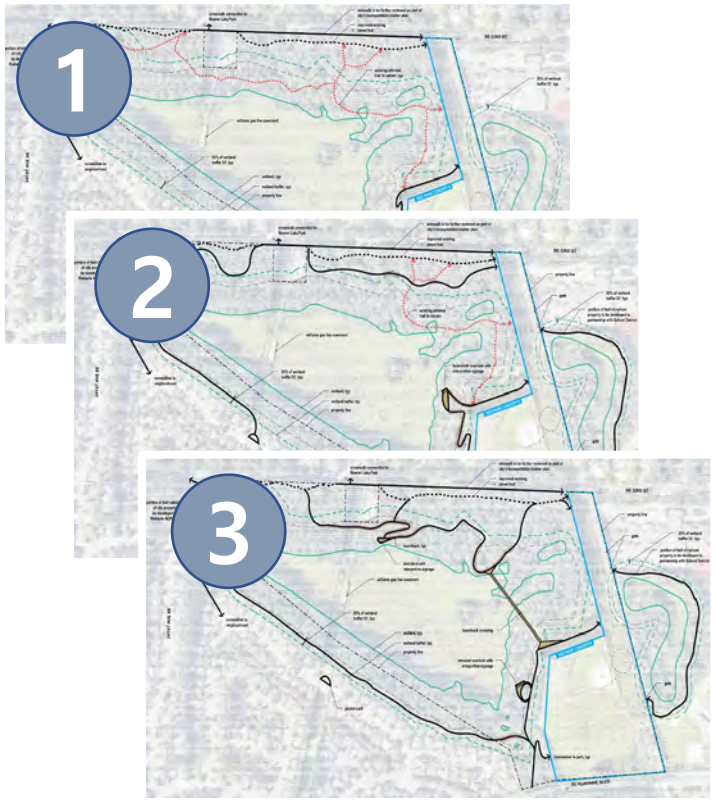

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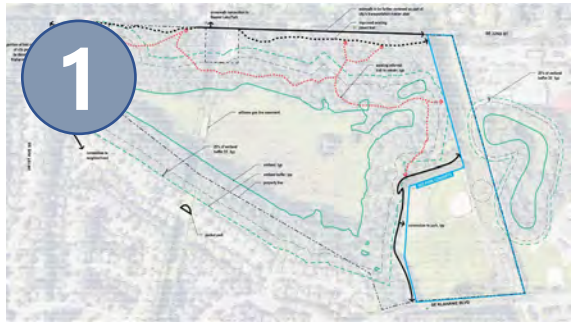
Master Plan Alternatives: What We Heard



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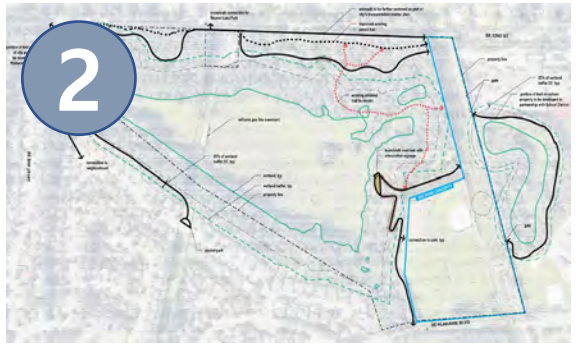

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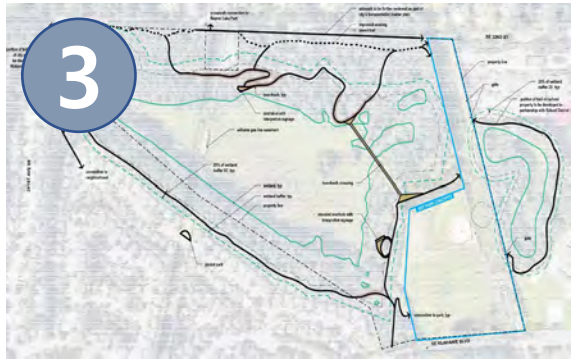

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1. Beaver Lake Middle School
2. Challenger Elementary School
3. Wetland
4. Queen's Bog
5. BPA Easement
6. Williams Gas Line Easement
7. Klahanie Trail
8. Pocket Park to be developed by Klahanie HOA and Williams Gas Line
9. Informal trails to be removed and planted with native wetland species for mitigation
10. Existing asphalt / gravel trail to be removed and replanted for mitigation- relocated to buffer edge

Open Space Enlargement

1. Play area (w/ relocated boulder)
2. Community green
3. Restroom
4. Community garden
5. East Plateau Trail
6. Existing tree grove to remain
7. Lawn with cricket and soccer fields
8. Little League / Softball natural grass with synthetic turf infield
9. Bioretention / stormwater area
10. Paved loop trail
11. Boardwalk
12. Gathering / picnic area
13. Overlook

Preliminary Estimates

Trails: $3.5M - $4M

a. Removal / replanting of informal trails for buffer mitigation

b. Relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)

c. Improve existing asphalt trail near SE 32nd St

d. BPA Easement trails and East Plateau Trail improvements

e. Boardwalk trail near the bioretention / stormwater area

Preliminary Estimates

Cricket and Soccer Fields: $6M - $6.5M

a. Natural grass cricket and soccer field
b. Loop trail
c. Gathering and seating areas

Preliminary Estimates

Play Area / Ballfield:

$9M - $9.5M

a. Play area
b. Community green
c. Overlook
d. Community garden
e. Restroom
f. Picnic shelters
g. Pedestrian entrances
h. Relocate little league/softball field; natural grass outfield with synthetic infield; including seating and storage

Preliminary Estimates

Support Facilities: $2M - $3M

(With either 'Soccer and Cricket Field' or 'Play Area/ Ballfield' development, whichever is first)

a. Bioretention / stormwater area to the north of the open space

b. Parking and entry improvements

Preliminary Estimates

Preferred Plan – Consolidated Approach

Anticipated Construction Costs	$	13,780,000
Washington State Sales Tax (10.1%)	$	1,391,780
Contingency (15%)	$	2,067,000
Soft Costs*	$	2,756,000
Preliminary Project Estimate	**$**	**19,994,780**

**Soft Costs inclusive of design, engineering, construction administration, preliminary studies, and special inspections*

Preferred Plan Feedback

A. Parks & Recreation Commission voted unanimously to:

1. Recommend City Council proceed with the preferred plan and;
2. Implement the 'cricket & soccer fields' and 'support facilities' first

B. Feedback from Klahanie Association:

1. Klahanie Community Manager voiced support of preferred plan at Public Workshop #3 and by email to City staff.

C. City Council voted to:

1. Pause the Master Planning effort until the completion of the Athletic Field Study

Athletic Field Study

What is the Athletic Field Study?

Guide for the prioritization of future sports field improvement projects to increase overall playing time while emphasizing cost saving measures.

4 Main Components:

1. Research national / local sports and population trends
2. Analyze field usage within the City
3. Survey leagues/organizations
4. Evaluate capacity of existing facilities

Assessed Inventory

- **13** fields owned and/or managed by **City**
  - Beaver Lake Park
  - East Sammamish Park
  - Klahanie Park
  - Pine Lake Park
  - Eastlake Community Fields (LWSD)
- **18** fields owned and managed by **Lake Washington School District**
  - City schedules 12 of these fields
- **16** fields owned and managed by **Issaquah School District**
- **3 private fields**

General Recommendations

1. Renovate existing facilities for multi-use
2. Improve overall playing conditions and field quality
3. Build 2 additional baseball fields in northern half of City
4. Build 2 multipurpose synthetic fields with lights
5. Upgrade 5 ballfields to synthetic infield

Assessment – Klahanie Park

Usage / Capacity:

Field	Baseball	Cricket/Soccer
Current Usage	350	1000 (each)
MP Projected Usage	+150	+0
Synthetic Turf & Lights	+250	+300 (each)

Recommendation:

Continue with MP preferred plan. As fields reach the end of their life, these renovations will improve:

1. Quality
2. Performance
3. Reliability of fields


Baseball Field


Cricket/Soccer Fields

Discussion

Overview: What we are requesting

1. Consensus on proceeding with the preferred master plan.

2. Authorization to proceed with SEPA review process.

Next Steps

Next Steps

- Develop the Final Master Plan.
- SEPA Checklist Submittal and Approval.
- Present Final Master Plan to City Council for Adoption (spring 2022).

Attachment B

City of Sammamish
Model Master Plan Process

Site Analysis and/or Project Scoping

- Evaluate existing site conditions.
- Complete wetland delineation, identify sensitive areas, complete soil analysis etc.
- Develop an overall environmental understanding of the site.
- Identify and understand intentions for the site. What is the scope of the project? Park classification? What is the service area of the park? (Ideally, these policy questions will be answered at the time of acquisition).

Survey residents / stakeholders

- Develop a survey suitable to the project (mail, website etc.) Survey responses will be used to assist with development of the initial park concepts for public discussion.

Public Meeting #1: Scoping Meeting

- Present site analysis.
- Present survey results.
- Opportunity for community members to share their hopes, dreams & concerns for the site development .

Project Goal Setting and Concept Development

- Presentation and discussion with the Park Commission.
- Develop the initial park concept(s) that will serve as the foundation for the first public meeting. Park concepts are based on City Council goals, site analysis, survey information and feedback from community members at public meeting # 1.
- Present initial concepts and project goals to the City Council for confirmation and direction.

Public Meetings #2, #3, and #4: Developing a park concept

- Progressive meetings from broad concepts to a preferred option or options.
- State and display project goals (from goal setting above).
- Park Commission hosts the meetings. Consultant and staff facilitate the meeting.
- Prepare a press release (or other informational materials) to present to the public upon completion of Public Meeting # 3.
- Provide updates to the City Council.
- Provide updates to community members via the City website and the City newsletter.
- Identify final site option(s) to forward to City Council for review and approval.

SEPA

- Independent review by Community Development Department.
- Environmental checklist and supporting environmental information/studies completed at the earliest phase possible, when environmental impacts can be adequately identified and evaluated.
- Notice to the public for comment period on the SEPA review.
- Review comments and determine if additional environmental information is needed.
- Threshold determination issued.
- All public meetings will be open to comment related to environmental impacts.

Adoption of Master Plan

- Present to City Council along with SEPA determination.
- Public Hearing(s).
- Formal adoption of Master Plan prior to proceeding with the design contract.

Agenda Bill

City Council Regular Meeting

January 18, 2022

SUBJECT:	Klahanie Park Master Plan - SEPA Authorization
DATE SUBMITTED:	January 12, 2022
DEPARTMENT:	Parks, Recreation & Facilities
NEEDED FROM COUNCIL:	☑ Action ☐ Direction ☐ Informational
RECOMMENDATION:	Authorize staff to proceed with the SEPA review process, based on consensus on the preferred master plan.
EXHIBITS:	1. Exhibit 1 - Preferred Master Plan 2. Exhibit 2 - Adopted Master Plan Process

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COUNCIL:

Shall City Council authorize staff to proceed with the SEPA review process, based on consensus on the preferred master plan?

KEY FACTS AND INFORMATION SUMMARY:

The preferred plan was discussed at the January 11, 2022 City Council Study Session. During this meeting, staff re-introduced the preferred master plan in order to reach consensus on whether or not to proceed with the preferred master plan and subsequent SEPA review process. City Council carried a motion to direct staff to move forward with the preferred master plan, and to authorize staff to proceed with the SEPA review process, by placing it on the consent calendar of the January 18, 2022 City Council Regular Meeting.

Summary

The public process for the Klahanie Park Master Plan is now complete. The consultant team has prepared a preferred master plan based on input from community members, City staff, the Parks & Recreation

Commission, and City Council. With consensus from City Council on the preferred plan, staff may begin the SEPA review process.

Timeline:

Hopes, Dreams, and Concerns

- Parks & Recreation Commission Meeting #1: March 6, 2019 (Complete)
- City Council Meeting #1: March 12, 2019 (Complete)
- Focus Group Meeting #1: March 14, 2019 (Complete)
- Public Meeting #1: March 21, 2019 (Complete)

Master Plan Alternatives

- Public Meeting #2: May 23, 2019 (Complete)
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019 (Complete)

Preferred Master Plan

- Public Meeting #3: October 10, 2019 (Complete)
- Parks & Recreation Commission Meeting #3: November 6, 2019 (Complete)
- City Council Meeting #3: December 3, 2019 (Complete)
- Parks & Recreation Commission Meeting #4: October 6, 2021 (Complete)
- City Council Meeting #4: January 11, 2022 (Complete)

Final Master Plan

- **SEPA Review: Winter - Spring 2022**
- **City Council Adoption of Master Plan: Summer - Fall 2022**

Next Steps

With consensus from City Council on the preferred plan, the Consultant will refine the plan in to the final master plan and City staff will begin the SEPA process. Once the SEPA review process is complete, staff will return to City Council for adoption of the final master plan report.

FINANCIAL IMPACT:

A total of $169,000 was previously authorized with Hough, Beck and Baird (HBB) for planning and design services for the master plan of Klahanie Park. No additional funds are requested to complete this project.

OTHER ALTERNATIVES CONSIDERED:

N/A

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

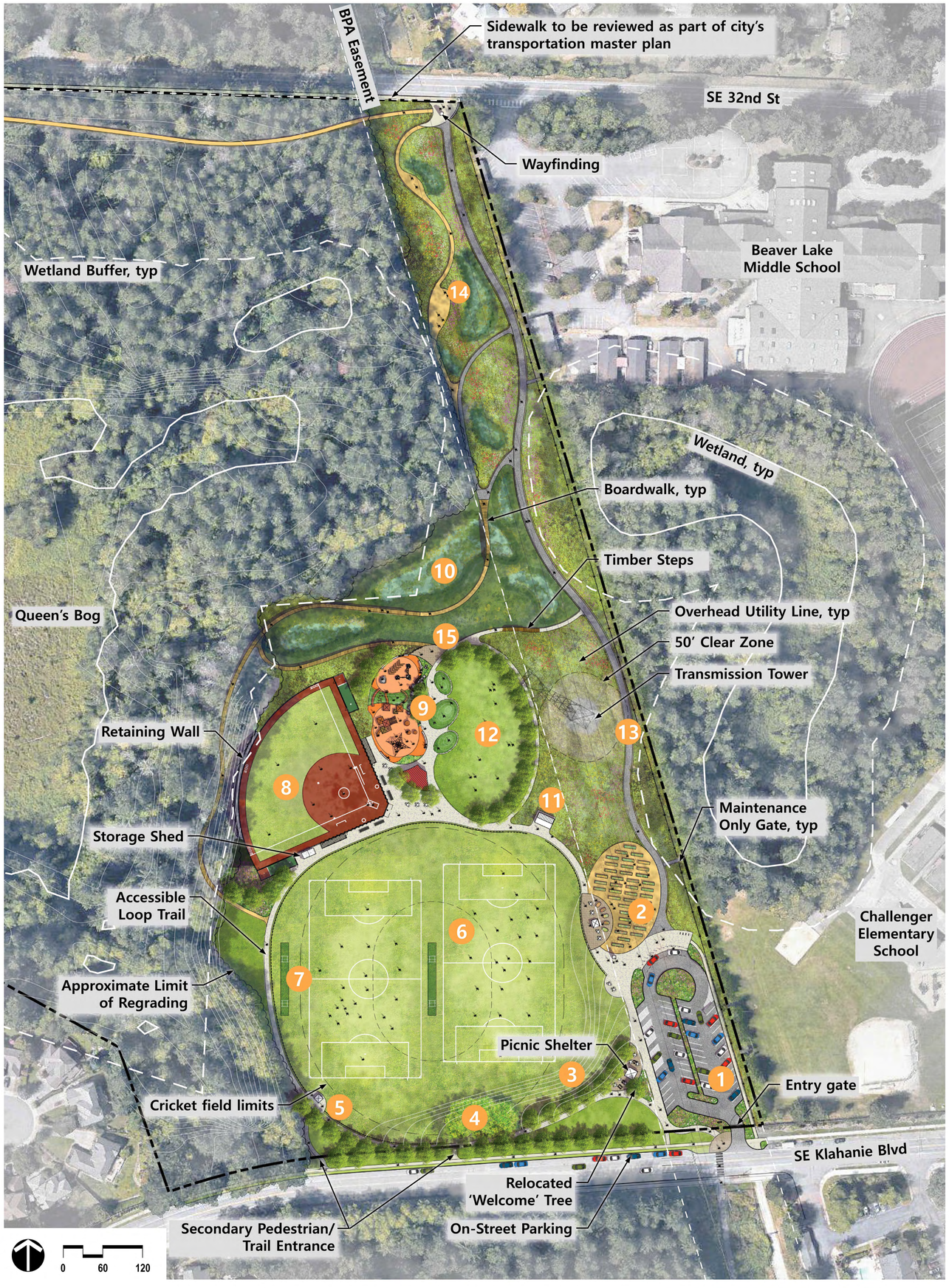
Adopted Master Plan Process, See Exhibit 2

KLAHANIE PARK Master Plan

PREFERRED MASTER PLAN

10 October 2019

Sammamish Parks and Recreation



LEGEND

1. Parking - 55 parking spaces with 5 accessible spaces
2. Community Garden
3. Sloped Lawn
4. Existing Tree Grove to Remain
5. Amenity Node
6. Lawn with Cricket & Soccer Field
7. Practice Cricket Pitch
8. Little League / Softball - natural grass outfield with synthetic turf infield
9. Play Area
10. Bioretention / Stormwater area
11. Restroom
12. Community Green
13. 10' Wide King County East Plateau Trail with 2' Crushed Stone Shoulder
14. Trail Amenity Node with Interpretive Signage
15. Overlook

Attachment B

City of Sammamish
Model Master Plan Process

Site Analysis and/or Project Scoping

- Evaluate existing site conditions.
- Complete wetland delineation, identify sensitive areas, complete soil analysis etc.
- Develop an overall environmental understanding of the site.
- Identify and understand intentions for the site. What is the scope of the project? Park classification? What is the service area of the park? (Ideally, these policy questions will be answered at the time of acquisition).

