



CRITICAL AREAS DETERMINATION

FOR

CCD BD – ABDR-218TH
KING COUNTY, WA

Wetland Resources, Inc. Project #24098

Prepared By

Wetland Resources, Inc.
9505 19th Avenue SE, Suite 106
Everett, WA 98208
(425) 337-3174

Prepared For

CCD Black Diamond, LLC.
Attn: Justin Wortman
3025 112th Ave. NE, Suite 100
Bellevue, WA 98004

May 24, 2024

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TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 SITE DESCRIPTION.....	1
1.2 PROJECT DESCRIPTION	2
2.0 WETLAND & STREAM DETERMINATION	2
2.1 REVIEW OF EXISTING INFORMATION.....	2
2.2 STREAM DETERMINATION METHODOLOGY	3
2.3 WETLAND DETERMINATION METHODOLOGY	3
2.3.1 Hydrophytic Vegetation Criteria.....	4
2.3.2 Soils Criteria and Mapped Description	4
2.3.3 Hydrology Criteria.....	4
2.4 WETLAND BOUNDARY DETERMINATION FINDINGS.....	5
2.5 STREAM BOUNDARY DETERMINATION FINDINGS.....	5
2.5.1 Crisp Creek	5
2.5.2 Stream E.....	5
3.0 WILDLIFE ASSESSMENT.....	5
4.0 USE OF THIS REPORT	6
5.0 REFERENCES	7

LIST OF TABLES

TABLE 1 : STREAM SUMMARY	2
--------------------------------	---

LIST OF FIGURES

FIGURE 1 : AERIAL VIEW OF SUBJECT SITE (NOT TO SCALE).....	1
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LIST OF APPENDICES

APPENDIX A: CRITICAL AREAS REPORT MAPS (SHEETS 1 OF 1)

APPENDIX B: WILDLIFE HABITAT ASSESSMENT FOR RESERVE AT WOODLANDS

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1.0 INTRODUCTION

Wetland Resources, Inc. (WRI) conducted multiple site investigations between July and August 2018, to locate and evaluate jurisdictional wetlands and streams on and in the vicinity of the 48.25-acre site, located west of the intersection of SE Auburn-Black Diamond Road and 218th Avenue Southeast in unincorporated King County, WA (Section 21, Township 21N, R6E, W.M.). The subject site is composed of 2 King County tax parcels (2121069044 and 2121069046).

In April 2024 WRI revisited the site to confirm the boundaries of previously identified critical areas. The purpose of this report is to present information related to wetlands, streams, and their buffers on-site.

1.1 SITE DESCRIPTION

Public roadways (Southeast Auburn - Black Diamond Road and 218th Avenue Southeast) divide the subject site into 2 regions (see Figure 1, below). While no formal access exists, parcel 2121069044 can be accessed from the north side of Southeast Auburn-Black Diamond Road. While parcel 2121069046 can be accessed from the west side of 218th Avenue Southeast and the south side of Southeast Auburn-Black Diamond Road.

The subject site is currently undeveloped forestland with the majority of the subject site appearing to have been logged 20 to 25 years ago. A few old logging roads still remain across the site. Based on the results of our July and August 2018 site investigation, two streams (Crisp Creek and Stream E) were identified on and adjacent to the subject site. These conditions were confirmed in April 2024. A summary of stream features on site, as well as their typing and buffers per King County Code (KCC) 21A.24, are included in Table 1 below.



Figure 1 : Aerial View of Subject Site (not to scale)

Table 1 : Stream Summary

Stream	Type	King County Buffer (ft)
Crisp Creek	Type F	165
Stream E	Type F	165

1.2 PROJECT DESCRIPTION

The applicant is applying for a Critical Areas Designation (CAD) for the subject site which is composed of two King County tax parcels (2121069044 and 2121069046). Therefore, there is no development proposal at this time. However, the applicant is in the process of developing a plan to construct a roundabout at the intersection of 218th Avenue SE and SE Auburn-Black Diamond Rd, pursuant The Villages (Ten Trails) Master Planned Development Agreement, once the CAD is approved.

2.0 WETLAND & STREAM DETERMINATION

2.1 REVIEW OF EXISTING INFORMATION

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject site and the surrounding area in regards to wetlands, streams, and other critical areas. These sources included the USFWS National Wetlands Inventory (NWI), USDA/NRCS Web Soil Survey, Snohomish County PDS Map Portal, WDFW Priority Habitat and Species (PHS) Interactive Map, WDFW SalmonScape mapping tool, and DNR Forest Practices Application Mapping Tool (FPAMT).

- *USFWS National Wetlands Inventory (NWI)*: shows a wetland (PFOC) off-site to the north, which appears to be the headwaters of Crisp Creek. Two riverine systems are shown in the location of Crisp Creek and Stream E.
- *USDA/NRCS Web Soil Survey* indicates that soils underlying the site are mapped as Alderwood gravelly sandy loam (AgC: 8-15 percent slopes, AgD: 15-30 percent slopes) and Everett very gravelly sandy loam (EvC: 8-15 percent slopes, EvD: 15-30 percent slopes). These soil units are described in greater detail in Section 2.3.2.
- *King County iMap* depicts an erosion hazard and potential landslide hazard areas that are mapped on-site. Crisp Creek and Stream E are also identified.
- *WDFW Priority Habitat and Species (PHS) Interactive Map* maps regular concentration of elk (*Cervus elaphus*). In addition, the township in which the site is located is identified as a cave-rich area.
- *WDFW SalmonScape* shows Crisp Creek and Stream E similar to the above mentioned resources.
- *DNR FPAMT* mirrors the locations of the hydrologic features shown on SalmonScape. It identifies Crisp Creek as fish-bearing and Stream E as non-fish bearing.

2.2 STREAM DETERMINATION METHODOLOGY

The OHWM of streams in the investigation area were identified using the methodologies described in the Washington State Department of Ecology (DOE), *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016). The Washington State Shoreline Management Act (SMA) defines ordinary high water mark as,

“...that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department: PROVIDED, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.”

Two streams (Crisp Creek and Stream E) were observed on and adjacent to the site.

2.3 WETLAND DETERMINATION METHODOLOGY

A boundary determination was conducted for the on-site wetlands. Wetland conditions were evaluated and delineated using routine methodology described in the *Corps of Engineers Wetlands Delineation Manual (Final Report; January 1987)*, except where superseded by the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, referred to as 2010 Regional Supplement). Our findings are consistent with these manuals. The following criteria descriptions were used in the boundary determination of on-site wetlands:

- 1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
- 2.) Examination of the site for hydric soils;
- 3.) Determining the presence of wetland hydrology

2.3.1 Hydrophytic Vegetation Criteria

The manuals define hydrophytic vegetation as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. One of the most common indicators for hydrophytic vegetation is when more than 50 percent of a plant community consists of species rated “Facultative” and wetter on lists of plant species that occur in wetlands.

2.3.2 Soils Criteria and Mapped Description

The manuals define hydric soils as those that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Field indicators are used for determining whether a given soil meets the definition for hydric soils.

NRCS Web Soil Survey, estimates 7 soil units on-site: Alderwood gravelly sandy loam (AgC: 8-15 percent slopes, AgD: 15-30 percent slopes), Alderwood and Kitsap soils (very steep), Beausite gravelly sandy loam (8-15 percent slopes), Everett very gravelly sandy loam (EvC: 8-15 percent slopes, EvD: 15-30 percent slopes), and Norma sandy loam.