Survey residents / stakeholders

- Develop a survey suitable to the project (mail, website etc.) Survey responses will be used to assist with development of the initial park concepts for public discussion.

Public Meeting #1: Scoping Meeting

- Present site analysis.
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Project Goal Setting and Concept Development

- Presentation and discussion with the Park Commission.
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- Provide updates to the City Council.
- Provide updates to community members via the City website and the City newsletter.
- Identify final site option(s) to forward to City Council for review and approval.

SEPA

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- Notice to the public for comment period on the SEPA review.
- Review comments and determine if additional environmental information is needed.
- Threshold determination issued.
- All public meetings will be open to comment related to environmental impacts.

Adoption of Master Plan

- Present to City Council along with SEPA determination.
- Public Hearing(s).
- Formal adoption of Master Plan prior to proceeding with the design contract.

Agenda Bill

Parks and Recreation Commission Regular Meeting
March 06, 2019

SUBJECT:	Klahanie Park Master Plan Discussion - Hopes, Dreams and Concerns
DATE SUBMITTED:	March 01, 2019
DEPARTMENT:	Parks & Recreation
NEEDED FROM COMMISSION:	☐ Action ☑ Direction ☐ Informational
RECOMMENDATION:	Review background information, an analysis of existing conditions and uses at Klahanie Park, and discuss hopes, dreams and concerns related to the master plan.
EXHIBITS:	1. Exhibit 1 - Site Plan

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☑	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COMMISSION:

Klahanie Park Master Plan Discussion - Hopes, Dreams and Concerns

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to review park background information, an analysis of existing conditions and uses at Klahanie Park, and discuss hopes, dreams and concerns related to the master plan.

Summary:

Klahanie Park is a 64-acre park located in the southeast section of the City. The park is comprised of natural turf fields including two multi-purpose sports fields, one baseball field and a cricket pitch. Additionally, the park features a small play structure, restrooms, parking, a segment of King County's East Plateau Regional Trail, natural areas and Queen's Bog, which is one of roughly fifty bogs located in Washington State. Having been in use for nearly 25 years with only minor improvements, park features are nearing the end of their life cycle or are in need of major repair. A master plan will be the City's first attempt to look at potential improvements to this park in a comprehensive manner utilizing a process that provides involvement of the entire community. It will also enable the city to consider how a previous County park will best incorporate into Sammamish's overall park system.

A representative from the consultant team, HBB, will present background information, an analysis of existing conditions and uses at Klahanie Park in further detail at the March 6, 2019 Parks & Recreation Commission meeting. At that time, the Parks & Recreation Commission will be asked to discuss their hopes, dreams and concerns related to the master plan of Klahanie Park. This information will be used, in conjunction with input received from the City Council, city staff and the public, to assist with the development of an overall vision with supporting goals and design criteria for the park.

Project Background:

The park was built by a Homeowners Association and transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation. Since annexation, improvements have been made to the park, which include drainage modifications to the baseball field, installation of the City's first cricket pitch, turf aeration of the two multi-purpose sports fields and minor renovations to the restrooms.

Following annexation, the City took over field reservations for the two multi-purpose fields and baseball field. In addition, the City introduced annual recreation events during the summer, such as the Shakespeare in the Park and KidsFirst programs.

Master Plan Process:

A twelve to eighteen-month effort is anticipated for the master plan process with participation from the community at large, City staff, Parks & Recreation Commission, City Council, and community stakeholders. The master plan process consists of three phases as described below:

<u>Phase 1 Site Investigation and Analysis</u>

Evaluate existing site conditions, identify sensitive areas, complete site studies, and develop an overall understanding of the site. During this initial phase, a survey will be developed and used to assist with the development of initial park concepts for public discussion.

<u>Phase 2 Park Program</u>

Following survey development, the first public meeting will be held to present site analysis, initial survey results, and provide the Sammamish community an opportunity to share their hopes, dreams and concerns for the park.

Based upon the results of site analysis, City staff input, technical input and initial public input, a preliminary park design program will be developed that details proposed uses, design character and criteria.

Phase 3 Master Plan Development

The remaining public engagement will take place during the third phase of the master plan process. Two to three Master Plan alternatives will be prepared, based upon the approved design program. This will include a narrative that summarizes the existing conditions, design alternatives, cost implications and regulatory criteria, and identifies issues which will require further study at the next stage of project development.

Based upon feedback from the community, Parks & Recreation Commission, and City Council, the alternatives will be revised in to one preferred Master Plan alternative with a preliminary cost estimate. The final deliverable will be a Master Plan Report, with final project drawings and narrative, project process, project phasing scenarios and phase costs.

Anticipated Timeline:

- Parks & Recreation Commission Meeting #1: March 6, 2019
- City Council Meeting #1: March 12, 2019
- Focus Group Meeting #1: March 14, 2019
- Public Meeting #1: Tentatively March 21, 2019
- Public Meeting #2: May 2019
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019
- Public Meeting #3: August 2019
- Parks & Recreation Commission Meeting #3: September 2019
- City Council Meeting #3: October 2019

Next Steps:

Review the site analysis and background information with City Council, a focus group and the public, then develop an overall vision with supporting goals and design criteria for the park. Initial concepts will be developed in the spring based on feedback received and brought back in front of the City Council, Parks & Recreation Commission, and the public.

FINANCIAL IMPACT:

N/A

OTHER ALTERNATIVES CONSIDERED:

N/A

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

2018 Parks, Recreation & Open Space (PRO) Plan

Klahanie Park

0 75' 150' 300'

N

Parks & Recreation Commission Meeting

March 6, 2019

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Purpose (what we need from you)

- Hopes, Dreams, Concerns
- Vision

Overview: What we will be discussing

A. Introduction
B. Timeline & Project Background
C. Existing Conditions
D. Discussion
   - Hopes, Dreams, Concerns
   - Vision
E. Next Steps

Introduction

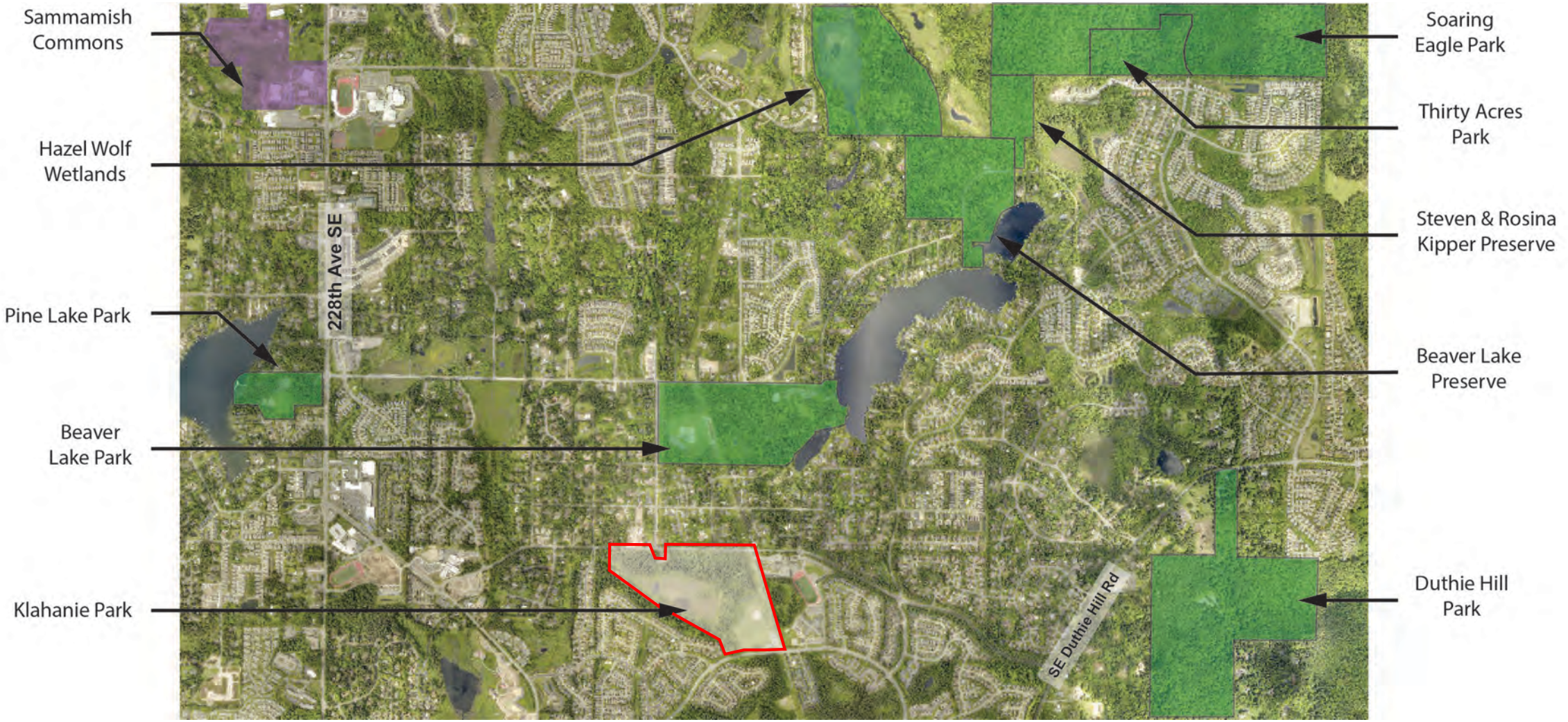
2018 PRO Plan Vision

The overall vision for Sammamish's Parks and Recreation system sees parks as an integral part of our healthy and sustainable community by connecting people to nature, play, and culture.

Sammamish Parks & Recreation Goals

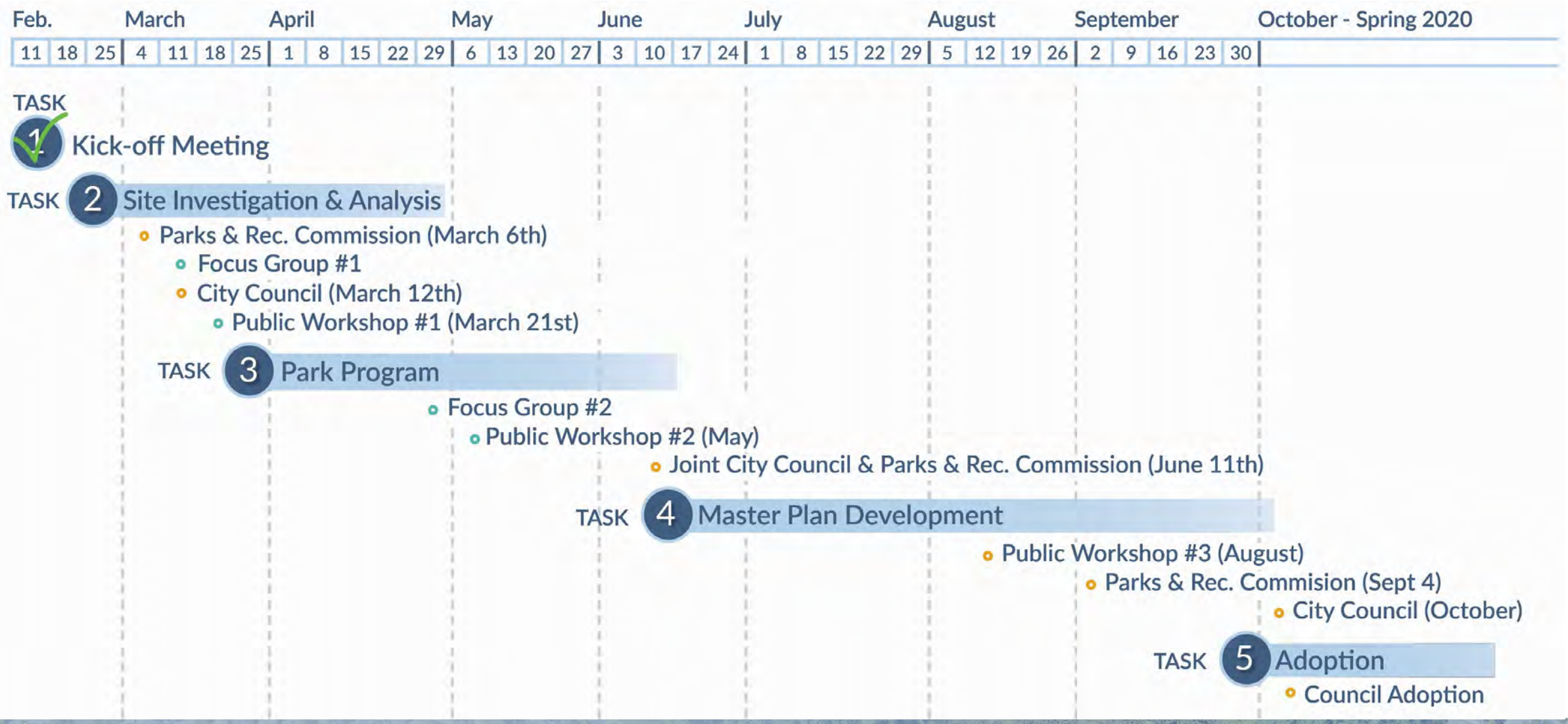
- Conservation of natural resources
- Opportunities to improve health and wellness
- Create social equity in access to parks and recreation for all residents

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park
228th Ave SE
SE Duthie Hill Rd

Timeline & Project Background

Project Timeline



Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ❑ Hopes, Dreams, & Concerns
- ❑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ❑ Schematic Concepts
- ❑ Project Goals & Objectives
- ❑ Design Alternatives
- ❑ City Council & Parks Commission Updates
- ❑ Parks & Recreation Commission

5. State Environmental Polity Act (SEPA)

6. Master Plan Adoption

Background

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2019 – Master Plan commences

Existing Conditions

Site Context

Aerial

Existing Features

- Queen's Bog
- Trails
- Athletic Fields
- Play Area
- Restroom
- Parking

Easements


SE 32ND ST
BONNEVILLE POWER ADMINISTRATION (AND KING COUNTY EAST PLATEAU TRAIL)
WILLAMS GAS LINE EASEMENT
TOWER
PUGET SOUND ENERGY EASEMENT
SE KLAHANIE BLVD

Bog & Critical Areas

Existing Features

- Queen's Bog
- 5 other wetlands on-site
- 1 wetland adjacent to site

Trails


SE 32ND ST
TRAIL, TYP
INFORMAL TRAIL, TYP
EAST PLATEAU TRAIL
SE KLAHANIE BLVD
KLAHANIE TRAIL

Athletic Fields

- 2 soccer/lacrosse fields
  - Natural grass
  - 180′ x 300′, up to 210′ x 330′
  - Multiple age groups
- 1 cricket ground
  - Natural grass with synthetic pitch
  - 12′ x 110′ pitch (extra-long)
  - Practice cricket pitch coming in April

Athletic Fields

- Little League / Softball
  - Renovated in 2017
  - Natural grass outfield and "skinned" infield
  - 250' outfield fence
  - U12 Little League
  - 13+ Fast Pitch Softball

Play Area, Restroom, Parking

- Restroom
  - Men's and women's 2 stalls
  - With storage chaise
  - CMU construction
  - Built in 90's
- Play Area
  - Ages 2-5
  - Built in 90's
  - Fair condition, except ADA access
- Parking
  - 30 stalls (3 ADA)
  - Adequate for current use
  - Street parking
  - School parking

City Events

- Shakespeare in the Park
- KidsFirst

Miscellaneous

- Stormwater detention ponds

General Site Opportunities & Constraints

Opportunities

- Connectivity
- Something for all, active/passive

Constraints

- Limited space
- Active vs. Passive & Programs
- Easements

Discussion

Discussion

- What are your hopes, dreams, and concerns?

Discussion

- What is one word or phrase to describe your **vision** for the future of Klahanie Park?

Next Steps

Next Steps

- City Council presentation (March 12)
- Online survey (open March 13-April 14)
- Focus Group meeting #1 (March 14) at City Hall
- Public Workshop #1 (March 21) at Challenger Elementary
- Concept development by consultant

Agenda Bill

Parks and Recreation Commission Regular Meeting
November 06, 2019

SUBJECT:	Klahanie Park Master Plan Discussion - Preferred Master Plan
DATE SUBMITTED:	October 29, 2019
DEPARTMENT:	Parks & Recreation
NEEDED FROM COMMISSION:	☐ Action ☑ Direction ☐ Informational
RECOMMENDATION:	Review and provide input on the preferred master plan; discuss phasing priorities for potential park development.
EXHIBITS:	1. Exhibit 1 - PowerPoint Presentation

BUDGET:

Total dollar amount	$169,000
Fund(s)	Parks Capital Improvement Fund

☑ **Approved in budget**
☐ **Budget reallocation required**
☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

- ☐ Transportation
- ☑ Communication & Engagement
- ☐ High Performing Government
- ☑ Environmental Health & Protection
- ☐ Community Safety
- ☐ Community Livability
- ☑ Culture & Recreation
- ☐ Financial Sustainability

NEEDED FROM COMMISSION:

Klahanie Park Master Plan Discussion - Preferred Master Plan

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to for the Parks & Recreation Commission to provide input on the preferred master plan for Klahanie Park, as well as discuss phasing priorities for potential park development.

Summary:

The public process for the Klahanie Park Master Plan is now complete. The consultant team has prepared a preferred master plan based on input from community members, City staff, the Parks &

Recreation Commission, and City Council. The components of the preferred plan are summarized below. With consensus from the Parks & Recreation Commission on the preferred plan and phasing priorities, staff may proceed with review by the City Council and begin the SEPA review process.

Preferred Master Plan:

The overall goals and objectives are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally. During the public outreach component of this effort, staff learned that the park was generally meeting the needs of the Klahanie community. That said, there were a selection of amenities that the community wanted to expand or modify. Examples of these include providing a separate community space (to avoid conflict with soccer and cricket) that would allow for unprogrammed play, expanding the play area for a larger age range to enjoy, increasing the amount of seating and picnic areas, and incorporating a community garden and native planting areas. We also heard concerns related to an increase in traffic with the park re-development, trail encroachment in natural areas, and the potential for noise and light pollution with the installation of synthetic turf and lights.