Alderwood gravelly sandy loam (8-15 percent slopes and 15-30 percent slopes) is described as a moderately well drained soil on till plains. It is moderately deep over a hardpan. This soil formed in glacial till. Typically, the surface layer is very dark grayish brown gravelly sandy loam about 7 inches thick. The upper part of the subsoil is dark yellowish brown and dark brown very gravelly sandy loam about 23 inches thick. Included in this unit are small areas of soils that have a stony or bouldery surface layer and areas of McKenna soils, Norma soils, and Terric Medisaprists in drainageways on plains. Also included are small areas of Everett, Indianola, and Ragnar soils on terraces and outwash plains. Included areas make up about 15 percent of the total acreage. Permeability of this soil is moderately rapid above the hardpan and very slow through it. Available water capacity is low.

Everett very gravelly sandy loam (8-15 percent slopes and 15-30 percent slopes) is made up of somewhat excessively drained soils that are underlain by very gravelly sand. These soils formed in sandy and gravelly glacial outwash deposits, under conifers. The O-horizon is composed of slightly decomposed plant material. The A-horizon consists of very dark brown soil color. The B-horizon consists of dark brown soil color. The C-horizon consists of dark yellowish brown soil color. Available water capacity is low. Included within this soil unit are the Alderwood and Indianola soil series. Permeability is rapid.

2.3.3 Hydrology Criteria

The 2010 Regional Supplement defines wetland hydrology as “areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10.” During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

2.4 WETLAND BOUNDARY DETERMINATION FINDINGS

No wetlands we observed within or adjacent to the subject site.

2.5 STREAM BOUNDARY DETERMINATION FINDINGS

2.5.1 Crisp Creek

King County Classification: Type F

King County Standard Buffer: 165-feet

Crisp Creek is located in the northwestern portion of the site, west of 218th Avenue Southeast. Crisp Creek originates north of the site, flowing north to south. Crisp Creek is a known fish-bearing stream, providing spawning and rearing habitat for Coho (*Oncorhynchus kisutch*), Chinook (*Oncorhynchus tshawytscha*), Chum (*Oncorhynchus keta*), and Winter Steelhead (*Oncorhynchus mykiss*). Based on this information, Crisp Creek is considered a Type-F stream in a basin designated as “high” on the Basin and Shoreline Conditions Map. As such, Crisp Creek receives a 165-foot buffer, pursuant to KCC 21A.24.358(B)(2).

2.5.2 Stream E

King County Classification: Type F

King County Standard Buffer: 165-feet

It appears that Stream E originates from the outflow of an off-site wetland previously identified by WRI as Wetland C (*Critical Areas Report & Buffer Averaging Plan for The Reserve at Woodlands* dated November 20, 2020). Stream E originates just west of 218th Avenue Southeast. Stream E flows east to west and is a tributary to Crisp Creek (Type F). Based on the physical characteristics of Stream E’s channel, as well as its unobstructed connection to a Type F stream, it is considered a Type-F stream in a basin designated as “high” on the Basin and Shoreline Conditions Map. As such, Stream D receives a 165-foot buffer, pursuant to KCC 21A.24.358(B)(2).

3.0 WILDLIFE ASSESSMENT

An evaluation of wildlife habitat associated with the Revere at Woodlands project included the subject site within its assessment (*Wildlife Habitat Assessment for Reserve at Woodlands* dated August 30, 2019, by WRI). Consequently, that report has been included for reference.

4.0 USE OF THIS REPORT

This Critical Areas Report is supplied to CCD Black Diamond Partners, LLC., as a means of determining on-site wetland and stream conditions as set forth by King County Code. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the Applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.



Jeff Mallahan
Senior Ecologist



Scott Brainard, PWS
Principal Ecologist

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APPENDIX A

DETERMINATION REPORT

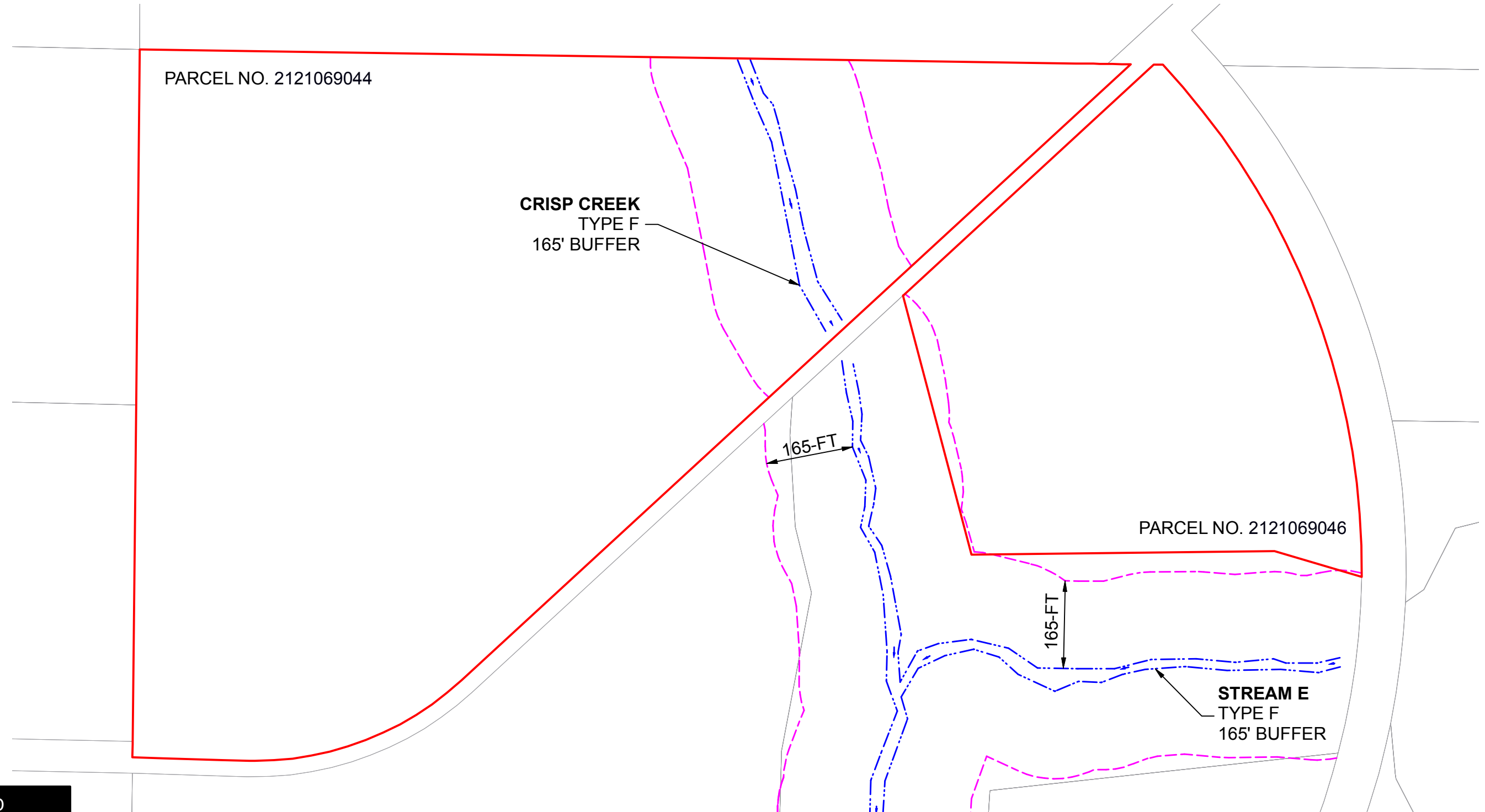
MAP

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DETERMINATION REPORT MAP

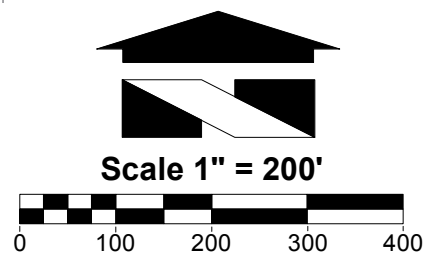
CCD BD - ABDR 218th

PORTION OF SECTION 13, TOWNSHIP 21N, RANGE 06E, W.M.