With this input in mind, the preferred plan provides a no net loss of amenities. As and when current park amenities are at the end of their life and need to be replaced, this plan will take those amenities and re-organize them in a manner that is safer, environmentally sensitive and more efficient.

The preferred master plan generally keeps the existing cricket and soccer fields in their current location while expanding the cricket field limits and delineating the field extents with a split rail fence along the loop trail. The little league / softball field is relocated to the west, opening up a centrally-located community green space, picnic plaza, and play area. The community green is a flexible open space that can be utilized for unstructured recreation, picnic areas, and events. The restroom is relocated near the community green for easy access from all the park activities and spaces. A new community garden includes accessible garden plots, picnic and seating space, and a storage shed. An accessible loop trail meanders around the cricket and soccer fields and community green and includes picnic nodes with small shelters, picnic tables, and other amenities. The large play area includes a formal play space with equipment designed for ages 2-5 and 5-12; a sloped play area with slides; and a natural play space with climbing rocks, boulders, and other play elements inspired by nature. The main picnic shelter and picnic area is centrally located between the fields, play area, loop trail, and community green. The parking lot is expanded slightly to increase capacity and to include a formal drop-off area.

<u>Trails</u>

After reviewing several trail design options, the preferred alternative calls for the decommissioning of trails surrounding Queen's Bog in an effort to reduce further impact to the sensitive area and its buffers from park users, and instead incorporate additional trails in areas that will be impacted by park re-development and BPA's utility corridor.

A small overlook near the north side of the open space serves as a trailhead to the boardwalk and trails along the utility corridor. Several amenity nodes are provided along these trails for native plant demonstration gardens, seating, wayfinding, and interpretive education. The forested area includes improvements to the existing paved trail near SE 32nd Street and the western trail is relocated to be in the outer 25% of the wetland buffer. The western trail is outside of the park boundary but within

Klahanie's Native Growth Protection Area (NGPA); development of this portion of the trail would require partnership with Klahanie HOA. Connections to all other existing trails in the forested area and wetland buffers will be planted with native wetland species for mitigation.

Field Surfacing and Lighting

The cricket and soccer fields are unlit and are comprised of natural grass surfacing, with synthetic surface cricket pitches. The southern edge of the cricket outfield will stop at the bottom of the sloped lawn. This configuration does not accommodate a full, adult-size cricket outfield in order to preserve the existing grove of trees and allows park visitors to use the existing sloped lawn for seating. The little league / softball field is also unlit and includes a natural grass outfield with a synthetic infield, spectator seating, covered dugouts, and other field amenities.

Stormwater Treatment

The existing stormwater ponds will be redeveloped to include a more natural drainage approach with cascading bioretention cells which will be planted with native species and small ornamental trees. These bioretention cells will capture stormwater from the park and allow it to infiltrate. Any overflow will utilize the existing or improved catch basins and stormwater system. Stormwater from pollution-generating surfaces such as the parking lot, the athletic fields, and vehicular paving will drain to the bioretention cells and also utilize a biofiltration system.

Master Plan Process:

The first set of meetings were held in March 2019 with the City Council, Parks & Recreation Commission, a focus group, and the community, to solicit input on hopes, dreams, and concerns related to the master plan. Two surveys were prepared as part of this first phase, one for a focus group and one for the public. Neither of the surveys were statistically valid.

A total of six concept alternatives were prepared, three park concepts and three trail concepts. The intent was to demonstrate a minimum, moderate, and maximum approach to park development. Based on the feedback received at the first set of workshops, the overall goals and objectives are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally.

A representative from the consultant team, HBB, will present a summary of the second public workshop, online public survey results, feedback received at the third public workshop, and discuss the preferred master plan in further detail at the November 6, 2019 Parks & Recreation Commission Meeting. At that time, the Parks & Recreation Commission will be asked to provide input on the preferred plan for the master plan development, and discuss phasing priorities of park development. This information will be used, in conjunction with input received from City Council, City staff, and the public, to assist with the refinement of the preferred plan to develop the final master plan.

Park Background:

Klahanie Park is a 64-acre park located in the southeast section of the City. The park is comprised of natural grass fields including two multi-purpose sports fields, one baseball field, and a cricket pitch. Additionally, the park features a small play structure, restrooms, parking, a segment of the East Plateau Trail, natural areas and Queen’s Bog, which is one of roughly fifty bogs located in Washington State.

Having been in use for nearly 25 years with only minor improvements, park features are nearing the end of their life cycle or are in need of repair. This master plan project is the City's first attempt to look at potential improvements to this park in a comprehensive manner utilizing a process that provides opportunity for involvement of the entire community. It will also enable the City to consider how a previous County park will best incorporate into Sammamish's overall park system.

The park was built by the Homeowners Association and transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation. Since annexation, modest improvements have been made to the park, which include drainage modifications to the baseball field, installation of the City's first and only cricket pitch, turf aeration of the two multi-purpose sports fields, irrigation improvements and minor renovations to the restrooms.

Following annexation, the City took over field reservations for the two multi-purpose fields and baseball field. In addition, the City introduced annual recreation events during the summer, such as the Shakespeare in the Park and KidsFirst programs.

Timeline:

Hopes, Dreams, and Concerns

- Parks & Recreation Commission Meeting #1: March 6, 2019 (Complete)
- City Council Meeting #1: March 12, 2019 (Complete)
- Focus Group Meeting #1: March 14, 2019 (Complete)
- Public Meeting #1: March 21, 2019 (Complete)

Master Plan Alternatives

- Public Meeting #2: May 23, 2019 (Complete)
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019 (Complete)

Preferred Master Plan

- Public Meeting #3: October 10, 2019 (Complete)
- **Parks & Recreation Commission Meeting #3: November 6, 2019**
- **City Council Meeting #3: December 3, 2019**

Final Master Plan

- **SEPA Review: January - April 2020**
- **City Council Adoption of Master Plan: Spring 2020**

Next Steps:

The project consultant team will present the preferred master plan, discuss phasing priorities of park development, and provide feedback received from the community and Parks & Recreation Commission to the City Council at the December 3, 2019 Regular Meeting. The preferred master plan will then be refined in to the final master plan and City staff will begin the SEPA process.

FINANCIAL IMPACT:

N/A

OTHER ALTERNATIVES CONSIDERED:

If there are considerable objections to components of the preferred plan, City staff and the consultant team may revise the preferred plan. A revised plan would require an additional round of public meetings with the community, Parks & Recreation Commission, and City Council.

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

2018 Parks, Recreation & Open Space (PRO) Plan

Parks & Recreation Commission Meeting

November 6, 2019

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Overview: What we will be discussing

A. Introductions ..... 5 minutes

B. Presentation ..... 25 minutes

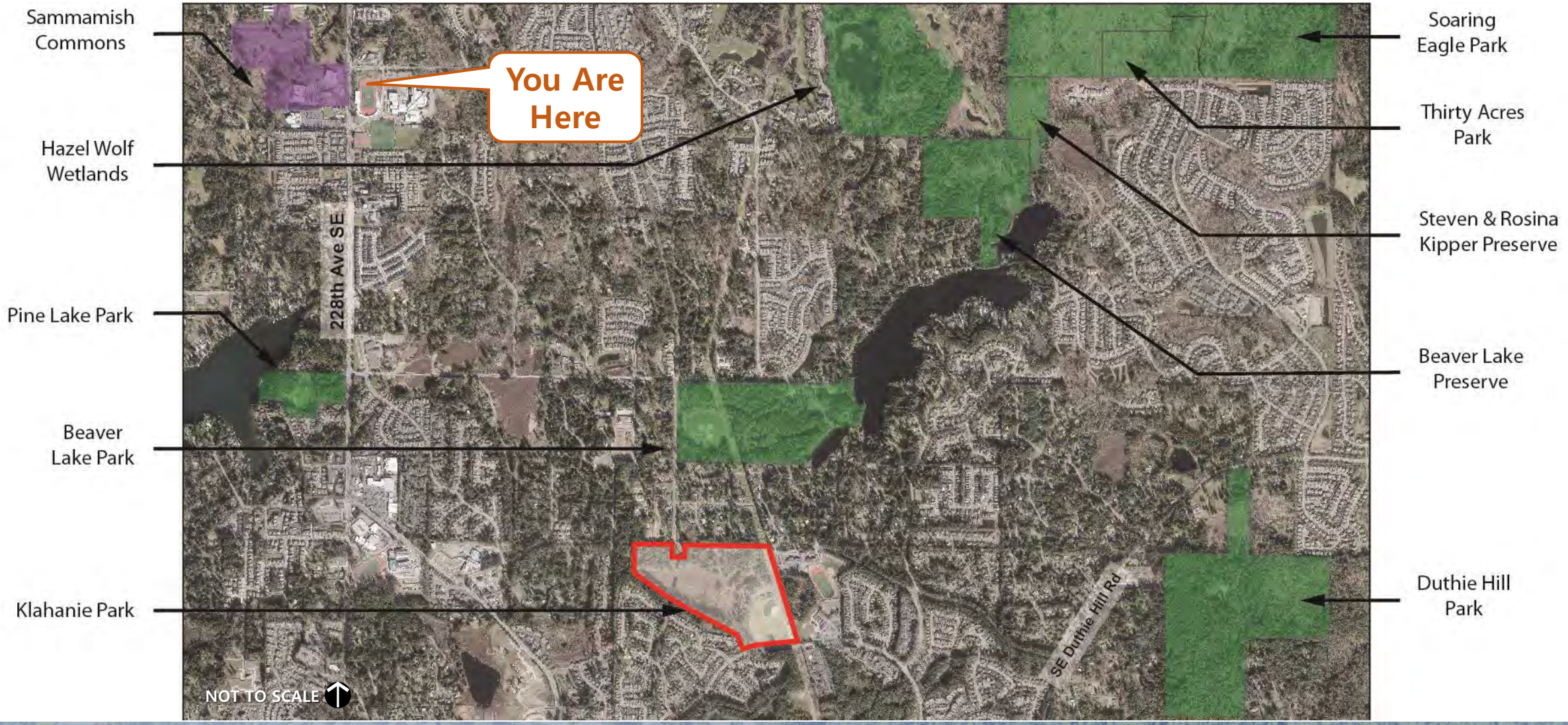
   a. Location & Context
   b. 2018 Parks, Recreation & Open Space Plan
   c. Timeline & Project Background
   d. Existing Conditions
   e. Outreach Summary
   f. Goals & Objectives
   g. Master Plan Alternatives
   h. Preferred Master Plan
   i. Next Steps

C. Discussion ..... 15 minutes

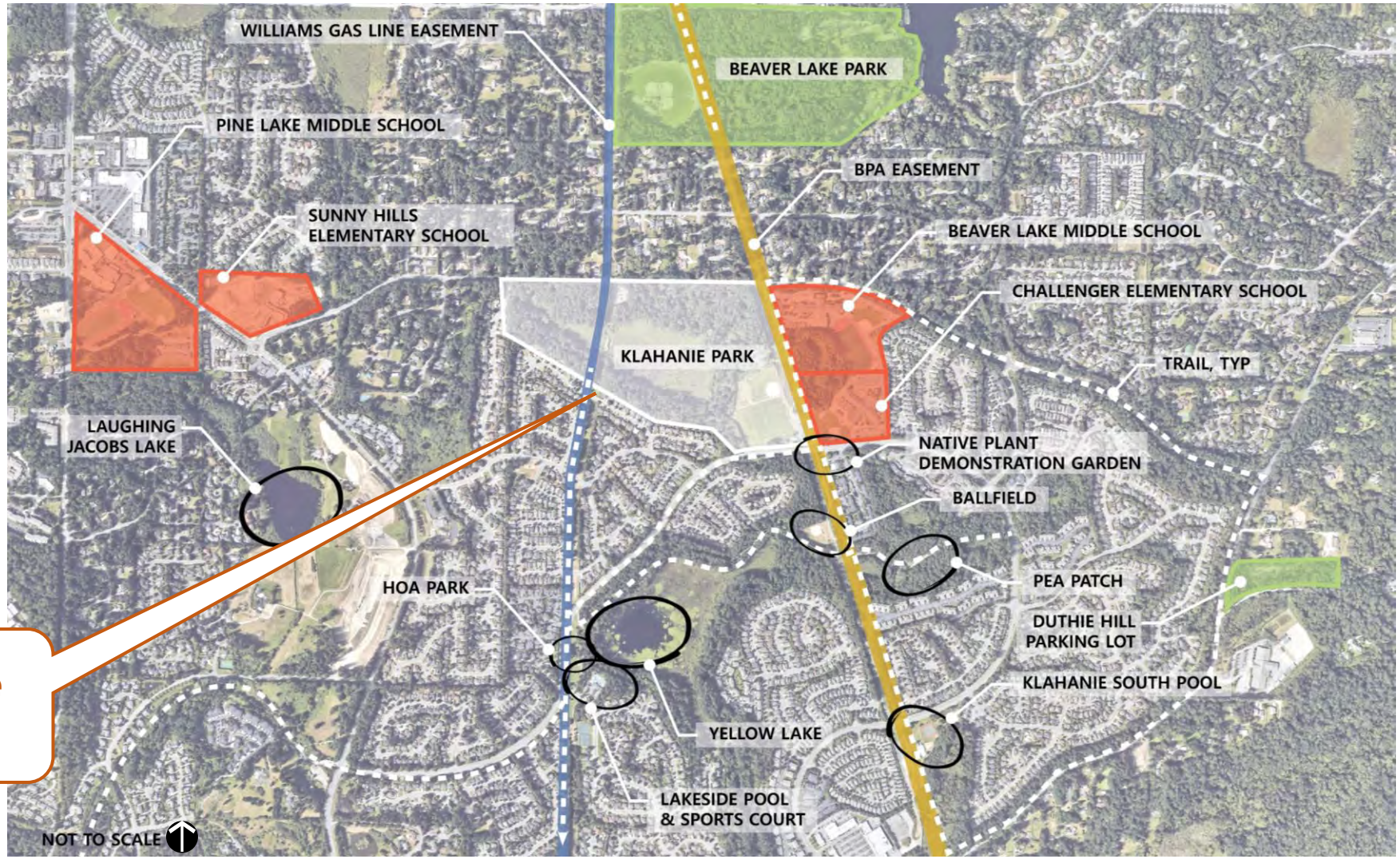
   a. Phasing Plan Priorities

Location & Context

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
You Are Here
228th Ave SE
SE Duthie Hill Rd
NOT TO SCALE
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park

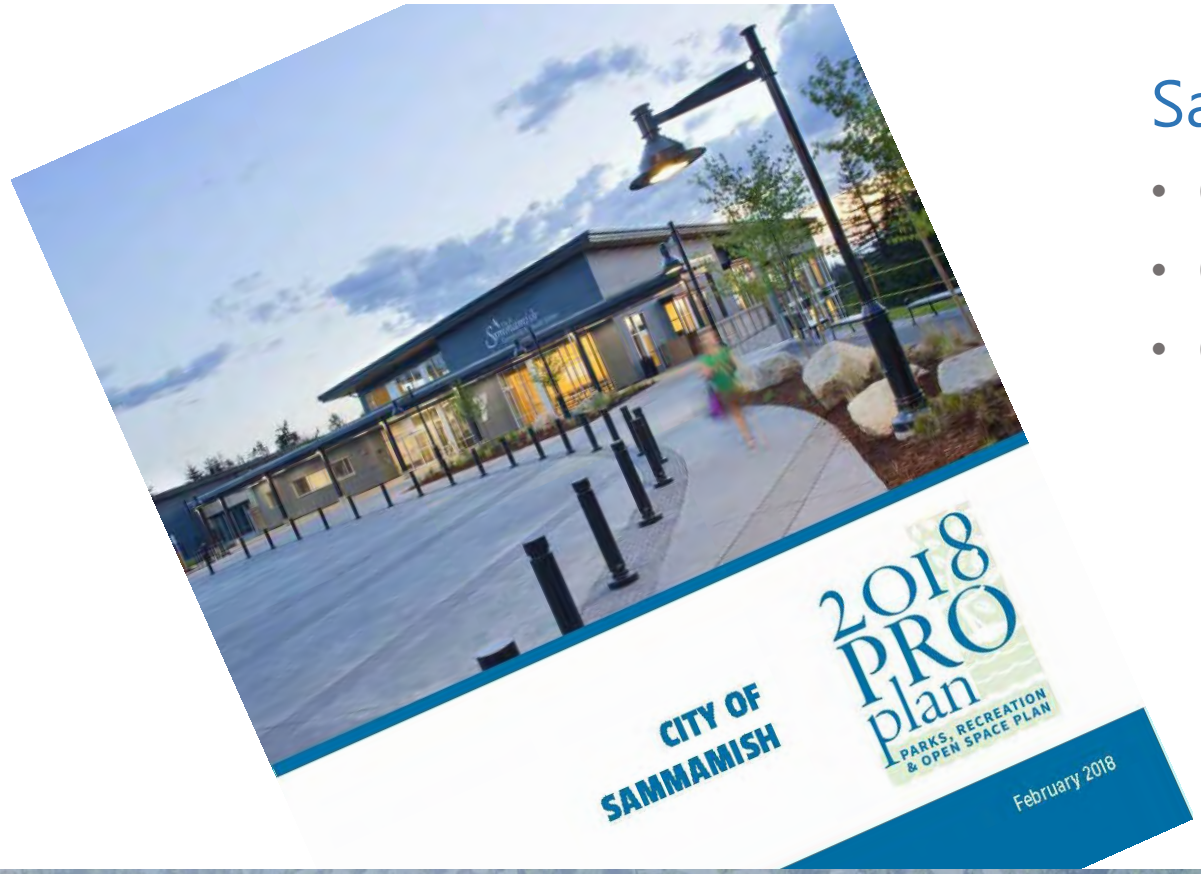
Site Context



Klahanie Park

2018 Parks, Recreation & Open (PRO) Space Plan Vision

The overall vision for Sammamish's Parks and Recreation system sees parks as an integral part of our healthy and sustainable community by connecting people to nature, play, and culture.