LEGEND

- STREAM
- BUFFER
- SUBJECT SITE
- PARCELS



Wetland Resources, Inc.
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

Determination Report Map
The Reserve At Woodlands
King County, WA

CCD Black Diamond Partners Attn: Justin Wortman 3025 112th Ave. NE, #100 Bellevue, WA 98004	Sheet 1/1 Project No: 24098 Drawn by: JM 5/24/2024
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APPENDIX B

WILDLIFE HABITAT ASSESSMENT

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WILDLIFE HABITAT ASSESSMENT

FOR

RESERVE AT WOODLANDS
KING COUNTY, WA

Wetland Resources, Inc. Project #18256

Prepared By

Wetland Resources, Inc.
9505 19th Avenue SE, Suite 106
Everett, WA 98208
(425) 337-3174

Prepared For

CCD Black Diamond, LLC
Attn: Justin Wortman
3025 112th Ave NE, Ste 100
Bellevue, WA 98004

August 30, 2019

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TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 WILDLIFE HABITAT ASSESSMENT	2
2.1 KING COUNTY WILDLIFE HABITAT PROTECTIONS	3
2.2 STATEMENT OF QUALIFICATIONS.....	3
3.0 SITE INVESTIGATION.....	4
3.1 REVIEW OF EXISTING INFORMATION	4
3.2 HABITAT ASSESSMENT.....	5
3.3 WILDLIFE FINDINGS	10
3.3.1 Wildlife Species Detections	10
3.3.2 General Wildlife Predictions	11
3.3.3 Use by Special Status Wildlife Species.....	12
4.0 COMPLIANCE WITH KING COUNTY WILDLIFE PROTECTIONS	13
4.1.1 King County Wildlife Habitat Network.....	14
5.0 PROPOSED HABITAT PROTECTIONS AND MANAGEMENT RECOMMENDATIONS.....	14
6.0 CONCLUSION	15
7.0 USE OF THIS REPORT	16
8.0 REFERENCES	17

LIST OF FIGURES

FIGURE 1 - AERIAL VIEW OF SUBJECT SITE	2
FIGURE 2 - SITE PHOTOS: LARGE PONDED WETLAND AND CRISP CREEK RIPARIAN CORRIDOR..	6
FIGURE 3 - SITE PHOTOS: VIEWS OF STEEP SLOPE RIDGELINE.	6
FIGURE 4 - SITE PHOTOS: OPEN CANOPY IMMATURE FOREST	8
FIGURE 5 - SITE PHOTOS: DENSE EVEN-AGED FOREST	9
FIGURE 6 - SITE PHOTOS: DECIDUOUS FORESTS.....	9
FIGURE 7 - EXISTING OPEN SPACE AND PARKS WITH PROPOSED MANAGEMENT RECOMMENDATIONS (NOT TO SCALE).....	15

APPENDICES

APPENDIX A: APPROXIMATE HABITAT TYPES MAP (SHEET 1/1)

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1.0 INTRODUCTION

The subject site is located in unincorporated King County at an unassigned address and comprises of twenty-one separate tax parcels; 2121069001, -9044, -9045, -9046, -9047, -9048, -9049, -9050, -9051, -9052, -9053, -9054, -9055, -9056, -9057, -9058, -9059, -9060, -9061, -9062, and -9063. The twenty-one tax parcels total 494.45 acres and is currently owned by either CCD Black Diamond Partners LLC or King County Parks. The parcels that include the large ponded wetland, Crisp Creek, and the large steep slope areas along the southern portion of the property are owned by King County Parks while all the other parcels are owned by CCD Black Diamond Partners, LLC. Site access to the tax parcels located on the eastern side of 218th Avenue Southeast is from 218th Avenue Southeast, just below the largest ponded wetland feature. Two hundred and eighteenth Avenue Southeast is a public roadway that transects the property in a north/south orientation. Site access to the parcels located on the west side of 218th Avenue Southeast is from Southeast Auburn – Black Diamond Road, an existing public roadway located along the northern boundary of these parcels.

The property owners are currently in conceptual design and planning phase of a future residential development on the subject site. *Wetland Resources, Inc. (WRI)* completed three site investigations on February 18th, 21st, and 22nd 2019 to conduct a wildlife evaluation in order to determine if any wildlife species or habitats are present that require protection under King County Code. This report presents the findings of the investigation, and provides management plans to protect wildlife use and functions associated with the subject site. Conditions and proposals related to wetlands and streams present on the subject site will be discussed in a *Critical Areas Report and Buffer Averaging Plan* dated 8.30.19 and prepared by *WRI*. As any potential on-site fish habitat is limited to Crisp Creek and its associated tributaries, the determination of fish use and of appropriate protections for these critical areas are also discussed in the above Critical Areas Report and Buffer Averaging Plan.

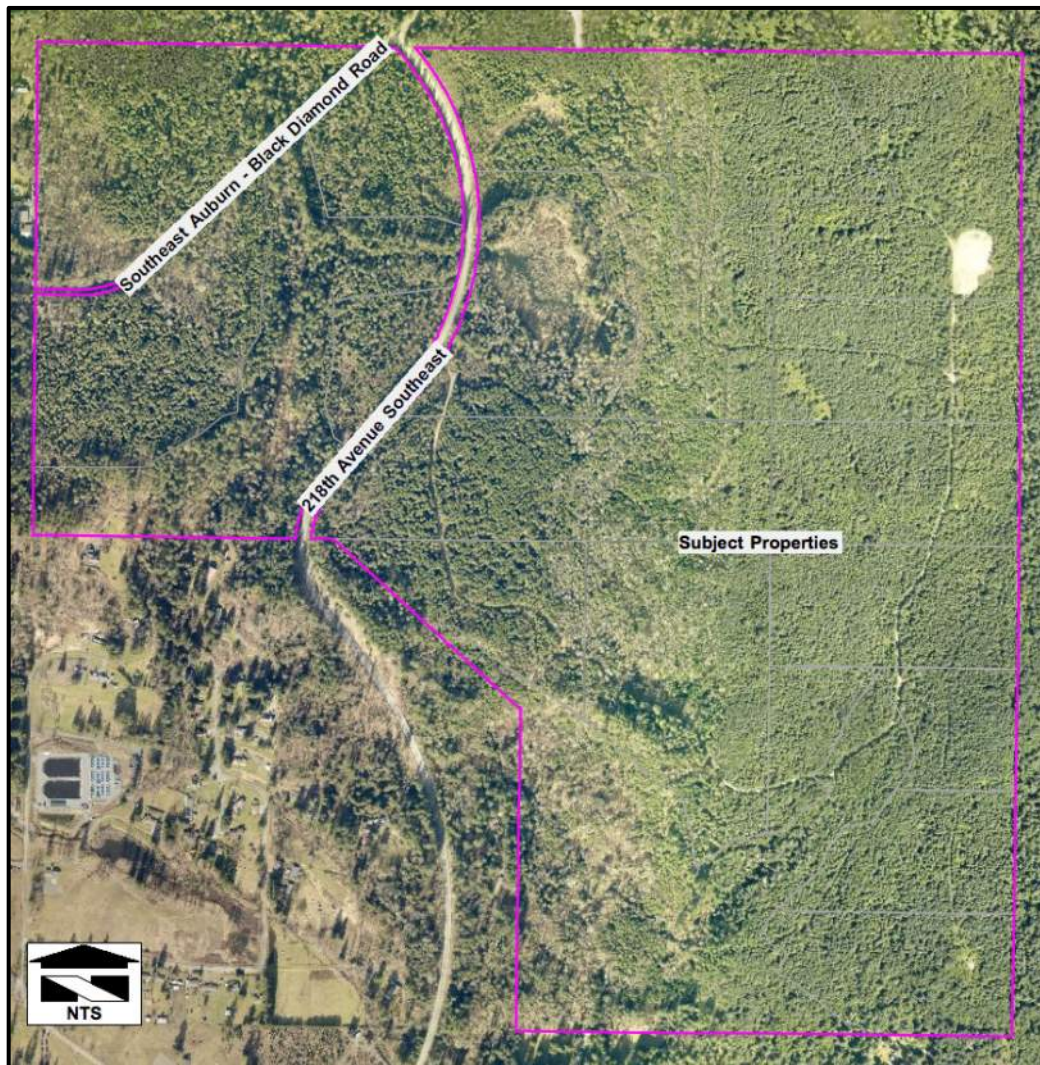


Figure 1 - Aerial View of Subject Site

The subject site is undeveloped except for several well-maintained logging roads that traverse throughout the eastern portion of the property that is mainly located east of 218th Avenue Southeast. A majority of the subject site appears to have been logged 20 to 25 years ago and densely reforested with Douglas fir (*Pseudotsuga menziesii*).

Crisp Creek, is a perennial stream located within the western portion of the site, west of 218th Avenue Southeast. The stream enters the site from the north, flows south through the property, and continues flowing southwest, off-site. Crisp Creek has several slope wetlands that direct hydrology to the stream.

2.0 WILDLIFE HABITAT ASSESSMENT

The purpose of this wildlife habitat assessment was to identify any Wildlife Habitat Conservation Areas or Wildlife Habitat Networks which are regulated pursuant to the King County Code (KCC) sections 21A.24.382 through 21A.24.388. In addition, the on-site habitat was evaluated to

determine if the site provides habitat for any Species of Local Importance listed in Chapter 4 of the current King County Comprehensive Plan. Please note that the purpose of this assessment was related to potential wildlife habitat and is not intended to represent a wildlife survey for particular species. Therefore, this section presents the findings of the investigation, as well as, an analysis of how King County wildlife protections apply to the subject site.

2.1 KING COUNTY WILDLIFE HABITAT PROTECTIONS

King County Code (KCC) provides protections for certain habitat elements important to the life history requirements of priority wildlife species, such as elk. In particular, Habitat Conservation Areas and Wildlife Habitat Networks establish the primary critical areas that legally afford protection for important wildlife species. Additionally, King County may increase the width of wetland buffers to ensure adequate protection for habitat of priority species.

King County Code defines a Wildlife Habitat Conservation Area (HCA) as “an area for a species whose habitat the King County Comprehensive Plan requires the county to protect that include an active breeding site and the area surrounding the breeding site that is necessary to protect breeding activity.” Breeding sites are those associated with specific life history requirements of a species breeding ecology, such as nesting, hatching, birthing, nursing, rearing, or fledging of young. While on site no HCA’s were located.

A Wildlife Habitat Network is defined as “the official wildlife habitat network defined and mapped in the King County Comprehensive Plan that links wildlife habitat with critical areas, critical area buffers, priority habitats, trails, parks, open space and other areas to provide for wildlife movement and alleviate habitat fragmentation.” These definitions are given in KCC 21A.06.1423 and 1424, respectively. KCC 21A.24.385 requires the protection of segments of the designated Wildlife Network adopted by the King County Comprehensive Plan. King County iMap serves as the official map of these network segments and reveals that one is present on the subject site along the riparian corridor of Crisp Creek. Another wildlife network is located off site, just east of the subject site. Therefore, regulations associated with Wildlife Habitat Networks are germane to this project.

2.2 STATEMENT OF QUALIFICATIONS

Hailey Starr and Alia Richardson, conducted the field assessment for this Wildlife Habitat Assessment Report.

Hailey Starr holds a Bachelor of Science degree in Natural Resources (Wildlife Ecology Focus) and a Master’s of Environmental Studies (Wildlife Management and Habitat Connectivity Focus). Additional training includes, Wildlife Capture and Immobilization through Washington State University, Emergency Medical Care of Wildlife through Washington State University, and Marbled Murrelet Monitoring through Washington State Department of Transportation. Hailey has worked as an ecologist on projects within the Pacific Northwest for over 11 years, including scientific study of mule deer, white-tailed deer, Columbia Basin pygmy rabbits, captive breeding of endangered species, wildlife-vehicle collisions, wildlife habitat connectivity, highway influences on elk movement, wildlife habitat assessments, wetland and stream determinations, and environmental mitigation monitoring. During these 11 years of experience, Hailey has specialized

in the consultation of proposed land use and development permit applications as they pertain to critical areas (wetlands, rivers, streams, lakes, and habitats of protected fish and wildlife species).

Alia Richardson holds a Bachelor of Science in Wildlife and Fisheries Biology from the University of Vermont. Additional training includes a post-Baccalaureate certificate in Wetland Science and Management from the University of Washington. Alia has worked for over 7 years on a variety of scientific studies both on the east and west coasts. Projects within the Pacific Northwest have included endangered species management and monitoring, urban carnivore ecology, and wildlife research for the Elwha River Restoration project.

3.0 SITE INVESTIGATION

3.1 REVIEW OF EXISTING INFORMATION

Prior to conducting the on-site investigation of the subject site, public resource information was reviewed to identify the presence of any priority habitats or species within and near the project area. These sources included:

- WDFW Priority Habitat and Species (PHS) Interactive Map: This resource maps three wetlands on-site. PHS also maps the subject property entirely within an elk concentration area and entirely within a cave rich area. The accuracy of this level of resolution is unfortunately within 0.25 mile (quarter section).
- USFWS National Wetlands Inventory (NWI): NWI maps a large wetland (PFOC) just east of 218th Avenue Southeast, approximately within the north-central portion of the property. Several other riverine wetlands are mapped across the property.
- King County iMap Interactive Mapping Tool: iMap depicts a wetland in the same location as NWI and a stream (Crisp Creek) west of 218th Avenue Southeast. This stream originates off-site, north of the northwest property corner and flows south through the west portion of the subject property. As Crisp Creek continues off-site, the stream flows southwest as a tributary to Green River. A Wildlife Habitat Network is mapped along Crisp Creek. An additional unclassified stream is mapped on-site connecting the large wetland mapped by NWI to Crisp Creek. Additionally, erosion hazard and potential landslide hazard areas are mapped on-site along the southern extent of the property.
- WDFW SalmonScape Interactive Mapping System: SalmonScape depicts a wetland in the same location as NWI and King County iMap, which is associated with two streams (an intermittent input and perennial outlet). The perennial outlet stream flows west from the large wetland complex into Crisp Creek. Crisp Creek is mapped in approximately the same location as iMap. SalmonScape also shows a stream flowing from the northeast to southwest, within the southeast portion of the site, classified as perennial. None of the aforementioned hydrologic features on-site are identified as fish bearing. However, the off-site portion of Crisp Creek is shown as fish bearing closer to the confluence with the Green River.

- StreamNet Online Mapping Application: This resource also maps the on-site portion of Crisp Creek as not fish-bearing and also shows the off-site portion of this stream at the confluence to Green River as fish-bearing.
- Washington DNR Natural Heritage and All Features List: This resource does not identify any features on-site.

3.2 HABITAT ASSESSMENT

The subject property was assessed for Fish and Wildlife Habitat Conservation Areas during the February 18th, 21st, and 22nd, 2019 field visits. Below describes the on-site habitat conditions and wildlife findings.