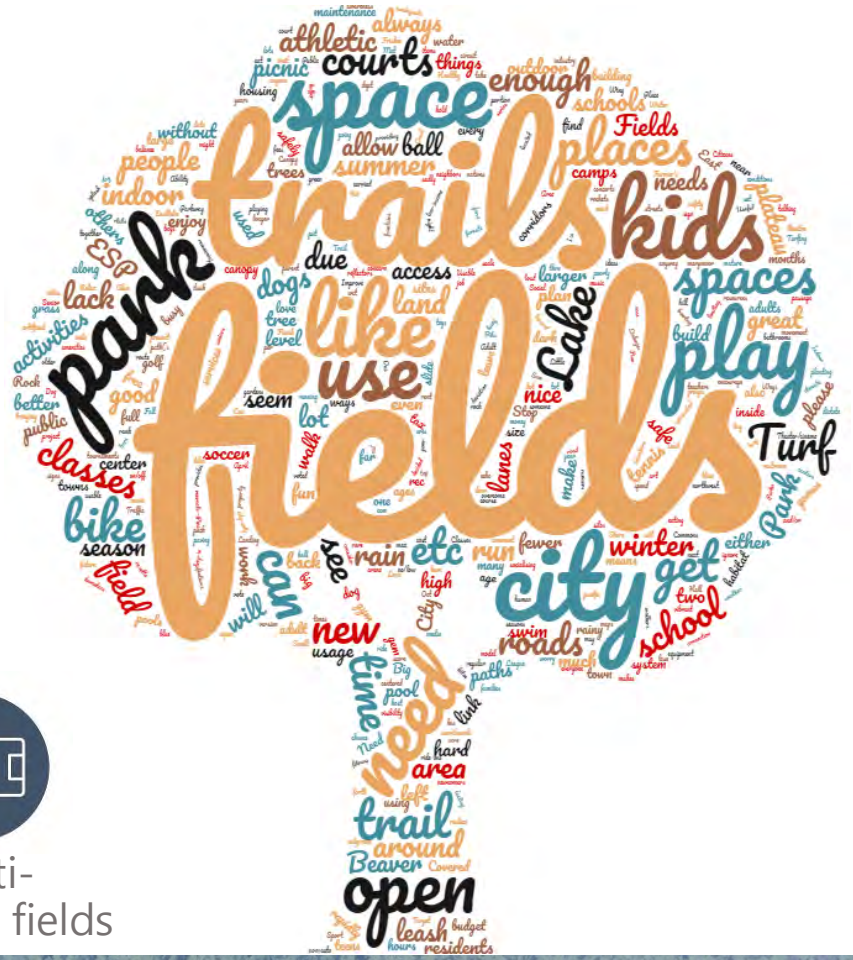


Sammamish Parks & Recreation Goals

- Conservation of natural resources
- Opportunities to improve health and wellness
- Create social equity in access to parks and recreation for all residents

2018 PRO Plan

Missing Elements of the Existing Park & Recreation System…



Top priorities for active and passive use from online survey…

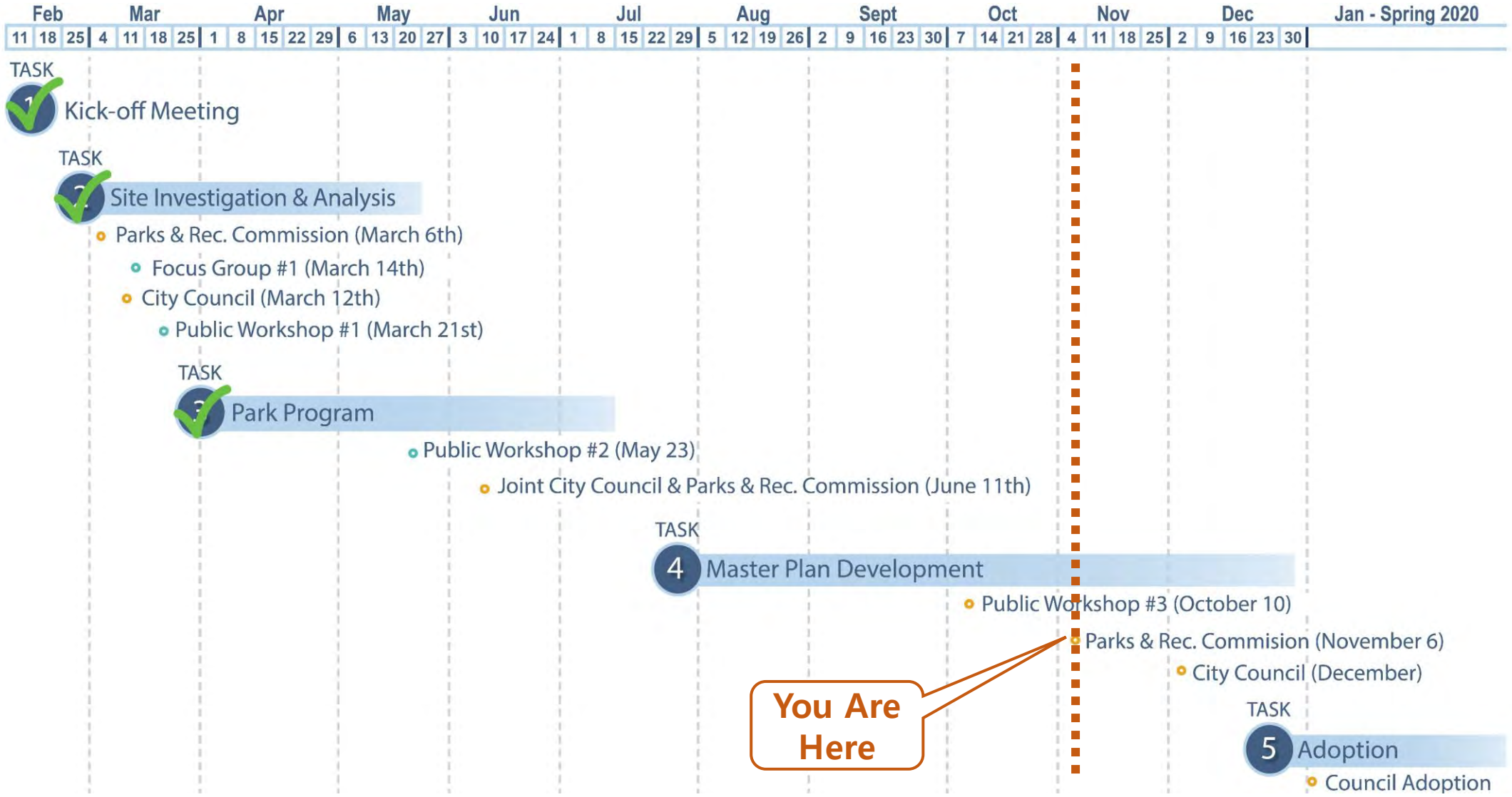
- Natural surface trails
- Boardwalk trails
- Playground
- Picnic areas
- Restroom
- Flexible space
- Multi-purpose fields

Timeline & Project Background

Background & History

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2018 – PRO Plan completed
- 2019 – Master Plan commences

Project Timeline



Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ☑ Hopes, Dreams, & Concerns
- ☑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ☑ Schematic Concepts
- ☑ Project Goals & Objectives
- ☑ Design Alternatives
- ☑ City Council & Parks & Recreation Commission Updates

5. State Environmental Policy Act (SEPA)

6. Master Plan Adoption

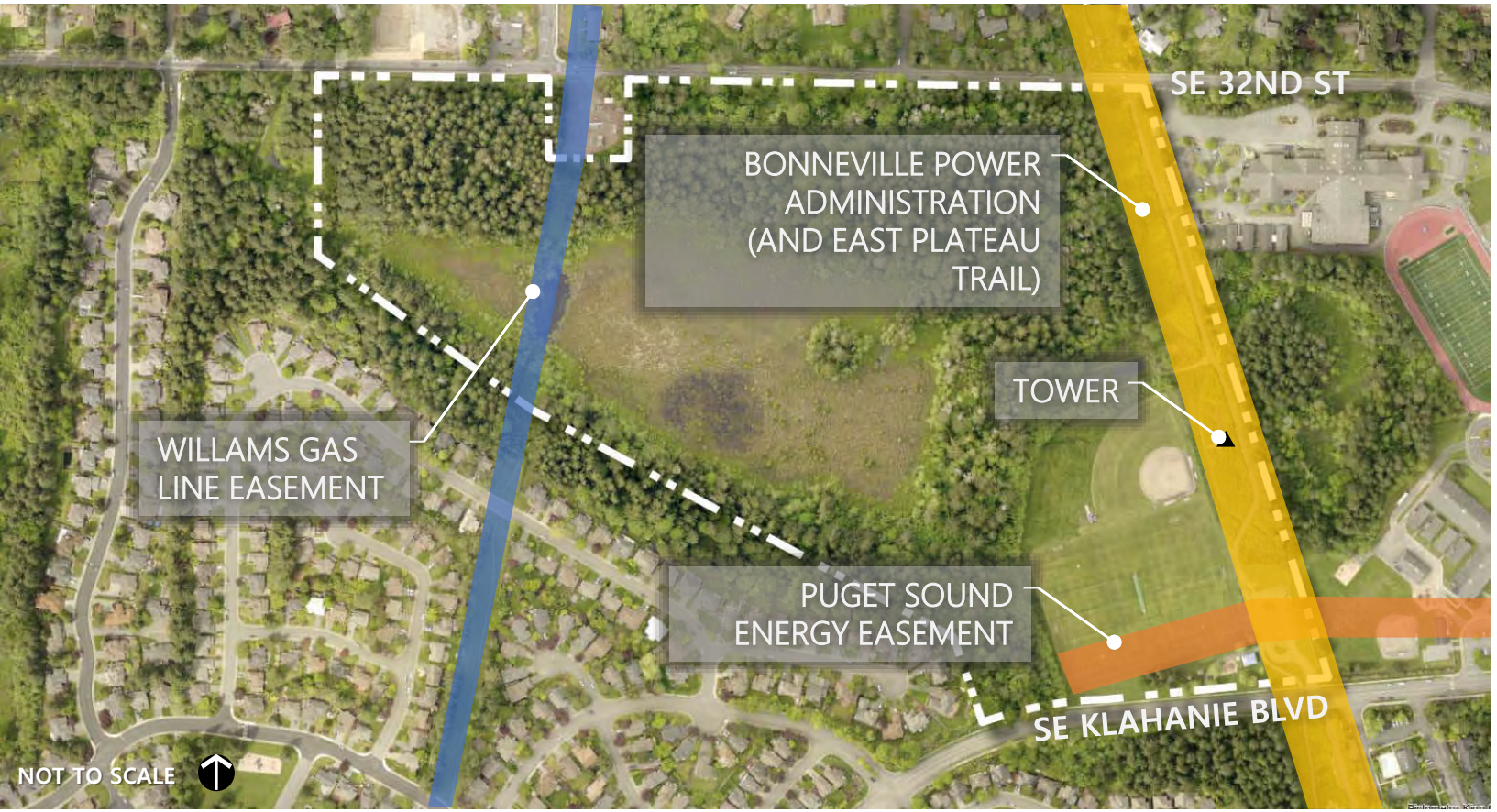
Existing Conditions

Existing Conditions

Existing Features

- Queen's Bog
- Trails
- Athletic Fields
- Play Area
- Restroom
- Parking

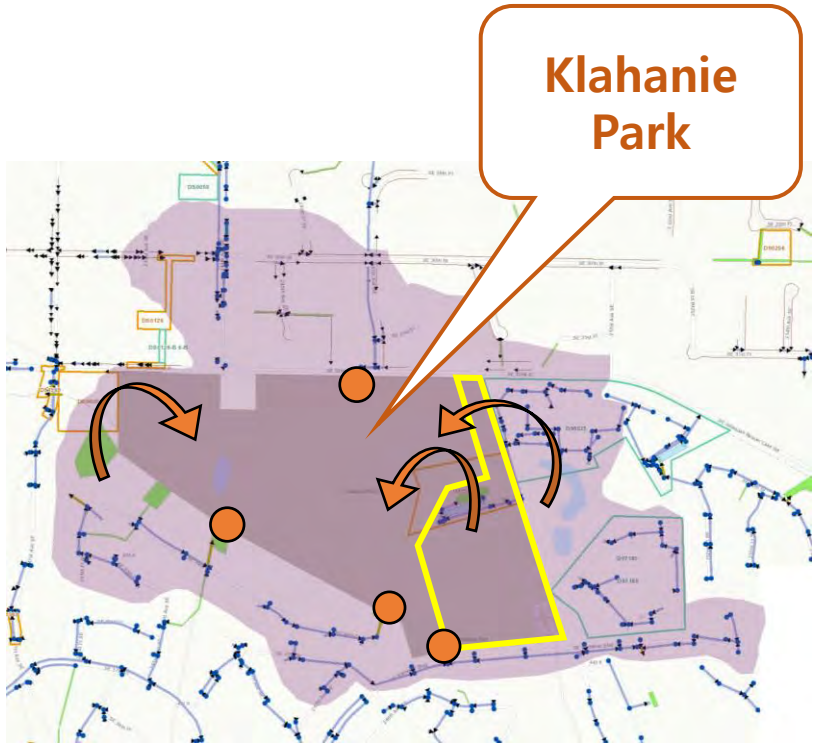
Easements


SE 32ND ST
BONNEVILLE POWER ADMINISTRATION (AND EAST PLATEAU TRAIL)
TOWER
WILLAMS GAS LINE EASEMENT
PUGET SOUND ENERGY EASEMENT
SE KLAHANIE BLVD
NOT TO SCALE

Active Recreation Areas

Bog, Critical Areas, & Trails

Stormwater – Queen's Bog



175.5 acres of stormwater makes its way to the bog

1.9 miles of new trails proposed

14.5 acres of park re-development proposed

4 points of discharge

3 indirect overflow routes

** Existing stormwater facility is inspected and maintained by the City annually.*

Outreach Summary

Visioning

Process

1. Parks & Recreation Commission Meeting
2. City Council Meeting
3. Focus Group Meeting and Survey
4. Workshop #1 and Site Walk-Through
5. Vision & Programming Survey

Visioning: What We Heard

The overall vision for Klahanie Park is a place to . . .

1. **Protect Queen's Bog . . .**

   .... and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

2. **Gather and celebrate . . .**

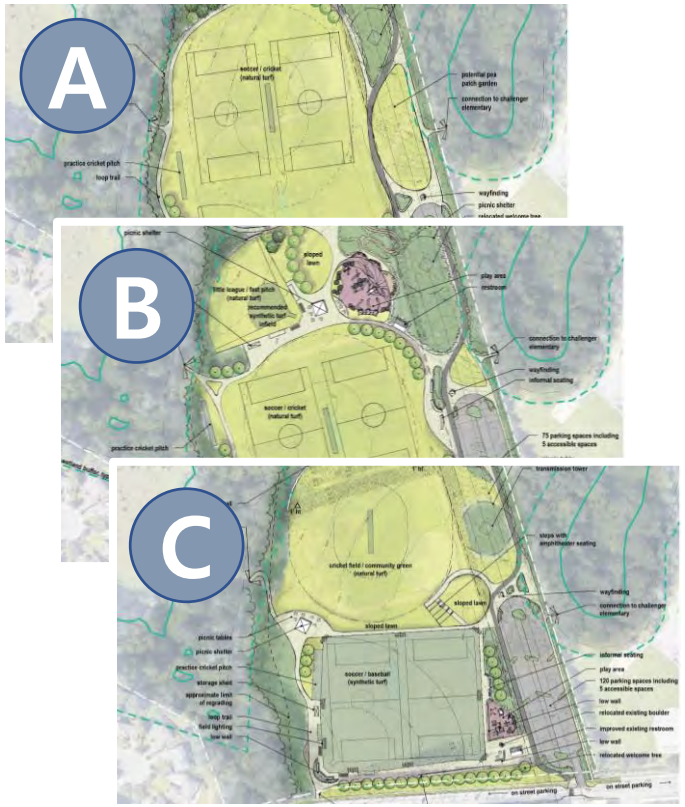
   .... to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

3. **Balance passive and active activities . . .**

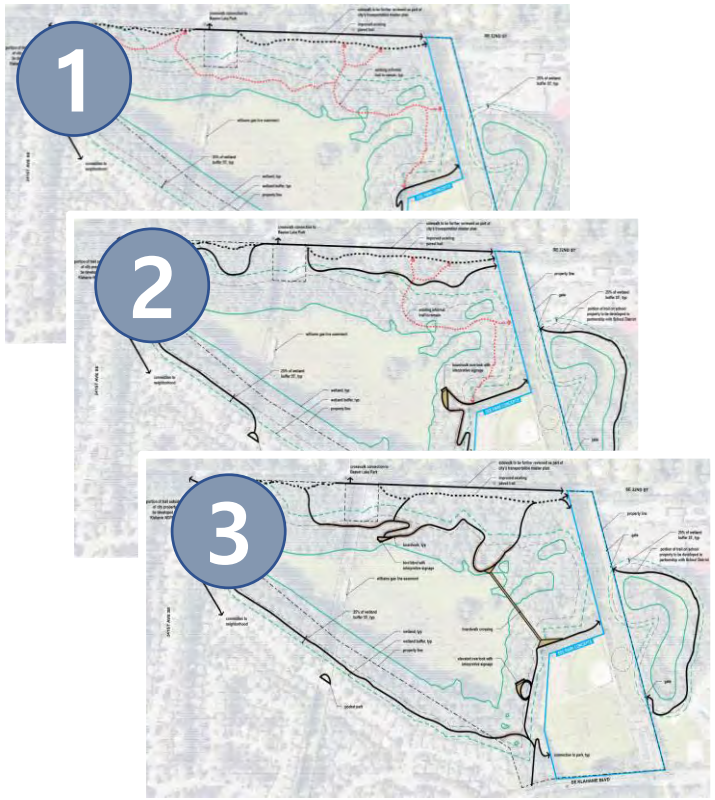
   .... recognizing the park serves a larger community need but should still retain its neighborhood scale and character.