On-site Habitat A – Riverine / Wetland Complexes

Wetland and Stream Areas

This habitat type represents the most diverse areas on site in terms of structural and vegetative species diversity. As mentioned above, Crisp Creek is located within the western portion of the subject project and is hydrologically connected by a tributary stream that conveys hydrology west via a culvert from a large wetland complex located on the east side of 218th Avenue Southeast. In addition, several smaller streams and wetlands are located in the southeast portion of the property. The main stream corridor associated with Crisp Creek is comprised of mature trees including Douglas fir, western hemlock (*Tsuga heterophylla*), and big-leaf maple (*Acer macrophyllum*), with black cottonwood (*Populus balsamifera*) and red alder (*Alnus rubra*) present within the wetland and along the banks of Crisp Creek. The shrub layer and understory within this habitat type is denser along the stream and associated slope wetlands when compared to the other habitat types on-site. The dense shrub layer in these areas is primarily comprised of salmonberry (*Rubus spectabilis*), vine maple (*Acer circinatum*), and devil's club (*Oplopanax horridus*). Multiple wildlife trails were found in and around these habitats. Both the wetlands and streams provide high quality cover and abundant food and water resources for a variety of wildlife species. The mature trees found along the ridgelines within this habitat type provide excellent opportunity for birds of prey to perch and nest, especially along the ridgeline located in the southern portion of the property. Abundant evidence of wildlife use found in these areas demonstrates the high-quality functions of these areas. Please see section 2.3.1 Wildlife Species Detections below for a detailed description of species observed on site. Please also see Appendix A for a depiction of these areas.



Figure 2 - Site Photos: Large ponded wetland and Crisp Creek Riparian Corridor

Steep Slope Ridgeline

Crisp Creek and several wetlands located in the southeast corner of the subject property are located at the bottom of tall steep slopes with well-defined ridgelines. These steep slopes and ridgeline areas are comprised of mature forests which appear to have remained undisturbed from the most recent logging practices performed on the property. These areas are primarily comprised of Douglas fir, western hemlock, and big-leaf maple for the overstory vegetation and dense salal (*Gaultheria shallon*) and Oregon grape (*Mahonia aquifolium*) for the shrub layer and dense sword fern (*Polystichum munitum*) for the herbaceous layer. Multiple well used wildlife trails were found traversing both the slopes and along the ridgelines. The most heavily trafficked trails were those found along the ridgelines at the top of the steep slopes.



Figure 3 - Site Photos: Views of steep slope ridgeline.

Overall, this habitat appears to have experienced very limited disturbance. The forest structure is relatively diverse, comprising of pockets of deciduous trees interspersed within the evergreen trees. These wetland, stream, and steep slope areas create large habitat corridors that continue off-site. The size and complexity of different systems (stream, wetland, non-wetland, and steep slope) provide a unique assemblage of habitat for a diversity flora and fauna to thrive in. This habitat type provides significant hiding and thermal cover, potential nest locations based on site and tree characteristics for passerines, and arboreal food resources. Habitat function and wildlife use of this habitat type is in part limited by landscape fragmentation due to the adjacent roadways (218th Avenue Southeast and Southeast Auburn – Black Diamond Road) and residential development. Habitat fragmentation can influence the use by highly sensitive and highly mobile terrestrial wildlife species that necessitate specific habitat requirements. However, based on wildlife use on site, it would appear that these roadways, at this time, do not provide a significant barrier to movement. Future development and associated increased vehicular pressure on these prominent roadways will likely increase the barrier effect associated with these roadways. Therefore, these high value habitat corridors should be maintained and protected to ensure continued movement of wildlife through these areas. Please see section 2.3.1 Wildlife Species Detections below for a detailed description of species observed on site.

On-site Habitat B – Open Canopy Immature Conifer Forest

A majority of this habitat type is comprised of moderately dense immature trees (primarily Douglas fir) with areas of shrubs comprised of Scot's broom (*Cytisus scoparius*), and salal. Himalayan blackberry (*Rubus armeniacus*), bracken fern (*Pteridium aquilinum*), and various grass species were other vegetation species found with these areas. The northern segment of this habitat type appears to have been recently disturbed by both fire and grading by large equipment. These areas appear to be historically manipulated per Google Earth imagery. Several historic roads and a significant amount of garbage has been dumped in these areas over time. Prior to the disturbance it would appear that areas of this habitat type included portions dominated by herbaceous vegetation interspersed between the immature trees. Despite the amount of historical disturbance, it would appear that several species utilize this area. Several tracks were found traversing these areas in the snow. This kind of edge habitat that provides grazing opportunities are typically favorable by ungulate species. The southern segment of this habitat type is surrounded by Habitat C where substantial winter browse was observed on young saplings. Overall, this habitat type provides relatively high-quality edge habitat and opportunities for grazing by ungulate species which is in contrast to what is provided by the rest of the site. Please see Appendix A for a depiction of the habitat type.



Figure 4 - Site Photos: Open Canopy Immature Forest

On-site Habitat C – Dense Even-aged Conifer Forest

A majority of the subject site is comprised of dense even-aged conifer forest. This forest appears to have been logged or cleared approximately 20-25 years ago, based on the age class of the present trees. Due to the dense forest and lack of available sunlight, many vegetative species are not able to thrive in the shrub layer or understory. The majority of this habitat type is dominated by non-wetland areas and contains dense conifer trees (primarily Douglas fir), with salal, Oregon grape, sword fern, bracken fern (*Pteridium aquilinum*), and trailing blackberry (*Rubus ursinus*) present in the understory. However, a few scattered wetland areas exist in this habitat type which are dominated by red alder, Pacific willow (*Salix lasiandra*), salmonberry, twinberry (*Lonicera involucrata*), tall managrass (*Glyceria elata*), common lady fern (*Athyrium filix-femina*) and reed canary grass (*Phalaris arundinacea*). Overall, the habitat functions offered by this habitat type provide relatively high opportunities for cover and thermoregulation and relatively low to moderate for structure, species diversity, and foraging opportunities due to the uniformity of this planted tree stand. An abundance of wildlife trails was found throughout this habitat type. The trails appear to congregate most heavily around the northeastern portion of this habitat type, areas adjacent to Habitat A, especially the portions west of Crisp Creek. A variety of wildlife use was observed throughout this habitat type, please see section 2.3.1 Wildlife Species Detections below for a detailed description of species observed on site. Please see Appendix A for a depiction of this habitat type.



Figure 5 - Site Photos: Dense Even-aged Forest

On-site Habitat D – Deciduous Forest

Throughout the subject site are distinct segments of deciduous forest that create a distinct change in habitat when compared to the dense even-aged forest habitat. These segments of deciduous forests are comprised primarily of big leaf maple with the occasional black cottonwood and an understory comprised of vine maple, salmonberry, and sword fern. Heavy wildlife use was observed in and around each segment of this habitat type especially the portion located in the northwest corner of the subject site.



Figure 6 - Site Photos: Deciduous Forests

3.3 WILDLIFE FINDINGS

Three field visits were performed to evaluate habitat conditions and potential wildlife presence. All on site areas were assessed. Use of the subject site by at least fifteen (15) avian species and seven (7) mammalian species were detected. Other species and groups that may use the site are predicted and described below.

3.3.1 Wildlife Species Detections

Direct species observation, were employed during the site visit conducted in February of 2019. Eleven detection points were administered across the site intended to provide information regarding overall wildlife species diversity on-site. Indirect observations included evidence of use by species, such as tracks, scat, and signs of behavioral interactions with habitat features (example: woodpecker holes in standing snags).

A Note About Bird Names: This report follows the IOC World Bird List naming convention for birds, where official bird names are capitalized. This convention was adopted because it distinguishes a taxonomic species from a general description of a bird. For instance, several species of flycatcher could be described as “gray flycatchers,” but a “Gray Flycatcher” is a specific taxonomic species.