Master Plan Alternatives

Open Space Alternatives



Trail Alternatives



Park Character Alternatives

Master Plan Alternatives: What We Heard

LIKED the unprogrammed open space, the community gardens, the big rock and trees remain, loop trail, meandering easement trail with amenity nodes, natural grass

DISLIKED the fencing at the ballfield along Klahanie Blvd. that would make the entrance feel less welcoming

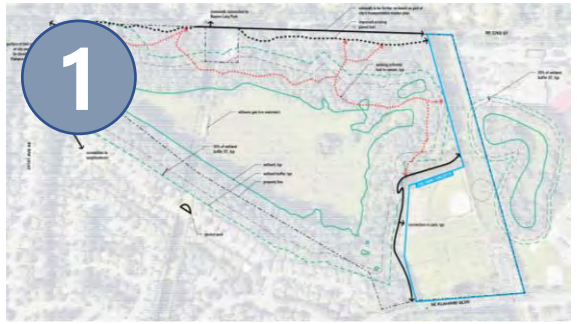
LIKED the similar efficiency of the sports fields to the existing, natural grass, natural stormwater treatment, central play area, ballfield fences out of the way

DISLIKED community open space is too small, distance of the play area to parking, expanded parking

LIKED artificial turf, field lighting, full adult softball field, cricket field separation

DISLIKED artificial turf, field lighting, loss of the neighborhood character, too much impact, loss of nature, stormwater redesign, expanded parking, fencing along Klahanie Blvd. makes the entrance less welcoming

Master Plan Alternatives: What We Heard

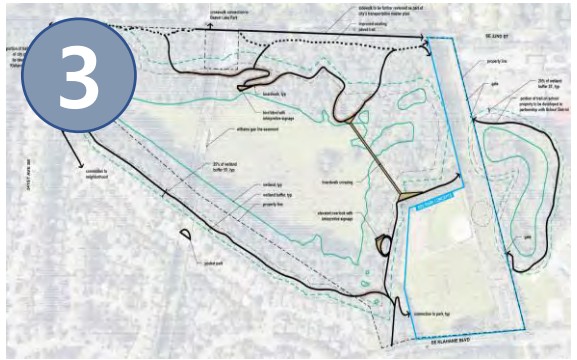


LIKED removal of trails behind homes, minimum impact to the bog

DISLIKED trail at SE 32nd street pushed to road edge, would like this to be more separated like the other trails

LIKED overlook but it needs to consider safety/security and impact on the environment, school wetland trail

DISLIKED trail behind homes

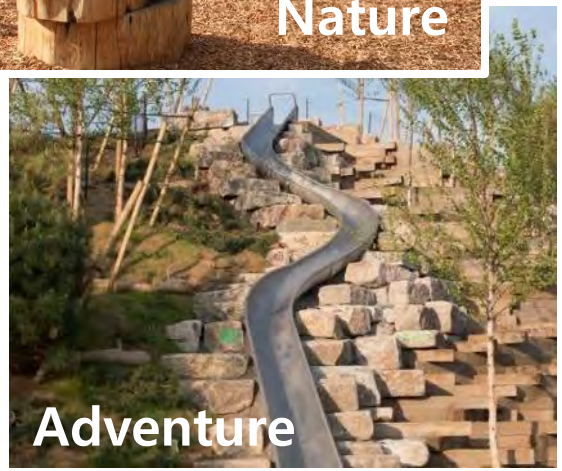


LIKED only the parts that were in previous alternatives

DISLIKED trail behind homes, full loop trail has too much impact on bog, bridge over bog is too invasive and expensive, too much access to the bog

Master Plan Alternatives: What We Heard

Top Play Preferences



Top Garden Preferences

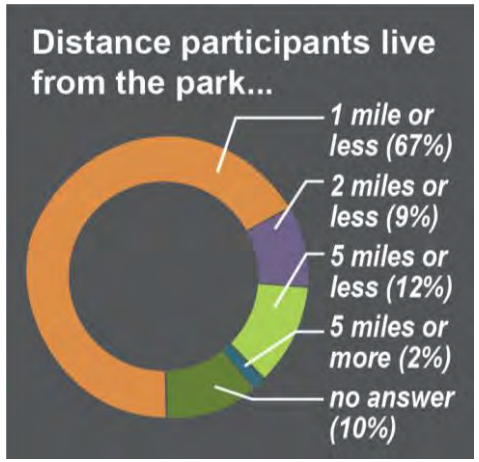
Top Shelter Preferences

Master Plan Alternatives: What We Heard

345

Survey Participants

- 58% of survey participants visit the park at least weekly



How important is it to provide an overlook to Queen's Bog?

- 40% not very or not important at all
- 18% no preference
- 42% somewhat or very important

How important is it to provide an overlook to the wetlands?

- 42% not very or not important at all
- 30% no preference
- 28% somewhat or very important

How important is it to provide trails or boardwalks in the wetland buffers?

- 44% not very or not important at all
- 12% no preference
- 44% somewhat or very important

Preferred Master Plan

Preferred Master Plan

1. Beaver Lake Middle School
2. Challenger Elementary School
3. Wetland
4. Queen's Bog
5. BPA Easement
6. Williams Gas Line Easement
7. Klahanie Trail
8. Pocket Park to be developed by Klahanie HOA and Williams Gas Line
9. Informal trails to be removed and planted with native wetland species for mitigation
10. Existing asphalt / gravel trail to be removed and replanted for mitigation- relocated to buffer edge

Open Space Enlargement

1. Play area (w/ relocated boulder)
2. Community green
3. Restroom
4. Community garden
5. East Plateau Trail
6. Existing tree grove to remain
7. Lawn with cricket and soccer fields
8. Little League / Softball natural grass with synthetic turf infield
9. Bioretention / stormwater area
10. Paved loop trail
11. Boardwalk
12. Gathering / picnic area
13. Overlook

Park Character

Park Character

Next Steps

Next Steps

- Present Preferred Master Plan to City Council (Dec. 3).
- Develop the Final Master Plan.
- SEPA Checklist Submittal and Approval
- Present Final Master Plan to City Council for Adoption (spring 2020).

Discussion

How would you prioritize the development of the park?

Trails Phase:

a. Removal / replanting of informal trails for buffer mitigation

b. Relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)

c. Improve existing asphalt trail near SE 32nd St

d. BPA Easement trails and East Plateau Trail improvements

e. Boardwalk trail near the bioretention / stormwater area

How would you prioritize the development of the park?

Cricket and Soccer Fields Phase:

a. Natural grass cricket and soccer field
b. Loop trail
c. Gathering and seating areas

How would you prioritize the development of the park?

Play Area/ Ballfield Phase:

a. Play area
b. Community green
c. Overlook
d. Community garden
e. Restroom
f. Picnic shelters
g. Pedestrian entrances
h. Relocate little league/softball field; natural grass outfield with synthetic infield; including seating and storage

How would you prioritize the development of the park?

Support Facilities:

(In either 'Soccer and Cricket Field' or 'Play Area/ Ballfield' phase, whichever is first)

a. Bioretention / stormwater area to the north of the open space

b. Parking and entry improvements

Agenda Bill

Parks and Recreation Commission Regular Meeting
October 06, 2021

SUBJECT:	Klahanie Park Master Plan - Preferred Master Plan
DATE SUBMITTED:	September 30, 2021
DEPARTMENT:	Parks, Recreation & Facilities
NEEDED FROM COMMISSION:	☐ Action ☐ Direction ☑ Informational
RECOMMENDATION:	Informational only, no action required
EXHIBITS:	1. Exhibit 1 - PowerPoint Presentation 2. Exhibit 2 - Adopted Master Plan Process

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COMMISSION:

Informational only, no action required

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to update the Parks & Recreation Commission on the findings of the Athletic Field Study and how they relate to Klahanie Park, and re-introduce the preferred master plan and phasing options.

The preferred master plan for Klahanie Park was discussed at the December 3, 2019 City Council Regular Meeting. This plan was unanimously approved by the Parks & Recreation Commission. During this meeting, Council expressed significant concern, specifically with the magnitude of costs when compared to the amenities gained. City Council moved to not vote on the preferred option for the Klahanie Park Master Plan and asked to see the results of a comprehensive Athletic Field Study for the city. Staff have subsequently completed the Athletic Field Study that provides information on the condition of the existing athletic fields and will present these findings to City Council on November 9th. At that time, staff

will provide updated phasing costs for the preferred master plan, and discuss how an adopted master plan will allow staff to make improvements to the park when park amenities reach the end of their life cycle. Staff are bringing this topic to the Park and Recreation Commission to update them on our progress and allow for their input prior to presenting to City Council.

Athletic Field Study:

A City-wide Athletic Field Study was completed in 2020. As part of this study, the Consultant completed an assessment of the existing field inventory to identify facility deficiencies and provide recommendations for improvements to remedy deficiencies and add capacity while emphasizing cost saving measures. The fields at Klahanie Park were built by the Homeowners Association and transferred to King County in 1994 following construction. The City took over maintenance of the fields following the Klahanie annexation in 2016.

In reviewing the service life of the three fields, the baseball field was observed to be declining in performance, specifically the infield, with observable corrective maintenance and/or repairs required. The two multipurpose fields are nearing the end of their service life; they require constant attention, have consistently substandard performance, and fail most functional requirements.

While it is difficult to outline a specific date for when the fields will no longer be playable, it is generally understood that natural grass fields have a service life of 20 - 25 years. As the fields continue to age, more frequent maintenance and repairs are required to maintain a similar quality of play.

<u>Usage at Klahanie Park</u>

The Athletic Field Study also compared the number of hours City-owned/managed fields were rented to help determine which fields should be prioritized for increasing capacity. The multi-purpose fields at Klahanie Park are the highest used fields after the synthetic turf fields at Eastlake High School, with hours rented nearly at capacity for natural grass fields. Of these hours rented, cricket accounts for approximately half; Klahanie Park is the only city park with a cricket pitch.

Upgrading these existing natural turf multipurpose fields per the Preferred Master Plan would not likely increase capacity in terms of hours rented, but would improve the overall quality, performance, and reliability of the fields. Additionally, a complete renovation would better equip the fields to tolerate heavy use while reducing the frequency of maintenance and repairs. Options were explored to convert the multipurpose fields to synthetic turf with lights, which would increase capacity in terms of usable hours. This option is preferred by the soccer leagues but is not preferred by the cricket league, who represent the biggest user group. Furthermore, converting these fields to synthetic turf with lights was widely opposed by the community during the outreach process of the master plan.

Master Plan Process:

Prior to commencing extensive development or improvement on City parkland, a master plan is completed by following the City's adopted master plan process. The intent in following this process is to look at the parkland in a comprehensive manner, utilizing a process that involves the entire community.

Throughout the master plan process, the City is able to engage with the community at large, community stakeholders, City staff, the Parks and Recreation Commission, and City Council to solicit input and feedback on the park's program and proposed sequencing. The final master plan establishes a comprehensive design program that provides a framework for addressing development and improvements of the park, rather than a fragmented approach to making improvements on an as-needed basis.

In addition to providing the framework for development and improvements, an adopted master plan report formalizes the extensive public process and approval of the program and sequencing, thereby reducing the need for the same extent of public engagement when different phases of work are initiated.

Preferred Master Plan:

The overall goals and objectives are to protect Queen's Bog, to provide a balance between active and passive activities and include unprogrammed spaces for families to gather informally. During the public outreach component of this effort, staff learned that the park was generally meeting the needs of the Klahanie community. That said, there were a selection of amenities that the community wanted to expand or modify. Examples of these include providing a separate community space (to avoid conflict with soccer and cricket) that would allow for unprogrammed play, expanding the play area for a larger age range to enjoy, increasing the amount of seating and picnic areas, and incorporating a community garden and native planting areas. We also heard concerns related to an increase in traffic with the park re-development, trail encroachment in natural areas, and the potential for noise and light pollution with the installation of synthetic turf and lights.

With this input in mind, the preferred plan provides a no net loss of amenities. As and when current park amenities are at the end of their life and need to be replaced, this plan will take those amenities and re-organize them in a manner that is safer, environmentally sensitive and more efficient.

The preferred master plan generally keeps the existing cricket and soccer fields in their current location while expanding the cricket field limits and delineating the field extents with a split rail fence along the loop trail. The little league / softball field is relocated to the west, opening up a centrally-located community green space, picnic plaza, and play area. The community green is a flexible open space that can be utilized for unstructured recreation, picnic areas, and events. The restroom is relocated near the community green for easy access from all the park activities and spaces. A new community garden includes accessible garden plots, picnic and seating space, and a storage shed. An accessible loop trail meanders around the cricket and soccer fields and community green and includes picnic nodes with small shelters, picnic tables, and other amenities. The large play area includes a formal play space with equipment designed for ages 2-5 and 5-12; a sloped play area with slides; and a natural play space with climbing rocks, boulders, and other play elements inspired by nature. The main picnic shelter and picnic area is centrally located between the fields, play area, loop trail, and community green. The parking lot is expanded slightly to increase capacity and to include a formal drop-off area.

The following phasing options have been identified to group similar amenities and implement the preferred master plan methodically.

<u>Trails Phase</u>

- Removal / replanting of informal trails for buffer mitigation
- relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)
- Improve the existing asphalt trail near SE 32nd St
- BPA Easement trails and East Plateau trail improvements
- Boardwalk trail near the bioretention / stormwater area

<u>Cricket and Soccer Fields Phase</u>

- Natural grass cricket and soccer field
- Synthetic turf cricket pitch and practice pitch
- Loop trail

- Gathering and seating areas

Play area / Ballfield Phase

- Play area
- Community green
- Overlook
- Restroom
- Picnic Shelters
- Pedestrian entrances
- Relocate little league / softball field; natural grass outfield with synthetic turf infield; seating and storage

Support Facilities (shall be installed as part of the "Cricket and Soccer Field" or "Play area / Ballfield" phase, whichever comes first)

- Bioretention / stormwater area to the north of the open space
- Parking and entry improvements

Preliminary Phasing Costs:

As part of the master plan process, preliminary cost estimates are prepared for each phase of development. That said, the approval to proceed with the SEPA process and the subsequent adoption of the master plan report does not trigger development of these improvements. These phases would be implemented when amenities reach the end of their life and would need to be included in the 6-year Parks Capital Improvement Plan. There will be significant costs associated with the replacement/development of amenities at the end of their life cycle, regardless of proceeding with the preferred plan. Staff will discuss preliminary phasing costs in more detail as part of the presentation.

FINANCIAL IMPACT:

In regards to the funds for different phases of the preferred plan, there is no financial impact at this time. Funds for implementing the master plan may be budgeted in future Parks CIP plans and improvements completed in phases.

OTHER ALTERNATIVES CONSIDERED:

N/A

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

Adopted Master Plan Process, see Exhibit 2.

Parks & Recreation Commission Regular Meeting

October 6, 2021

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Overview: What we will be discussing

A. What is a Master Plan?

B. Klahanie Park Master Plan Process

- Location & Context
- Timeline & Project Background
- Existing Conditions
- Outreach Summary
- Goals & Objectives
- Master Plan Alternatives
- Preferred Master Plan

C. Athletic Field Study

D. Next Steps

What is a Master Plan?

What is a Master Plan?