Direct Observations

Habitat A – Riverine / Wetland Complexes

Flocks of Golden-crowned Kinglets (*Regulus satrapa*) and Black-capped Chickadees (*Poecile atricapillus*) were heard flying together among the upper canopy and edge habitats of the forest. Multiple Bald Eagle's (*Haliaeetus leucocephalus*) were observed riding thermals above one of the detection points within this habitat type. Additional auditory and visual detections were of a Red-breasted Nuthatch (*Sitta canadensis*), Varied Thrush (*Ixoreus naevius*) and Douglas squirrel (*Tamiasciurus douglasii*). Due to the time of season no amphibian species were detected but are presumed to be abundant in and around the large ponded wetland within this habitat type.

Open Canopy Immature Conifer Forest (Habitat B)

No species were visually or audibly detected in this habitat type. However, plenty of audible and visual detections were observed within neighboring habitat types. In addition, plenty of indirect wildlife use was observed in and around this habitat type, as discussed in detail below.

Habitat C – Dense Even-aged Conifer Forest

A variety of avian species were observed throughout this expansive habitat type. Pacific Wren (*Troglodytes pacificus*) was identified throughout the shrub layer. Black-capped chickadees, Dark-eyed Juncos (*Junco hyemalis*), Red-breasted Nuthatches, and Golden-crowned Kinglets were both visually and audibly detected throughout this entire habitat type. The occasional Red-tailed Hawk (*Buteo jamaicensis*), Common Raven (*Corvus corax*), Pileated Woodpecker (*Dryocopus pileatus*), and American Robin (*Turdus migratorius*) were also both visually and audibly detected through this habitat type. Additional visual and auditory detections observed within this habitat type include, Douglas squirrel, Red squirrel (*Tamiasciurus hudsonicus*), Spotted Towhee (*Pipilo maculatus*), and Sharp-shinned Hawk (*Accipiter striatus*).

Habitat D – Deciduous Forest

Flocks of Golden-crowned Kinglets and Black-capped Chickadees were heard flocking together throughout this habitat type. The occasional Downy Woodpecker (*Dryobates pubescens*) and Pileated

Woodpecker were heard within various areas of this habitat type. Additional visual and auditory detections include, American Robin, and Pacific Wren.

Indirect Observation

Habitat A – Riverine / Wetland Complexes

As mentioned in the habitat description, several well used wildlife trails traverse throughout this habitat type. The most well used ungulate trails were found traversing the steep ridgelines that are located within this habitat type. Well-defined wildlife trails led down to Crisp Creek and the wetlands found at the toe of the steep slope located in the southeast portion of the subject site. Identified along these well-defined trails appear to be most heavily used by elk (*Cervus elaphus nelsoni*), black-tailed deer (*Odocoileus hemionus columbianus*), and coyote (*Canis latrans*), via scat and prints. In addition to the scat and prints, several trees showed signs of winter bark browse, antler rubbing, bedding areas, and claw marks on trees (potentially from black bears (*Ursus americanus*)). Several snags were found heavily used in and among the large ponded wetland. These snags appear to be likely used by a variety of avian species including Pileated Woodpeckers, Downy Woodpeckers, and Hairy Woodpeckers (*Picoides villosus*).

Habitat B – Open Canopy Immature Conifer Forest

Due to the recent snow cover across this habitat type, wildlife tracks were relatively well defined. A majority of use within this habitat type appeared to be by ungulate species such as black-tailed deer and elk. Several deer and elk tracks were found in the snow, as well as, minimal coyote tracks.

Habitat C – Dense Even-aged Conifer Forest

A variety of wildlife use was observed throughout this habitat type. An abundance of wildlife trails were found dispersed throughout this habitat type as a whole, with portions more densely populated by trails and signs of wildlife use than others. Black-tailed deer, elk, and coyote tracks and scat were also observed throughout this habitat type. A majority of the well-used trail networks, winter bark browse, antler rub, and bedding areas were found in the northeastern portion of this habitat type and the areas adjacent to Habitat A, especially the portions west of Crisp Creek. Tracks resembling cougar (*Puma concolor*) were found in this habitat type located west of Crisp Creek. Human and dog tracks were found in and around the wetlands located in the northeastern portion of this habitat type, located in the northeast corner of the subject property.

Habitat D – Deciduous Forest

Abundant wildlife use was observed in and around each segment of this habitat type especially the portions located in the northwest corner of the subject site, north of Southeast Black Diamond Road. Like with the many of the other habitat types, an abundance of elk, deer, and coyote tracks and scat was observed.

3.3.2 General Wildlife Predictions

Based on the available habitat, other avian species likely to occur on-site include Brown Creeper (*Certhia Americana*), Steller's Jay (*Cyanocitta stelleri*), Northern Flicker (*Colaptes auratus*), Great Horned Owl (*Bubo virginianus*), Barred Owl (*Strix varia*), Tree Swallows (*Tachycineta bicolor*), and Evening Grosbeaks (*Coccothraustes vespertinus*). Additional species considered King County Species of Importance are discussed below.

Other possible mammalian species that may utilize this site include species such as: bobcat (*Lynx rufus*), deer mice (*Peromyscus maniculatus*), squirrels (*Sciurus carolinensis*), moles (*Scapanus spp.*), and mountain beaver (*Aplodontia rufa*).

Reptilian and amphibian species likely to use this site include northwestern garter snake (*Thamnophis ordinoides*), Pacific treefrog (*Pseudacris regilla*), northwestern salamander (*Ambystoma gracile*), and roughskin newt (*Taricha granulosa*).

3.3.3 Use by Special Status Wildlife Species

While multiple habitat types within the project area are clearly used by a variety of wildlife species, only federally or state listed species, WDFW priority species and habitats, and critical species that have a primary association afford protection by the King County Code. No terrestrial or avian federal or state listed endangered or threatened species were found on site. WDFW PHS maps the subject property as an elk concentration area. During site investigations on-site signs of elk were prolific, which included tracks, scat, bark browse (incisive damage), antler rub, and heavily used trails. The site appeared to be used regularly by resident elk as a migratory corridor, and winter foraging area. The freshness of scat, tracks and browse indicate elk utilizing the area during the site investigations, even though no elk were directly observed. Therefore, meet the WDFW's requirements for elk priority area (WDFW 2008).

One Pileated Woodpecker (WDFW priority species) was identified on-site within Habitat C and observed feeding on a large stump. Another was heard within Habitat D. Multiple snags were identified throughout Habitat A that appeared to be used by Pileated Woodpeckers for foraging and nest exploration. However, no active habitats of primary association were observed for such species. Due to the young even age of the forest stand, availability of foraging snags were sparse. But the site investigation yielded multiple snags with evidence both old and fresh foraging cavities. One snag in particular, located in the southeast corner of the site within Habitat C, had very recent signs of possible nest cavity exploration. A habitat of primary association typically refers to a critical habitat component that federally or state-listed endangered, threatened, candidate, sensitive, or priority wildlife require, which if altered may reduce the likelihood of that species to persist and reproduce over the long term (Everett 2006). Pileated Woodpeckers inhabit mature and old-growth forests, and second-growth forest with large snags and fallen trees (Larsen 2004). This species nests and roosts in large snags and large decaying live trees in older forests throughout their ranges (Larsen 2004). Their home ranges can range between 1,000 acres and 2,100 acres per breeding pair (Larsen 2004). As mentioned above, the on-site forested habitat is fairly homogenous consisting of an immature stand but does include some large woody debris and snags. Due to the sparse habitat requirements provided by the subject site, the species large home ranges, the level of urban human disturbance, along with current signs of nesting consideration, it is most likely at a minimum one pair of woodpeckers may utilize the site.

Discussion Regarding Use of On-Site Habitat by Elk:

As discussed above, the properties are mapped within a Regular Concentration Area for Roosevelt elk (*Cervus elaphus roosevelti*). This habitat assessment confirmed that Roosevelt elk do use the habitat on the site. No audible or visual detections of elk occurred while conducting this assessment. However, *Wetland Resources, Inc.* found evidence of elk use in a variety of forms including the following: 1) bedding areas; 2) droppings/scat; 3) tracks in snow and mud; 4) a network of trails; 5) tree rubbing sites; 6) tree browse and 7) hair on snow and trees. Based on observations over the

assessment period, it appears that the elk regularly use the entire property. With heavier use along the Crisp Creek corridor along the western side of the subject property, along the southern corridor of King County property and within the north central portion of the subject site. A network of heavily used trails were located throughout the property, with noticeable connections between Habitat C and Habitat D, along the ridge tops of stream corridors and along the ridgeline within Habitat A. This network of concentrated trails indicates regular use and movement of elk throughout those portions of the site. Elk are primarily grazers during the spring and summer months, meaning graminoids compose the majority of their diet. When graminoid growth and forage quality diminishes in the late fall and winter months, elk typically forage on shrubs or trees as needed until the following spring when graminoid growth returns. Signs observed indicate that the area is most likely being used by elk during the late fall and winter, as a forage area and migration corridor.

4.0 COMPLIANCE WITH KING COUNTY WILDLIFE PROTECTIONS

Per KCC section 21A.24.382 Wildlife Habitat Conservation Areas — development standards, special provisions are outlined to protect active nests of the following species: Bald Eagle, Great Blue Heron (*Ardea herodias*), Marbled Murrelet (*Brachyramphus marmoratus*), Northern Goshawk (*Accipiter gentilis*), Osprey (*Pandion haliaetus*), Peregrine Falcon (*Falco peregrinus*), and Vaux's Swift (*Chaetura vauxi*). While on the project site, multiple Bald Eagles were observed flying over and riding thermals. However, no nests of Bald Eagle or any of the species listed above were located on or within the vicinity of the subject site. Therefore, this code section does not currently apply. However, a few dominant trees were located within the subject site which exhibit strong characteristics for potential raptor nests. These specific trees are dominant trees among their surrounding environment and contain prominent crooks which are typical of selected nest tree characteristics. There were multiple large trees scattered across the site. A few prominent trees are located on the ridge along the southern portion of Habitat A, which faces south towards the Green River. Tree size, vantage point and close proximity to the Green River create potential of being nest sites for both Bald Eagles and Northern Goshawks. Due to site investigations being in February and following a few days of winter storm activity, previously constructed or current nests could have been destroyed.

The only species listed by King County Comprehensive Plan's Species of Local Importance that was detected on the subject properties was elk. While no visual or audible detections of elk occurred during the on-site habitat assessment, the site does portray abundant evidence of use by elk as described above.

Based on available habitat primarily located surrounding the large ponded wetland other King County priority avian species that maybe likely to occur on-site include Purple Finch (*Haemorhous purpureus*), Olive-sided Flycatcher (*Contopus cooperi*), Hairy Woodpecker (*Leuconotopicus villosus*), Wood Duck (*Aix sponsa*) and Western Screech Owl (*Megascops kennicottii*). Online eBird data shows current and historical sightings of these species in surrounding publicly accessible areas, which supports the likelihood that these species may utilize the site.

Pursuant to KCC 21A.24.325(D), wetland buffer widths can be modified when wetlands contain documented habitat for endangered, threatened or species of local importance. Habitat is "the locality, site, and particular type of environment occupied by an organism at any stage in its life

cycle” (KCC 21A.06.577). The field investigation found elk habitat on site. However, the areas primarily used by elk are located in areas either already protected as King County Parks, Black Diamond Open Space, proposed open space, or proposed Native Growth Protection Area. The project has been designed to ensure continued use by elk through designing wildlife corridors that connect to areas currently being used that demonstrate high value habitat. The Crisp Creek corridor and the ridgeline area along the southern portion of the site provide the most quality habitat for elk and have been designed to be protected as open space areas. Therefore, increasing the on-site critical area buffer widths is not necessary to protect elk habitat.

4.1.1 King County Wildlife Habitat Network

As mentioned above, King County iMap designates the Crisp Creek riparian corridor as a Wildlife Habitat Network (Figure 7). Per KCC 21A.24.386.B.2, to the maximum extent practical, the network should maintain a width of 300 feet. The network width shall not be less than 150 feet at any point. The current site plan incorporates protections for this corridor and provides a protection width larger than 150 feet. Another Wildlife Habitat Network is mapped directly east of the subject site. This network connects the Green River riparian corridor, Covington Creek corridor, Black Diamond Lake and eventually to Lake Sawyer.

5.0 PROPOSED HABITAT PROTECTIONS AND MANAGEMENT RECOMMENDATIONS

KCC 21A.24.382(K) requires the protection of active breeding sites of King County species of local importance, or of federal or state listed endangered, threatened, sensitive, or candidate species. Breeding sites are those associated with specific life history requirements of a species breeding ecology, such as nesting, hatching, birthing, nursing, rearing, or fledging of young. Specific to elk, it appears that the site does not support breeding behavior requirements which include areas where elk rut and calve young (Thomas and Toweill 1982).

As noted above, on-site evidence confirms Pileated Woodpecker use on the property, with possible nesting sites and one snag that had evidence of nest cavity explorations. Elk use was observed and noted but does not include areas of active breeding sites. Similarly, no active breeding sites of any federal or state special status wildlife species were located among the properties during this wildlife habitat assessment. However, evidence shows heavy use of the area by elk for foraging and migration. Therefore, it is important to maintain an undisturbed vegetated corridor between the Crisp Creek wildlife network and along the steep slope of the southern portion of the subject property. This will allow continued movement of elk and other wildlife through the landscape between critical areas. A 100-foot vegetated corridor is recommended from the top of the steep slope along the southern portion of the property. This corridor would protect the heavily used wildlife trail and maintain wildlife movement through the area. Areas surrounding the Crisp Creek corridor should also be designated as open space, preserving these heavily used foraging areas. Due to the undisturbed state of the subject property no habitat enhancement for the purposes of foraging is necessary.

The on-site large ponded wetland provides ample high quality habitat for a variety of species, including possible habitat for priority species. Consequently, an area surrounding the wetland should be set aside to protect this high quality habitat, along with a vegetated corridor connecting

to the southern wildlife corridor. See Figure 7 below for a summary of proposed management recommendations.