- City adopted process that looks at park comprehensively and involves entire community
- Establishes design program that provides framework for addressing park improvements

3 Primary Phases:

1. Site Investigation & Analysis
2. Park Program*
3. Master Plan Development*

** Includes engagement with community at large, City staff, Parks & Recreation Commission, and City Council*

Location & Context

City Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
You Are Here
228th Ave SE
SE Duthie Hill Rd
NOT TO SCALE
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
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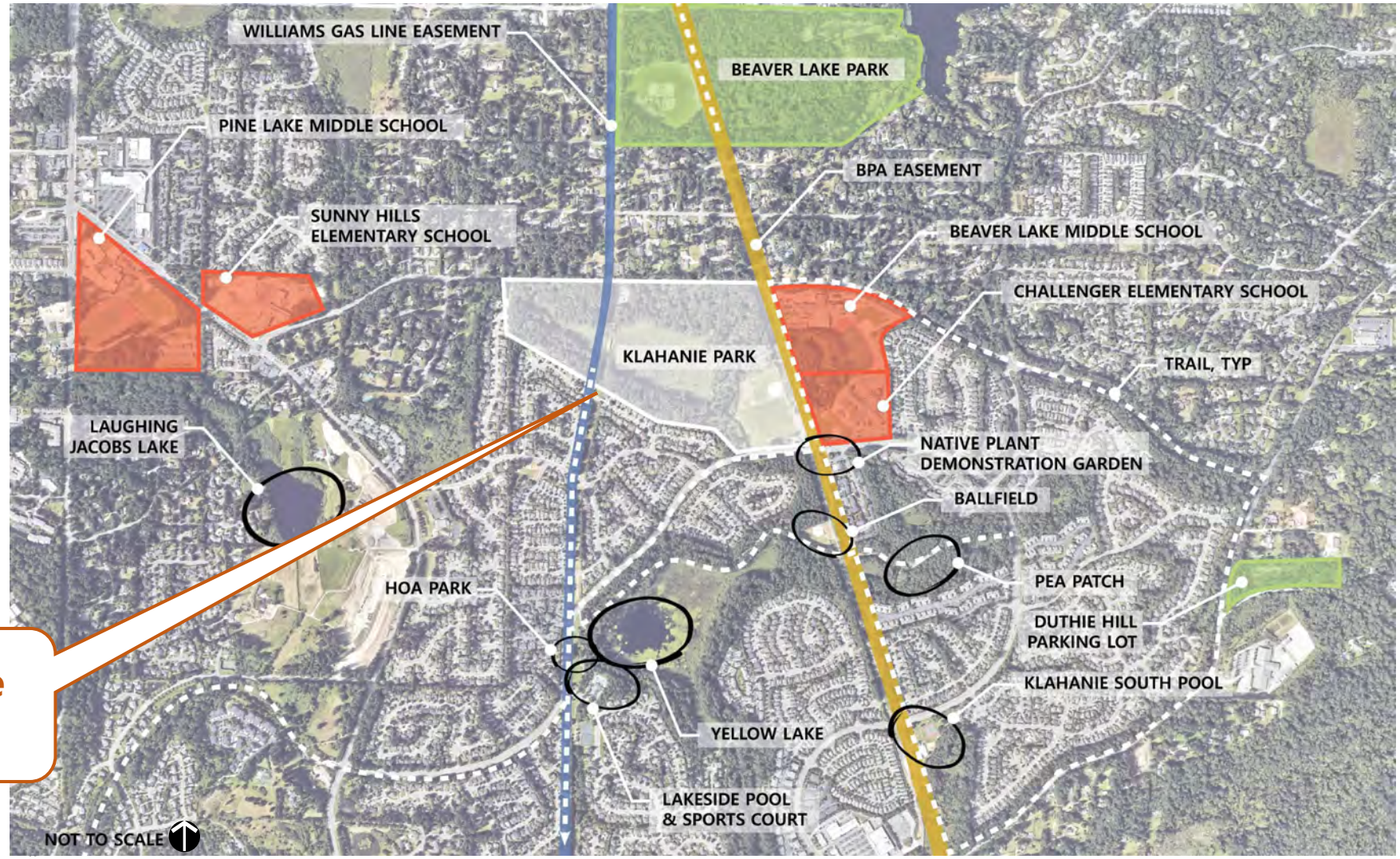
Duthie Hill Park

Site Context



Klahanie Park

Timeline & Project Background

Background & History

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2018 – PRO Plan completed
- 2019 – Master Plan commences
- 2020 – Athletic Field Study completed
- 2021 – Reintroduction of Master Plan

Master Plan

1. Site Analysis & Project Scoping

- ☑ Evaluate Existing Conditions
- ☑ Complete Site Studies
- ☑ Park Classification
- ☑ Case Studies

2. Community Survey

3. Public Meeting #1

- ☑ Hopes, Dreams, & Concerns
- ☑ Opportunities & Constraints

4. Public Meeting #2 & #3

- ☑ Schematic Concepts
- ☑ Project Goals & Objectives
- ☑ Design Alternatives
- ☑ City Council & Parks & Recreation Commission Updates

5. State Environmental Policy Act (SEPA)

6. Master Plan Adoption

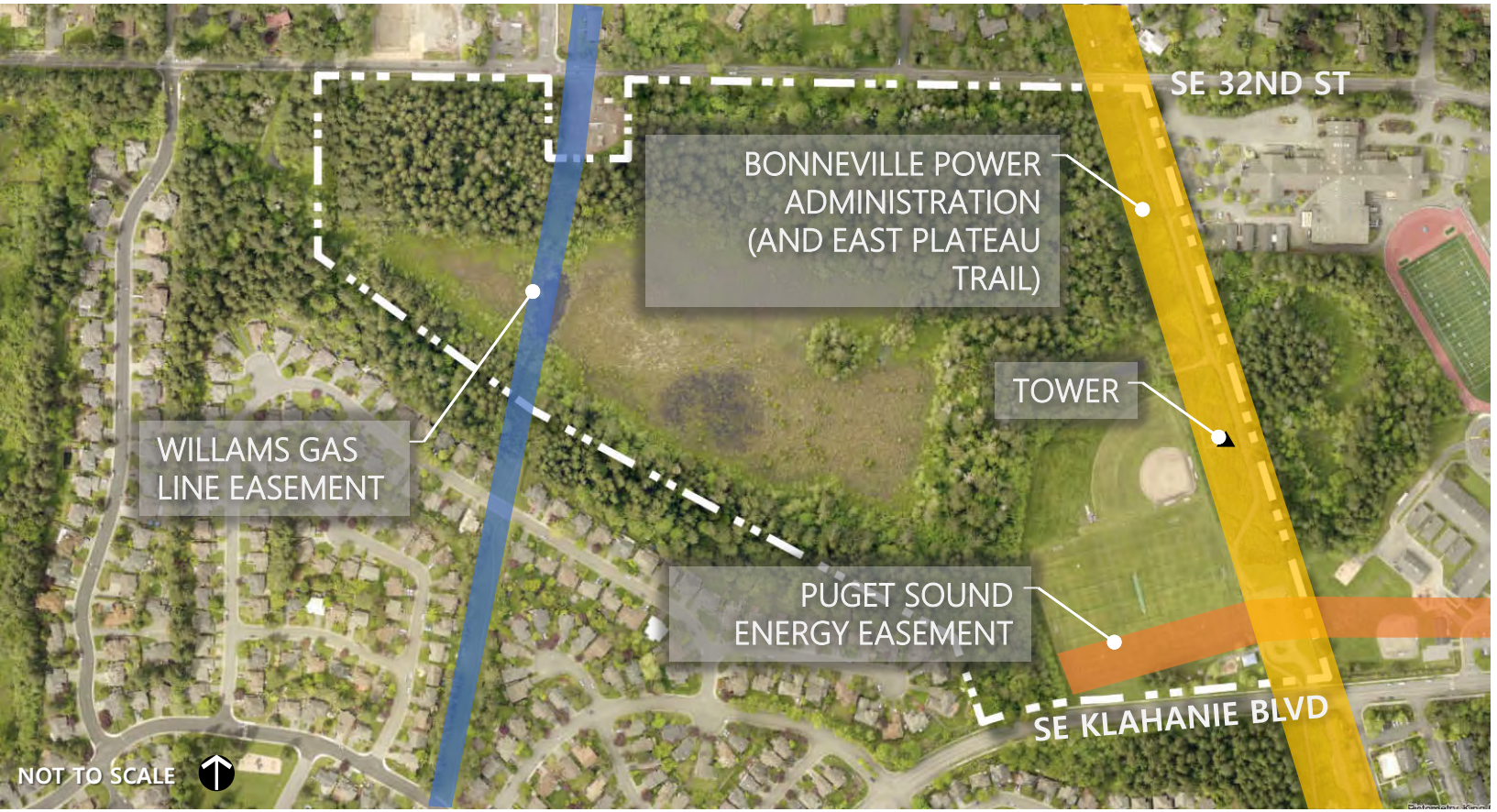
Existing Conditions

Existing Conditions

Existing Features

- Queen's Bog
- Trails
- Athletic Fields
- Play Area
- Restroom
- Parking

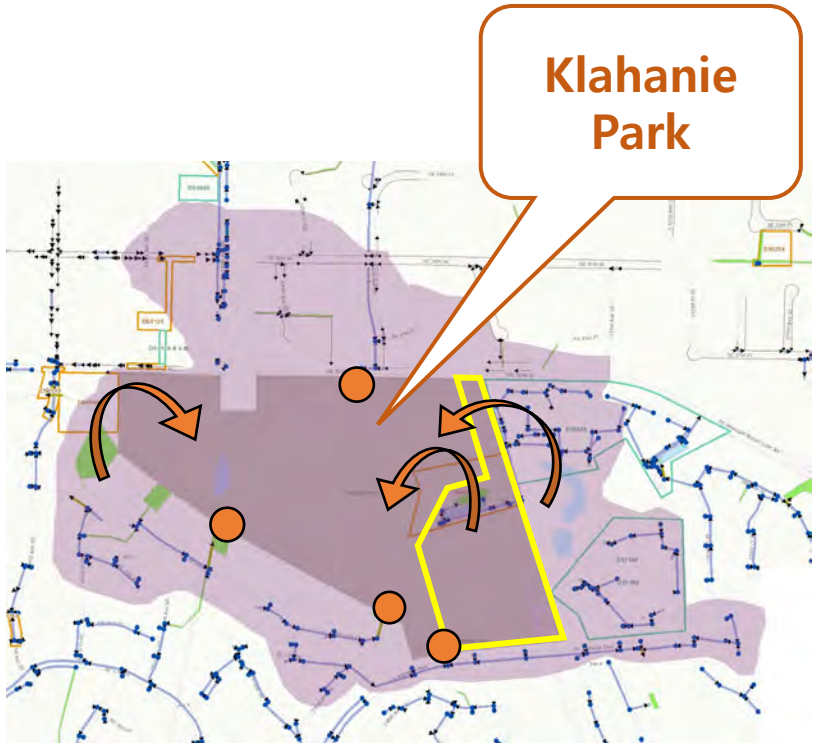
Easements


SE 32ND ST
BONNEVILLE POWER ADMINISTRATION (AND EAST PLATEAU TRAIL)
TOWER
WILLAMS GAS LINE EASEMENT
PUGET SOUND ENERGY EASEMENT
SE KLAHANIE BLVD
NOT TO SCALE

Active Recreation Areas

Bog, Critical Areas, & Trails

Stormwater – Queen's Bog



175.5 acres of stormwater makes its way to the bog

1.9 miles of new trails proposed

14.5 acres of park re-development proposed

4 points of discharge

3 indirect overflow routes

** Existing stormwater facility is inspected and maintained by the City annually.*

Outreach Summary

Visioning

Process

1. Parks & Recreation Commission Meeting
2. City Council Meeting
3. Focus Group Meeting and Survey
4. Workshop #1 and Site Walk-Through
5. Vision & Programming Survey

Visioning: What We Heard

The overall vision for Klahanie Park is a place to . . .

1. **Protect Queen's Bog . . .**

   .... and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

2. **Gather and celebrate . . .**

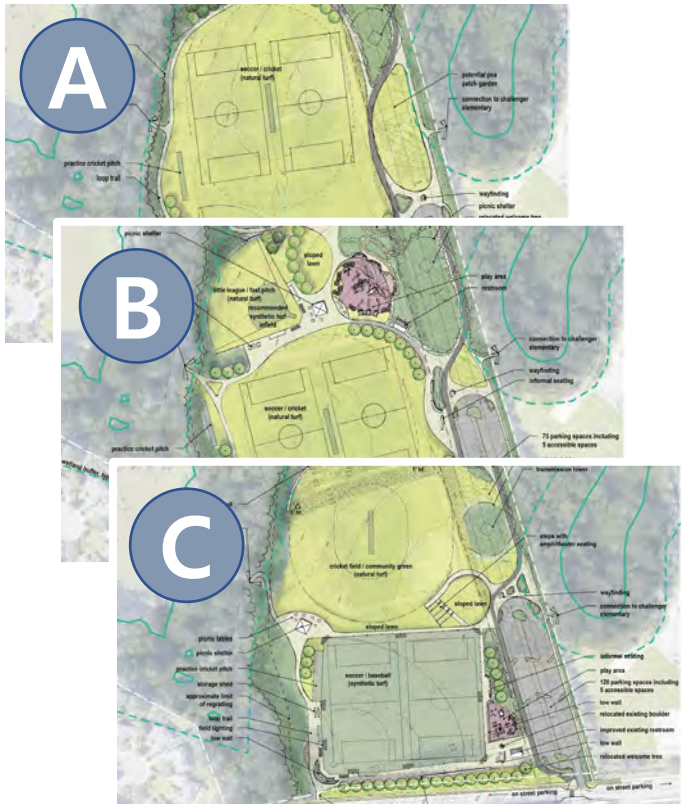
   .... to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

3. **Balance passive and active activities . . .**

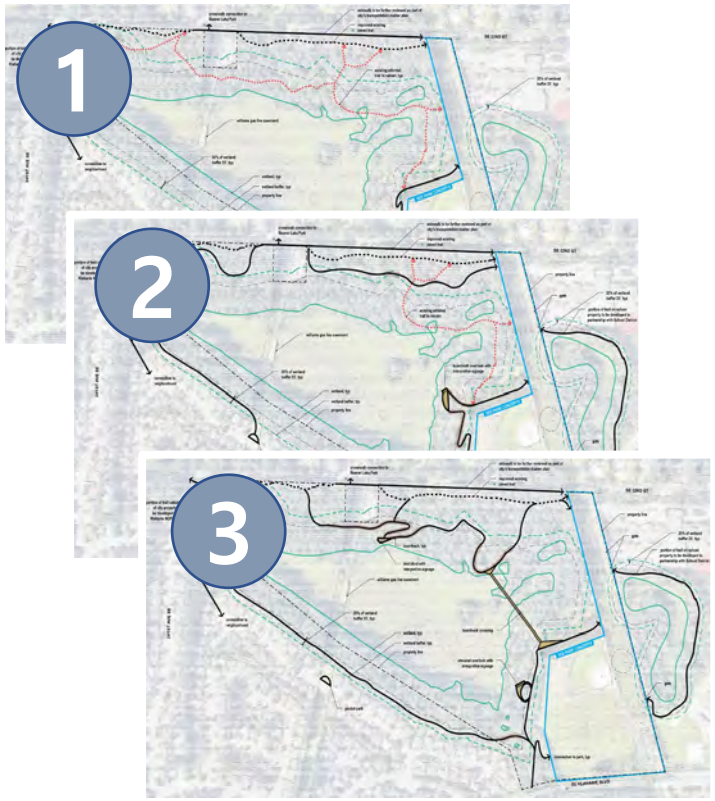
   .... recognizing the park serves a larger community need but should still retain its neighborhood scale and character.

Master Plan Alternatives

Open Space Alternatives



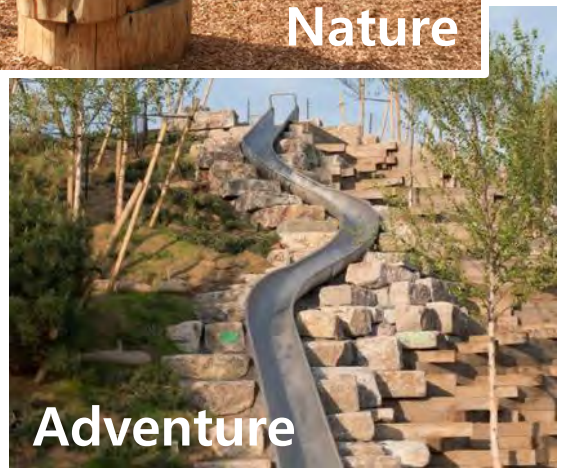
Trail Alternatives



Park Character Alternatives

Master Plan Alternatives: What We Heard

Top Play Preferences



Top Garden Preferences

Top Shelter Preferences

Preferred Master Plan

Preferred Master Plan

1. Beaver Lake Middle School
2. Challenger Elementary School
3. Wetland
4. Queen's Bog
5. BPA Easement
6. Williams Gas Line Easement
7. Klahanie Trail
8. Pocket Park to be developed by Klahanie HOA and Williams Gas Line
9. Informal trails to be removed and planted with native wetland species for mitigation
10. Existing asphalt / gravel trail to be removed and replanted for mitigation- relocated to buffer edge

Open Space Enlargement

1. Play area (w/ relocated boulder)
2. Community green
3. Restroom
4. Community garden
5. East Plateau Trail
6. Existing tree grove to remain
7. Lawn with cricket and soccer fields
8. Little League / Softball natural grass with synthetic turf infield
9. Bioretention / stormwater area
10. Paved loop trail
11. Boardwalk
12. Gathering / picnic area
13. Overlook

Park Character

Park Character

Preferred Plan Phasing

Trails Phase:

a. Removal / replanting of informal trails for buffer mitigation

b. Relocate the asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)

c. Improve existing asphalt trail near SE 32nd St

d. BPA Easement trails and East Plateau Trail improvements

e. Boardwalk trail near the bioretention / stormwater area

Preferred Plan Phasing

Cricket and Soccer Fields Phase:

a. Natural grass cricket and soccer field
b. Loop trail
c. Gathering and seating areas

Preferred Plan Phasing

Play Area/ Ballfield Phase:

a. Play area
b. Community green
c. Overlook
d. Community garden
e. Restroom
f. Picnic shelters
g. Pedestrian entrances
h. Relocate little league/softball field; natural grass outfield with synthetic infield; including seating and storage

Preferred Plan Phasing

Support Facilities:

(In either 'Soccer and Cricket Field' or 'Play Area/ Ballfield' phase, whichever is first)

a. Bioretention / stormwater area to the north of the open space

b. Parking and entry improvements

Preferred Plan Feedback

A. Parks & Recreation Commission voted unanimously to:

1. Recommend City Council proceed with the preferred plan and;
2. Select the cricket/soccer fields and support facilities as the 1st phase of development

B. Feedback from Klahanie Association:

1. Klahanie Community Manager voiced support of preferred plan at Public Workshop #3 and by email to City staff.

C. City Council voted to:

1. Pause the Master Planning effort until the completion of the Athletic Field Study

Athletic Field Study

What is the Athletic Field Study?

Guide for the prioritization of future sports field improvement projects to increase overall playing time while emphasizing cost saving measures.

4 Main Components:

1. Research national / local sports and population trends
2. Analyze field usage within the City
3. Survey leagues/organizations
4. Evaluate capacity of existing facilities

Assessed Inventory

- **13** fields owned and/or managed by **City**
  - Beaver Lake Park
  - East Sammamish Park
  - Klahanie Park
  - Pine Lake Park
  - Eastlake Community Fields (LWSD)
- **18** fields owned and managed by **Lake Washington School District**
  - City schedules 12 of these fields
- **16** fields owned and managed by **Issaquah School District**
- **3 private fields**

General Recommendations

1. Renovate existing facilities for multi-use
2. Improve overall playing conditions and field quality
3. Build 2 additional baseball fields in northern half of City
4. Build 2 multipurpose synthetic fields with lights
5. Upgrade 5 ballfields to synthetic infield

Assessment – Klahanie Park

Usage / Capacity:

Field	Baseball	Cricket/Soccer
Current Usage	350	1000 (each)
MP Projected Usage	+150	+0
Synthetic Turf & Lights	+250	+300 (each)

Recommendation:

Continue with MP preferred plan. As fields reach the end of their life, these renovations will improve:

1. Quality
2. Performance
3. Reliability of fields


Baseball Field


Cricket/Soccer Fields

Next Steps

Next Steps

- Present Athletic Field Study Findings to City Council and receive authorization to proceed with SEPA
- SEPA Checklist Submittal and Approval
- Present Final Master Plan to City Council for Adoption

Attachment B

City of Sammamish
Model Master Plan Process

Site Analysis and/or Project Scoping

- Evaluate existing site conditions.
- Complete wetland delineation, identify sensitive areas, complete soil analysis etc.
- Develop an overall environmental understanding of the site.
- Identify and understand intentions for the site. What is the scope of the project? Park classification? What is the service area of the park? (Ideally, these policy questions will be answered at the time of acquisition).