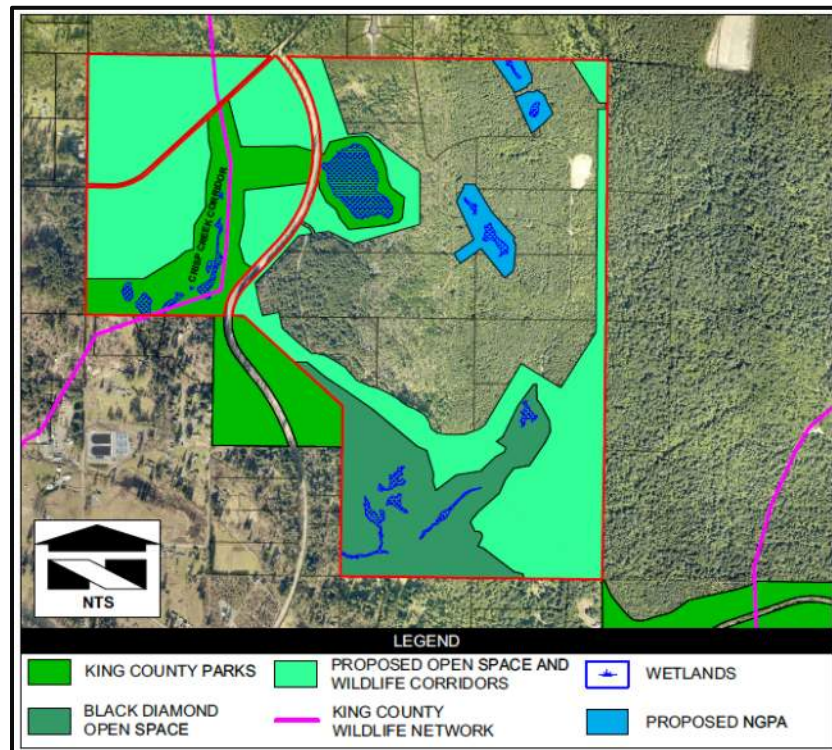


Figure 7 - Existing Open Space and Parks with Proposed Management Recommendations (Not to Scale)

6.0 CONCLUSION

While the environments on the subject site are clearly used by a variety of wildlife species, only federally or state listed (or candidate) species, or species of local importance afford protection to upland areas in King County Code. This Wildlife Habitat Assessment Report collectively protects on-site wildlife networks, specifically areas used by elk, and suitable habitat areas for King County and WDFW priority species. No Habitat Conservation Areas are proposed but management plans in this document are more than adequate to supply the life history requirements, including breeding behaviors, for any protected species that could reasonably be expected to potentially use the subject property.

Overall, the subject site contains functionally valuable habitats and features. The plan proposed within this document is intended to preserve the most significant and ecologically necessary components of these environs in order to maintain long-term use by the wildlife species known to regularly inhabit the site.

7.0 USE OF THIS REPORT

This Wildlife Habitat Assessment for the Reserve at Woodlands in Black Diamond, is supplied to CCD Black Diamond, LLC. as a means of determining presence and appropriate management of protected wildlife species or habitat, as required by King County. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

This report conforms to the standard of care employed by wildlife ecologists. No other representation or warranty is made concerning the work or this report, and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.



Hailey Starr
Associate Ecologist & Wildlife Biologist



Alia Richardson
Associate Ecologist & Wildlife Biologist

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Appendix A

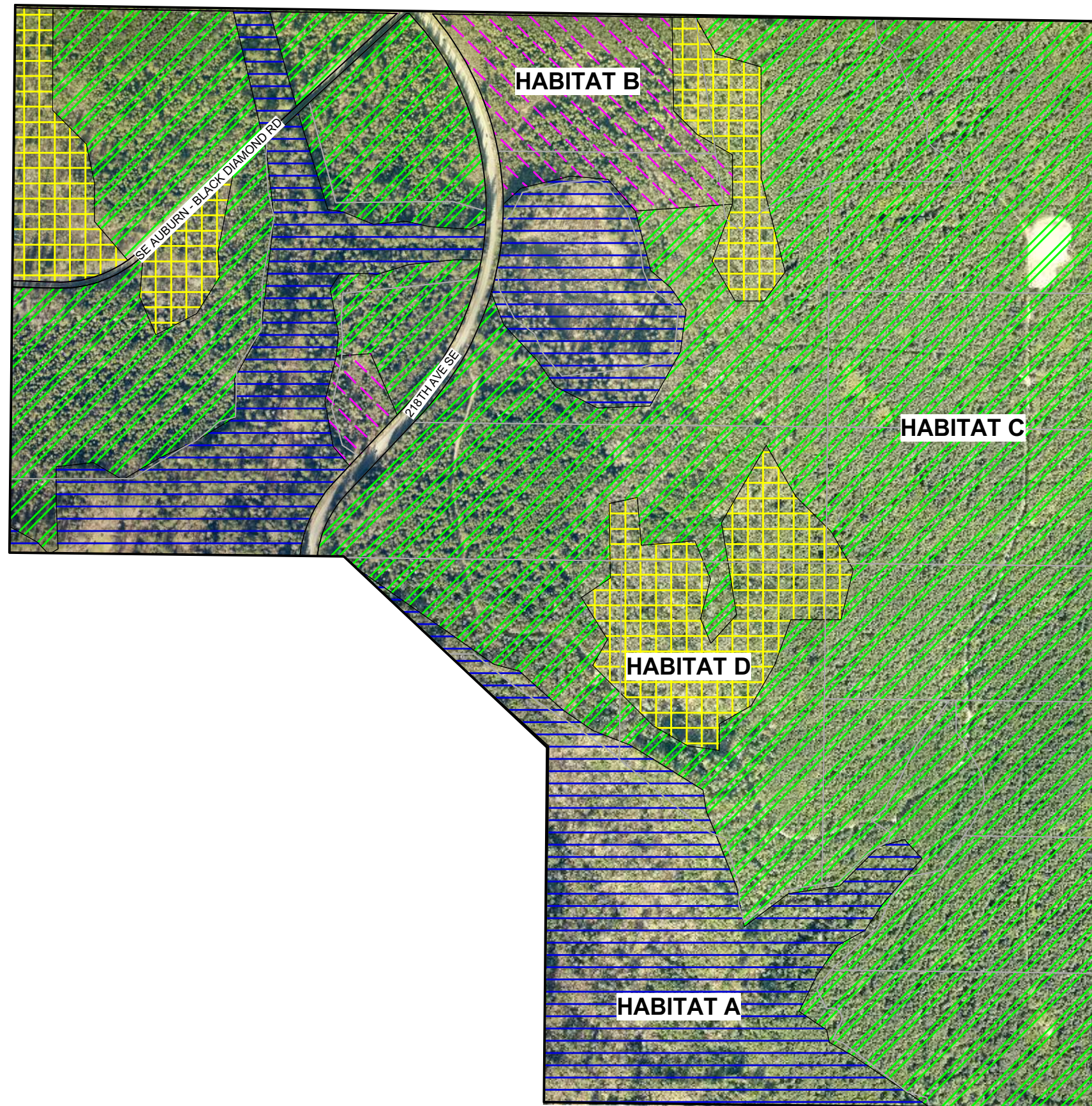
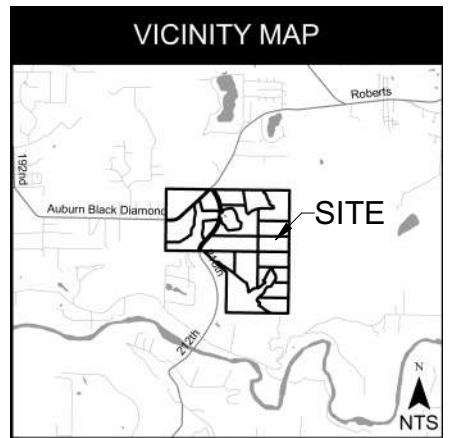
APPROXIMATE HABITAT TYPES MAP (SHEET 1/1)

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APPROXIMATE HABITAT TYPES MAP

CCD BD - THE RESERVE AT WOODLANDS

PORTION OF SECTION 13, TOWNSHIP 21N, RANGE 06E, W.M.



LEGEND	
	HABITAT A
	HABITAT B
	HABITAT C
	HABITAT D



Scale 1" = 600'



Wetland Resources, Inc. Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208 Phone: (425) 337-3174 Fax: (425) 337-3045 Email: mailbox@wetlandresources.com	
APPROXIMATE HABITAT TYPES MAP <u>CCD BD - The Reserve At Woodlands</u> City Of Black Diamond, King County CCD Black Diamond Partners LLC. Attn: Justin Wortman 3025 112th Ave. NE, #100 Bellevue, WA 98004	Sheet 1/1 Project Number: 18256 Drawn by: HS 08/30/2019