Survey residents / stakeholders

- Develop a survey suitable to the project (mail, website etc.) Survey responses will be used to assist with development of the initial park concepts for public discussion.

Public Meeting #1: Scoping Meeting

- Present site analysis.
- Present survey results.
- Opportunity for community members to share their hopes, dreams & concerns for the site development .

Project Goal Setting and Concept Development

- Presentation and discussion with the Park Commission.
- Develop the initial park concept(s) that will serve as the foundation for the first public meeting. Park concepts are based on City Council goals, site analysis, survey information and feedback from community members at public meeting # 1.
- Present initial concepts and project goals to the City Council for confirmation and direction.

Public Meetings #2, #3, and #4: Developing a park concept

- Progressive meetings from broad concepts to a preferred option or options.
- State and display project goals (from goal setting above).
- Park Commission hosts the meetings. Consultant and staff facilitate the meeting.
- Prepare a press release (or other informational materials) to present to the public upon completion of Public Meeting # 3.
- Provide updates to the City Council.
- Provide updates to community members via the City website and the City newsletter.
- Identify final site option(s) to forward to City Council for review and approval.

SEPA

- Independent review by Community Development Department.
- Environmental checklist and supporting environmental information/studies completed at the earliest phase possible, when environmental impacts can be adequately identified and evaluated.
- Notice to the public for comment period on the SEPA review.
- Review comments and determine if additional environmental information is needed.
- Threshold determination issued.
- All public meetings will be open to comment related to environmental impacts.

Adoption of Master Plan

- Present to City Council along with SEPA determination.
- Public Hearing(s).
- Formal adoption of Master Plan prior to proceeding with the design contract.

Agenda Bill

Parks and Recreation Commission Regular Meeting
October 05, 2022

SUBJECT:	Klahanie Park Master Plan - Master Plan Adoption Recommendation
DATE SUBMITTED:	
DEPARTMENT:	Parks, Recreation & Facilities
NEEDED FROM COMMISSION:	☑ Action ☐ Direction ☐ Informational
RECOMMENDATION:	Provide a letter of support for the adoption of the Klahanie Park Master Plan.
EXHIBITS:	1. Exhibit 1 - Master Plan Graphic 2. Exhibit 2 - Draft Letter of Support 3. Exhibit 3 - PowerPoint Presentation 4. Exhibit 4 - Adopted Master Plan Process

BUDGET:

Total dollar amount	$169,000	☑ **Approved in budget**
Fund(s)	Parks Capital Improvement Fund	☐ **Budget reallocation required**
		☐ **No budgetary impact**

WORK PLAN FOCUS AREAS:

☐	Transportation	☐	Community Safety
☑	Communication & Engagement	☐	Community Livability
☐	High Performing Government	☑	Culture & Recreation
☑	Environmental Health & Protection	☐	Financial Sustainability

NEEDED FROM COMMISSION:

Shall the Commission agree to provide a letter of support for the adoption of the Klahanie Park Master Plan?

KEY FACTS AND INFORMATION SUMMARY:

The purpose of this discussion is to update the Parks & Recreation Commission on the progress of the Klahanie Park Master Plan and answer any questions prior to presenting the final master plan to City Council. Additionally, staff are seeking consensus from the Commission to provide a letter of support for the adoption of the Klahanie Park Master Plan, which would be included in the City Council presentation. Staff are currently scheduled to present the resolution for the adoption of the Klahanie Park Master Plan at the November 1, 2022, City Council Regular Meeting.

Summary

The preferred alternative for the Klahanie Park Master Plan was developed after nearly a year of public process, plan development, and refinement. Graphics of the final master plan are included in Exhibit 1. The overall goals and objectives of this master plan are to protect Queen's Bog, to provide a balance between active and passive activities, and include unprogrammed spaces for families to gather informally.

Klahanie Park Final Master Plan:

During the public outreach component of this effort, staff learned that the park was generally meeting the needs of the Klahanie community. That said, there were a selection of amenities that the community wanted to expand or modify. Examples of these include providing a separate community space (to avoid conflict with soccer and cricket) that would allow for unprogrammed play, expanding the play area for a larger age range to enjoy, increasing the amount of seating and picnic areas, and incorporating a community garden and native planting areas. We also heard concerns related to an increase in traffic with the park re-development, trail encroachment in natural areas, and the potential for noise and light pollution with the installation of synthetic turf and lights. A summary of program elements is outlined below.

With this input in mind, the final plan provides a no net loss of park amenities. Additionally, when current park amenities reach the end of their life and need to be replaced, this plan will:

1. Prioritize the sequence of improvements
2. Reorganize and build the amenities in a manner that is safer, environmentally sensitive, and efficient

Entrance & Parking: The main entrance into the park remains in its current location, and the parking lot is expanded slightly to increase capacity and to include a formal drop-off area.

Community Garden: A new community garden is proposed to include 35-45 garden plots, including ADA accessible plots, within close proximity to the parking and drop-off area. A tool and storage shed is located within the community garden. A picnic and seating space is also provided to facilitate gathering, social events, and work parties in support of the community garden.

Athletic Fields: The preferred alternative generally keeps the multi-purpose fields for cricket and soccer in their current location while expanding the cricket field limits. The cricket and soccer fields are unlit and are comprised of natural grass surfacing, with synthetic surfacing at the cricket pitches only. The southern edge of the cricket outfield will stop at the bottom of the sloped lawn. This configuration does not accommodate a full, adult-size outfield, but it does preserve the existing grove of trees and allows park visitors to use the sloped lawn for seating. The field extents are delineated with a split rail fence along the loop trail. A second practice pitch for cricket is also provided.

The little league / softball field is relocated to the west, opening up a centrally-located community green space, picnic plaza, and play area. The little league / softball field is also unlit and includes a natural grass outfield with a synthetic infield, spectator seating, covered dugouts, and other field amenities.

Play Area: The large play area is centrally located, close enough to the parking and restroom for easy access, but far enough away to provide a safe, welcoming play space for all ages and abilities. The play area includes a formal play space with accessible and inclusive play equipment designed for ages 2-5 and

5-12; a sloped play area with slides that will also be accessible through a small path looping around the slide; and a natural play space with climbing rocks, boulders, and other play elements inspired by nature.

Community Green & Restroom: The community green is a flexible open space that can be utilized for unstructured recreation, picnic areas, and events. The restroom is relocated near the community green for easy access from all the park activities and spaces.

Trails: A 1/3 mile accessible paved loop trail meanders around the fields, connecting to the play area, community green, restroom, p-patch and parking area. A small overlook near the north side of the open space serves as a trailhead to the boardwalk and trails along the utility corridor. Several amenity nodes are provided along these trails for native plant demonstration gardens, seating, wayfinding, and interpretive education.

The forested area includes improvements to the existing paved trail near SE 32nd Street and the western trail is relocated to be in the outer 25% of the wetland buffer. The western trail is outside of the park boundary but within Klahanie's Native Growth Protection Area (NGPA); development of this portion of the trail would require partnership with Klahanie HOA. Connections to all other existing trails in the forested area and wetland buffers will be planted with native wetland species for mitigation.

Picnic Areas: The main picnic shelter and picnic area is centrally located between the fields, play area, loop trail, and community green. The loop trail around the fields also includes picnic nodes with small shelters, picnic tables, and other amenities.

Stormwater System: The existing stormwater ponds will be redeveloped to include a more natural approach with cascading bioretention cells which will be planted with native species and small ornamental trees. These bioretention cells will capture site stormwater and allow it to infiltrate and any overflow will utilize the existing or improved catch basin and stormwater system. Stormwater from pollution-generating surfaces such as the parking lot, the athletic fields, and vehicular paving will drain to the bioretention cells and also utilize Modular Wetlands®, Filtera® Units, or a similar system.

Master Plan Timeline:

Hopes, Dreams, and Concerns

- Parks & Recreation Commission Meeting #1: March 6, 2019 (Complete)
- City Council Meeting #1: March 12, 2019 (Complete)
- Focus Group Meeting #1: March 14, 2019 (Complete)
- Public Meeting #1: March 21, 2019 (Complete)

Master Plan Alternatives

- Public Meeting #2: May 23, 2019 (Complete)
- Joint City Council/Parks & Recreation Commission Meeting #2: June 11, 2019 (Complete)

Preferred Master Plan

- Public Meeting #3: October 10, 2019 (Complete)
- Parks & Recreation Commission Meeting #3: November 6, 2019 (Complete)
- City Council Meeting #3: December 3, 2019 (Complete)

- Parks & Recreation Commission Meeting #4: October 6, 2021 (Complete)
- City Council Meeting #4: January 11, 2022 (Complete)

Final Master Plan

- SEPA Authorization: January 18, 2022 (Complete)
- SEPA Review: Winter - Spring 2022 (Complete)
- SEPA Determination of Non-Significance: May 27, 2022 (Complete)
- **City Council Adoption of Master Plan: November 1, 2022**

Park Background:

Klahanie Park is a 64-acre park located in the southeast section of the City. The park is comprised of natural grass fields including two multi-purpose sports fields, one baseball field, and a cricket pitch. Additionally, the park features a small play structure, restrooms, parking, a segment of the East Plateau Trail, natural areas and Queen's Bog, which is one of roughly fifty bogs located in Washington State. Having been in use for nearly 25 years with only minor improvements, park features are nearing the end of their life cycle or are in need of repair. This master plan project is the City's first attempt to look at potential improvements to this park in a comprehensive manner utilizing a process that provides opportunity for involvement of the entire community. It will also enable the City to consider how a previous County park will best incorporate into Sammamish's overall park system.

The park was built by the Homeowners Association and transferred to King County in 1994 following construction. In January 2016, Klahanie Park was transferred to the City as part of the Klahanie annexation. Since annexation, modest improvements have been made to the park, which include drainage modifications to the baseball field, installation of the City's first and only cricket pitch, turf aeration of the two multi-purpose sports fields, irrigation improvements and minor renovations to the restrooms.

Following annexation, the City took over field reservations for the two multi-purpose fields and baseball field. In addition, the City introduced annual recreation events during the summer, such as the Shakespeare in the Park and KidsFirst programs.

FINANCIAL IMPACT:

Regarding the costs of the different segments of the final master plan, there is no financial impact at this time. Funds for implementing the master plan may be budgeted and improvements completed in phases from the Parks Capital Improvement Plan (CIP). Funds for the initial improvements are not currently identified in the 2021-2026 Parks CIP. An overview of preliminary cost ranges presented in fall 2021 for each segment of improvements is provided below.

- Trails: $3.5M - $4M
- Cricket and Soccer Fields: $6M - $6.5M
- Play area / Ballfield: $9M - $9.5M
- Support Facilities*: $2M - $3M

* Not intended to be stand-alone improvements. Support facilities will need to be constructed with either the 'Cricket and Soccer' or 'Play Area and Baseball' segment, whichever is implemented first.

OTHER ALTERNATIVES CONSIDERED:

If members of the Commission object to specific language in the draft letter of support outlined in Exhibit 2, the Commission may prepare a new letter of support.

RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

Adopted Master Plan Process, see Exhibit 4

KLAHANIE PARK Master Plan

FINAL MASTER PLAN

05 October 2022

Sammamish Parks and Recreation

LEGEND

1. Parking - 55 parking spaces with 5 accessible spaces
2. Community Garden
3. Sloped Lawn
4. Existing Tree Grove to Remain
5. Amenity Node
6. Lawn with Cricket & Soccer Field
7. Practice Cricket Pitch
8. Little League / Softball - natural grass outfield with synthetic turf infield
9. Play Area
10. Bioretention / Stormwater area
11. Restroom
12. Community Green
13. 10' Wide East Plateau Trail with 2' Crushed Stone Shoulder
14. Trail Amenity Node with Interpretive Signage
15. Overlook

Trails

- Removal / replanting of informal trails for buffer mitigation
- Relocate asphalt / gravel trail near SE 32nd St to the Neighborhood (west of the site)
- Improve existing asphalt trail near SE 32nd St
- BPA easement trails and East Plateau Trail improvements
- Boardwalk trail near the bioretention / stormwater area

Cricket/ Soccer Fields

- Natural grass cricket and soccer fields
- Loop trail
- Gathering and seating areas

Play Area/ Ballfield

- Play area, community green, overlook, community garden, restroom, picnic shelter, pedestrian entrances
- Relocate little league / softball field; natural grass outfield with synthetic infield; including seating and storage

Support Facilities

(In either 'Soccer/ Cricket Field' or 'Play Area/ Ballfield' phase, whichever comes first)

- Bioretention / stormwater area to the north of the open space
- Parking and entry improvements

City of Sammamish Washington

801 228th Avenue SE ■ Sammamish, WA 98075 ■ phone: 425-295-0500 ■ fax: 295-295-0600 ■ web: www.sammamish.us

Memorandum

Date: October 5, 2022

To: City Council

From: Nancy Way, Parks & Recreation Commission Chair

Tracey Smith, Parks & Recreation Commission Vice Chair

RE: Klahanie Park – Master Plan Recommendation

On behalf of the Parks and Recreation Commission, we are pleased to present our support for the adoption of the Klahanie Park Master Plan.

This master plan is the result of input received throughout the City's adopted master plan process. This process allowed the City to look at the parkland in a comprehensive manner that involved the entire community. The public outreach took place from March through December 2019 and the Commission was presented with a range of ideas and proposals for the park, including plans to protect Queen's Bog; improve athletic fields and delineate field extents; provide gathering spaces and unprogrammed open space; relocate and expand play areas; improve basic amenities such as parking, access, and restrooms; and enhance the existing trail network. We have examined the plans presented to us by staff, and we have received extensive input from residents and park neighbors. We carefully examined the impacts of park development on the neighboring properties and reached a compromise that was sensitive to the adjacent homeowners while recognizing the needs and interests of the community.

As a Parks and Recreation Commission, we unanimously endorse the final master plan.

- The preferred master plan was presented at the November 6, 2019, Parks & Recreation Commission meeting. The Commission voted unanimously to recommend the City Council proceed with the preferred plan.
- The preferred master plan was re-introduced at the October 6, 2021, Parks & Recreation Commission meeting to the new Commissioners and there were no concerns with the previous recommendation.
- The final master plan was discussed at the October 5, 2022, Parks & Recreation Commission meeting and the Commission voted unanimously to endorse the final master plan.

The Commission is pleased to bring its endorsement of the master plan to the Council. We appreciate the opportunity to provide you with our recommendation on the Klahanie Park Master Plan.

Parks & Recreation Commission Regular Meeting

October 5, 2022

KLAHANIE PARK
Master Plan

Sammamish
Parks and Recreation

Purpose (What We Need From You)

1. Consensus to provide a letter of support for the adoption of the Klahanie Park Master Plan.

Overview: What we will be discussing

1. Introduction
2. Timeline & Project Background
3. Existing Conditions
4. Outreach Summary
5. Final Master Plan
6. Discussion

Introduction

What is a Master Plan?

- City adopted process that looks at park comprehensively and involves entire community
- Establishes design program that provides framework for addressing park improvements
- Report is end product of process

3 Primary Phases:

1. Site Investigation & Analysis
2. Park Program*
3. Master Plan Development*

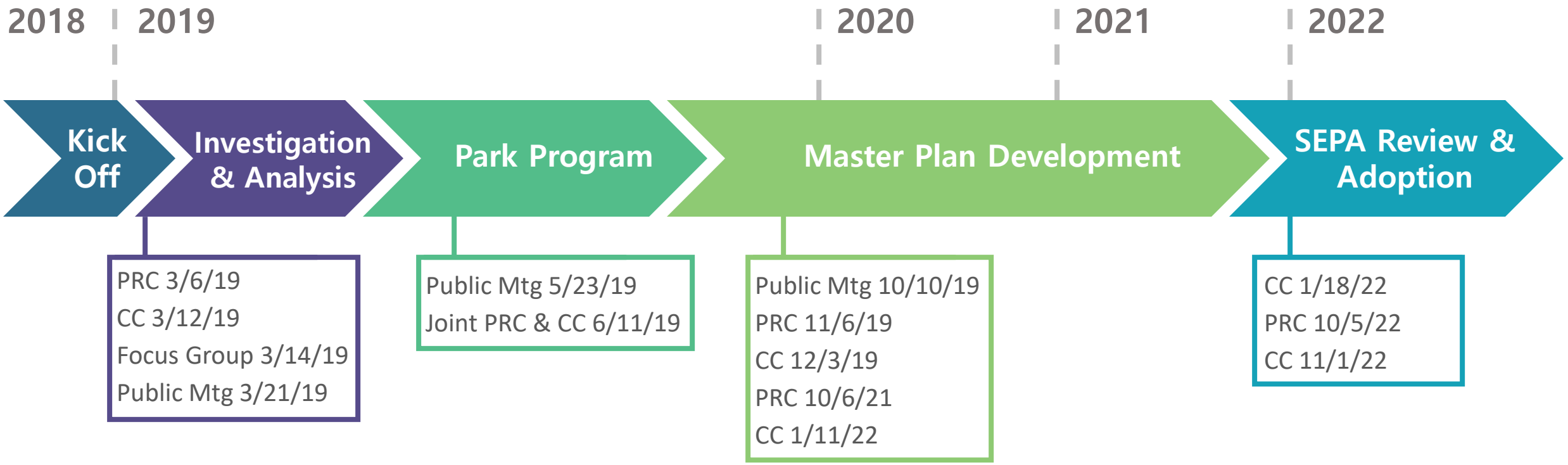
** Includes engagement with community at large, City staff, Parks & Recreation Commission, and City Council*

Context Map


Sammamish Commons
Hazel Wolf Wetlands
Pine Lake Park
Beaver Lake Park
Klahanie Park
You Are Here
228th Ave SE
SE Duthie Hill Rd
NOT TO SCALE
Soaring Eagle Park
Thirty Acres Park
Steven & Rosina Kipper Preserve
Beaver Lake Preserve
Duthie Hill Park

Timeline & Project Background

Master Plan Timeline

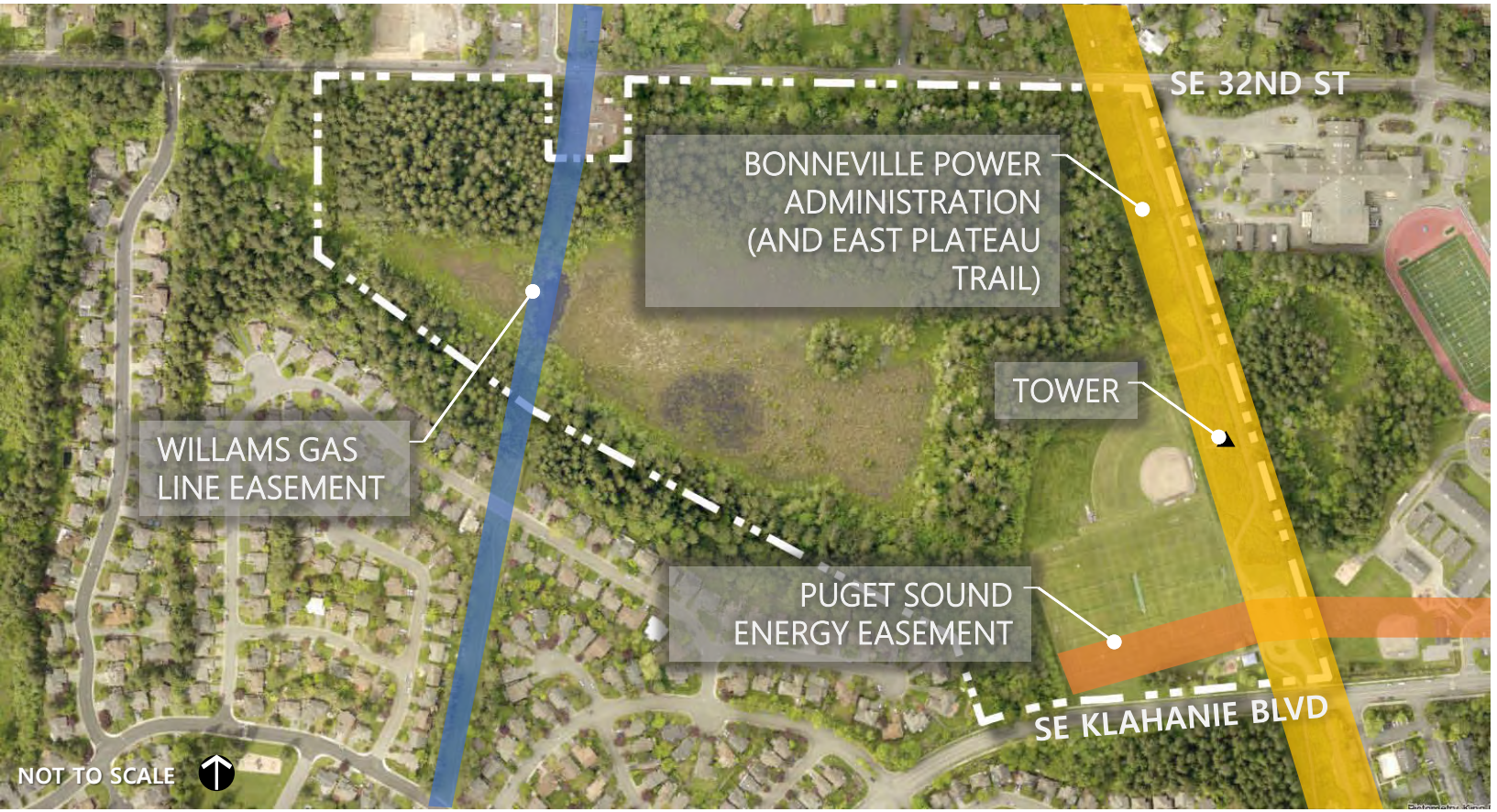


Background & History

- 1994 – Park transferred to King County following construction by Homeowner's Association (HOA)
- 2016 – Klahanie Park transferred to City
- 2017 – Minor drainage improvements completed at baseball field
- 2018 – PRO Plan completed
- 2019 – Master Plan commences
- 2020 – Athletic Field Study completed
- 2021 – Reintroduction of Master Plan

Existing Conditions

Easements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PUGET SOUND ENERGY EASEMENT
SE KLAHANIE BLVD
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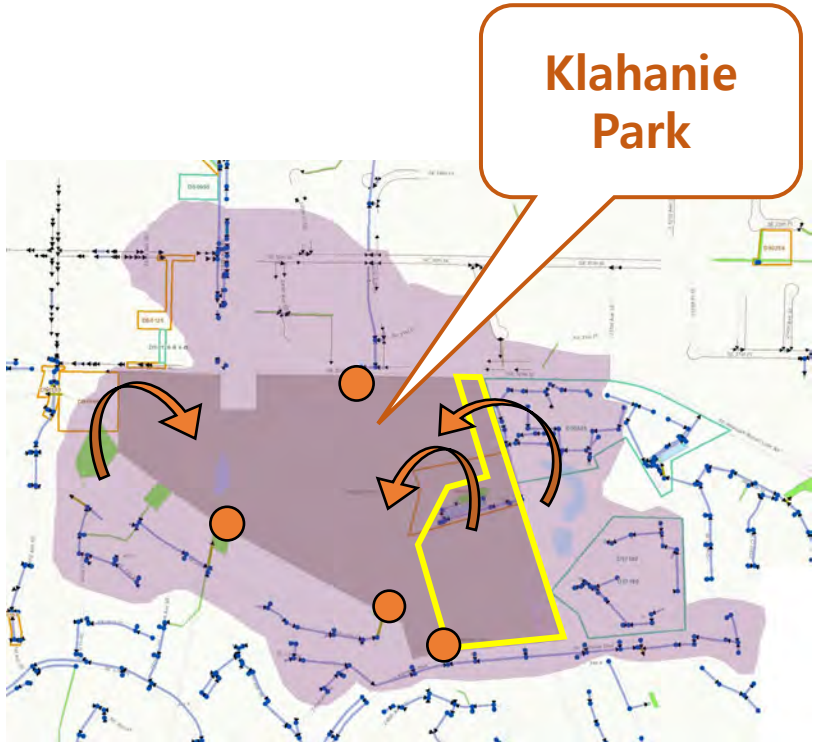
Active Recreation Areas

Bog, Critical Areas, & Trails

Stormwater – Queen's Bog

4 points of discharge

3 indirect overflow routes



175.5 acres of stormwater makes its way to the bog

1.9 miles of new trails proposed

14.5 acres of park re-development proposed

** Existing stormwater facility is inspected and maintained by the City annually.*

Outreach Summary

Visioning: What We Heard

The overall vision for Klahanie Park is a place to . . .

1. **Protect Queen's Bog . . .**

   .... and the rest of the natural environment, educate the community about the unique nature of the bog, and partner with the adjacent schools to enhance the park as a learning environment.

2. **Gather and celebrate . . .**

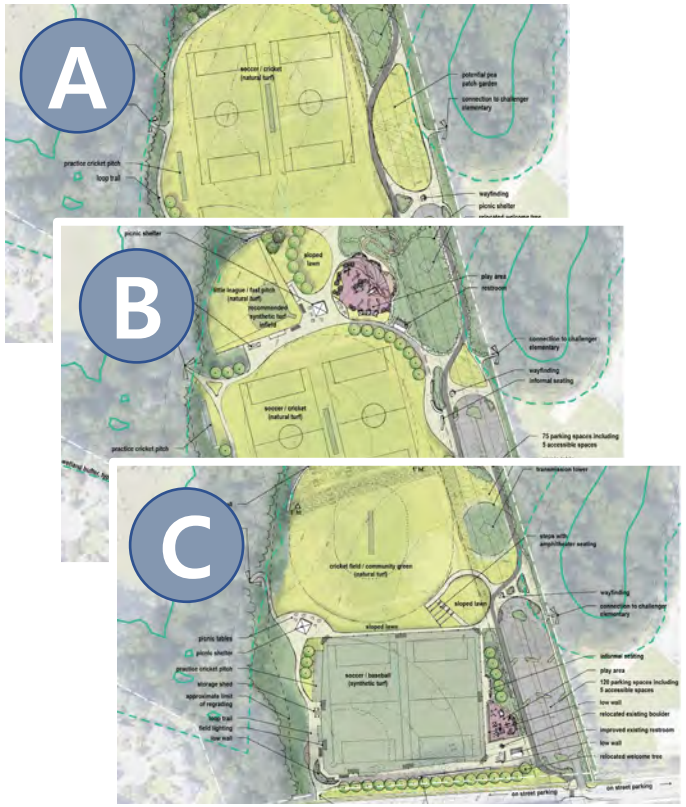
   .... to come together as a community, celebrate our diverse backgrounds and cultures, build memories with our families and each other.

3. **Balance passive and active activities . . .**

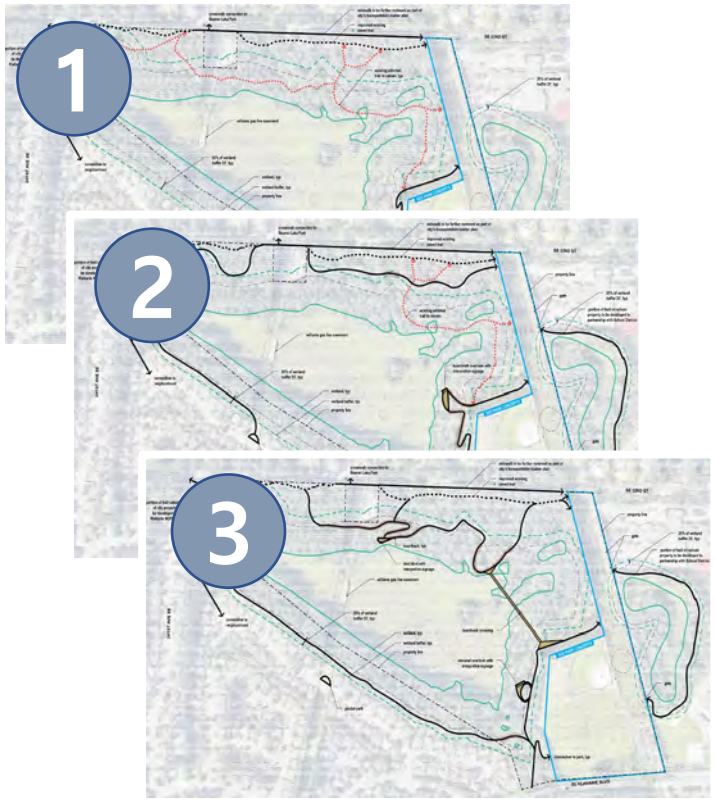
   .... recognizing the park serves a larger community need but should still retain its neighborhood scale and character.

Master Plan Alternatives

Open Space Alternatives



Trail Alternatives



Park Character Alternatives

Master Plan Alternatives: What We Heard

LIKED the unprogrammed open space, the community gardens, the big rock and trees remain, loop trail, meandering easement trail with amenity nodes, natural grass

DISLIKED the fencing at the ballfield along Klahanie Blvd. that would make the entrance feel less welcoming

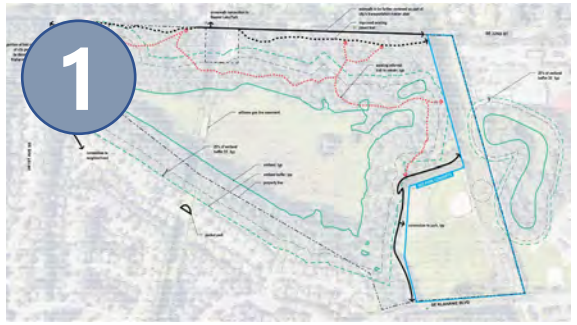
LIKED the similar efficiency of the sports fields to the existing, natural grass, natural stormwater treatment, central play area, ballfield fences out of the way

DISLIKED community open space is too small, distance of the play area to parking, expanded parking

LIKED artificial turf, field lighting, full adult softball field, cricket field separation

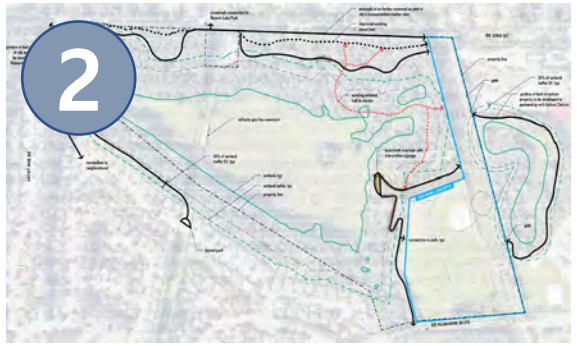
DISLIKED artificial turf, field lighting, loss of the neighborhood character, too much impact, loss of nature, stormwater redesign, expanded parking, fencing along Klahanie Blvd. makes the entrance less welcoming

Master Plan Alternatives: What We Heard



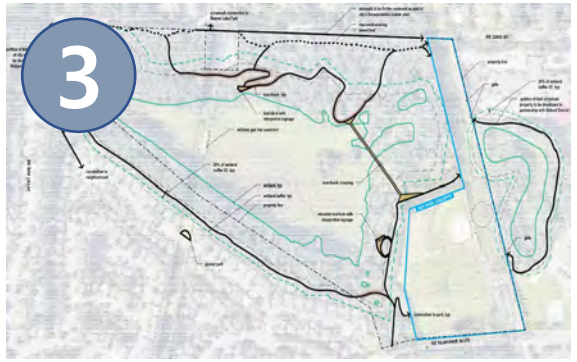
LIKED removal of trails behind homes, minimum impact to the bog

DISLIKED trail at SE 32nd street pushed to road edge, would like this to be more separated like the other trails



LIKED overlook but it needs to consider safety/security and impact on the environment, school wetland trail

DISLIKED trail behind homes



LIKED only the parts that were in previous alternatives

DISLIKED trail behind homes, full loop trail has too much impact on bog, bridge over bog is too invasive and expensive, too much access to the bog

Final Master Plan

Final Master Plan

1. Beaver Lake Middle School
2. Challenger Elementary School
3. Wetland
4. Queen's Bog
5. BPA Easement
6. Williams Gas Line Easement
7. Klahanie Trail
8. Pocket Park to be developed by Klahanie HOA and Williams Gas Line
9. Informal trails to be removed and planted with native wetland species for mitigation
10. Existing asphalt / gravel trail to be removed and replanted for mitigation- relocated to buffer edge

Open Space Enlargement

1. Play area (w/ relocated boulder)
2. Community green
3. Restroom
4. Community garden
5. East Plateau Trail
6. Existing tree grove to remain
7. Lawn with cricket and soccer fields
8. Little League / Softball natural grass with synthetic turf infield
9. Bioretention / stormwater area
10. Paved loop trail
11. Boardwalk
12. Gathering / picnic area
13. Overlook

Final Plan Estimate

Final Plan – Segments (2021 Dollars)

Trails	$3,500,000 - $4,000,000
Cricket / Soccer Fields	$6,000,000 - $6,500,000
Play Area / Ballfield	$9,000,000 - $9,500,000
Support Facilities*	$2,000,000 - $3,000,000
Total	**$20,500,000 - $23,000,000**

** Will need to be added to either 'Cricket / Multi-Use' or 'Play Area/ Ballfield' phase, whichever is first*

Discussion

Purpose (What We Need From You)

1. Consensus to provide a letter of support for the adoption of the Klahanie Park Master Plan.

Thank you!

Attachment B

City of Sammamish
Model Master Plan Process

Site Analysis and/or Project Scoping

- Evaluate existing site conditions.
- Complete wetland delineation, identify sensitive areas, complete soil analysis etc.
- Develop an overall environmental understanding of the site.
- Identify and understand intentions for the site. What is the scope of the project? Park classification? What is the service area of the park? (Ideally, these policy questions will be answered at the time of acquisition).

Survey residents / stakeholders

- Develop a survey suitable to the project (mail, website etc.) Survey responses will be used to assist with development of the initial park concepts for public discussion.

Public Meeting #1: Scoping Meeting

- Present site analysis.
- Present survey results.
- Opportunity for community members to share their hopes, dreams & concerns for the site development .

Project Goal Setting and Concept Development

- Presentation and discussion with the Park Commission.
- Develop the initial park concept(s) that will serve as the foundation for the first public meeting. Park concepts are based on City Council goals, site analysis, survey information and feedback from community members at public meeting # 1.
- Present initial concepts and project goals to the City Council for confirmation and direction.

Public Meetings #2, #3, and #4: Developing a park concept

- Progressive meetings from broad concepts to a preferred option or options.
- State and display project goals (from goal setting above).
- Park Commission hosts the meetings. Consultant and staff facilitate the meeting.
- Prepare a press release (or other informational materials) to present to the public upon completion of Public Meeting # 3.
- Provide updates to the City Council.
- Provide updates to community members via the City website and the City newsletter.
- Identify final site option(s) to forward to City Council for review and approval.

SEPA

- Independent review by Community Development Department.
- Environmental checklist and supporting environmental information/studies completed at the earliest phase possible, when environmental impacts can be adequately identified and evaluated.
- Notice to the public for comment period on the SEPA review.
- Review comments and determine if additional environmental information is needed.
- Threshold determination issued.
- All public meetings will be open to comment related to environmental impacts.

Adoption of Master Plan

- Present to City Council along with SEPA determination.
- Public Hearing(s).
- Formal adoption of Master Plan prior to proceeding with the design contract.

Appendix H: Resolution

Sammamish
Parks and Recreation