

# Critical Areas Report (Existing Conditions)

Trailhead Apartments

1550 Newport Way Northwest,  
Issaquah, Washington

24 October 2024



wet.land

PREPARED FOR:  
King County Housing  
Authority

PREPARED BY:  
Wet.land, LLC  
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EBI Consulting

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**DISCLAIMER**

This report has been prepared by Wet.land, LLC based on our best professional judgment, and is intended for the use outlined in Section 1.3 below. Use of this report or its appendices outside of its intended purpose is a breach of the contract under which this document was prepared.

Any delineations, wetland ratings, stream typings, or general characterizations were completed in accordance with the applicable regulations at the time field work was completed. Where information was provided by Others and not collected directly by Wet.land, LLC, such is stated within the report.

Conclusions presented within this report are based on the information available at the time of report preparation, and are accurate and true to the best of our knowledge. The opinions and conclusions contained within this report are a reflection of our interpretation of applicable regulations and are not final until concurrence is provided by the appropriate agencies.



# 1. Report Purpose

## 1.1 Project Name and Purpose

The Trailhead Apartments Project proposes to redevelop a four (4)-acre property originally built in 1981 as a light industrial/commercial building. This report describes the existing conditions of the property but does not discuss the proposed project in relation to critical areas impacts.

## 1.2 Applicant

The Applicant for the Trailhead Apartments is the King County Housing Authority, represented by Nathan Kraus:

King County Housing Authority, 600 Andover Park West, Tukwila, WA 98188

Email: [NathanK@kcha.org](mailto:NathanK@kcha.org)

## 1.3 Report Purpose

This report has been prepared in accordance with the requirements of the Issaquah Municipal Code (IMC) Chapter 18.802 *Critical Areas Regulations*. This report has also been prepared in light of applicable State and Federal regulations.

## 1.4 Preparer Qualifications

Field investigations and reporting were completed by Jennifer Marriott, PWS and Kristen Numata, PWS (**Appendix A**).

Jennifer Marriott has a Bachelor's Degree and a Master's Degree in Biology from University of Central Florida, and a second Master's Degree in Soil and Environmental Science from the University of Florida. She has over 20 years of experience in wetland delineations and environmental permitting.

Kristen Numata has two Bachelor's Degrees in Biology and Environmental Science from Santa Clara University, and she has over eight years of experience in environmental consulting.

## 2. Project Site

### 2.1 Project Location

The Project Parcel is located at 1550 Newport Way Northwest in Issaquah, Washington (**Appendix B, Figure 1**). The parcel number is 292406-9002 and the latitude/longitude coordinate for the center of the parcel is 47.5421, -122.0604. The Public Land Survey System location is the NE ¼ of Section 29, Township 24 North, Range 6 East, Willamette Meridian (W.M). The Topographic Survey for Trailhead Apartments as prepared by David Evans and Associates, Inc., dated 26 September 2024, is included as **Appendix C**.

### 2.2 Project Site Description

The Site is located within a heavily developed portion of Issaquah dominated by commercial properties. The Issaquah Transit Center is west of the Site. Other commercial properties are located to the north and east. Tibbetts Valley Park is located south across Newport Way NW from the Site that is an open space with parking and numerous ball fields. Tibbetts Creek flows through the southwest corner of the park more than 300 feet and across Newport Way NW from the Site.

The Site currently contains a large building with a stormwater detention pond in the northwest corner of the Site. The remainder of the Site is paved. The stormwater pond discharges to a linear depression that extends along the western parcel boundary that is discussed in more detail below.

The parcel is generally level with a gentle slope downhill from southeast to northwest. Elevations range from elevation 68 to 77 feet above sea level.

More detail on the existing conditions of these parcels is provided below in **Chapter 3**.

## 3. Existing Site Conditions

In-depth analysis of existing conditions within the Project Site is described below.

### 3.1 Methodology

Prior to field investigations of the Site, a thorough review of existing publicly available databases was completed to determine what has been previously mapped over the Site. These findings are outlined in Section 3.2 below. During field investigations, the routine approach described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (U.S. Army Corps of Engineers, 2010) was used as a baseline for evaluating the Site for the presence of wetlands. This supplement is in addition to the 1987 Corps of Engineers Wetlands Delineation Manual, which serves as the baseline on which the regional supplements build. Wetlands were rated using the Washington State Wetland Rating System for Western Washington (Hruby 2014). The presence of streams onsite was determined using the methodology described in *Determining the Ordinary High Water Mark on Streams in Washington State* (Olson and Stockdale, 2010).

### 3.2 Database Review Summary

An in-depth review of Agency database results for this Project Site follows in **Table 1**, below. Databases were reviewed for features on the site and within 300 feet of the site. Copies of database results are provided in **Appendix**

**D.** Databases referenced include:

- Natural Resource Conservation Service (NRCS), Websoils Survey (NRCS)
- US Fish and Wildlife (USFWS), Wetlands Online Mapper (National Wetlands Inventory, NWI) (USFWS)
- Washington State Department of Ecology (ECY) Water Quality Atlas
- Washington State Department of Fish and Wildlife (WDFW) Priority Species and Habitats
- Washington State Department of Natural Resources (WDNR) Forest Practices Application Mapping Tool (FPAMT)
- Statewide Integrated Fish Distribution (SWIFD) Web Map
- Fish Passage Culverts Map
- Google Earth
- Historic Aerials, [www.historicaerials.com](http://www.historicaerials.com)

**Table 1. Agency Database Review**

Database	Agency (Database Manager)	Data Checked
Township, Range, Section Map	WSDOT	NE ¼ of Section 29, Township 24 North, Range 6 East, W.M.
Watershed Boundaries	ArcGIS	HUC 8 (12) – 17110012(0201) WRIA 8: Cedar-Sammamish Watershed: Sammamish River Drainage Basin: Tibbetts Creek
NRCS Websoils	NRCS	Entirety of the study area is mapped within Sammamish silt loam (Sh), which is considered hydric.
National Wetlands Inventory	USFWS	No features mapped within the Study Area.
Map Service Center	FEMA	FEMA 100-year floodplain mapped at the western edge of the study area.
Washington State Water Quality Atlas	ECY	Tibbetts Creek listed on the 303(d) list within one mile of the site for dissolved oxygen (ID 15778), temperature (ID 15781) and benthic macroinvertebrates bioassessments (ID 70112). Site located within Issaquah Creek Basin Bacteria TMDL.
Priority Habitats and Species (PHS)	WDFW	Several species of bat are identified within the township, including: Big brown bat ( <i>Eptesicus fuscus</i> ) Little brown bat ( <i>Myotis lucifugus</i> ) Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> ) Yuma myotis ( <i>Myotis yumanensis</i> )
Forest Practices Application Mapping Tool	WDNR	No features mapped within the Study Area.
Statewide Integrated Fish Distribution (SWIFD) Web Map	NWIFC	No features mapped within the Study Area.
Washington State Fish Passage	WDFW	No features mapped within the Study Area.
King County iMap	King County	No features mapped within the Study Area.

### 3.3 Field Investigation Results

The Site was evaluated for critical areas on 12 July and 13 August 2024. A summary of these findings is provided below. Site photographs are included in **Appendix E**.

#### 3.3.1 Weather

Precipitation data for the three months prior to field work were completed and analysed from the Seattle Tacoma airport weather station (**Table 2**). It was determined that the July site visit fell under normal conditions, and the August site visit was drier than normal conditions.

**Table 2. WETS Data 1991 - 2023, Seattle Tacoma Airport Weather Station, WA**

Month	30% Chance Will Have		Monthly Total Precipitation	Condition	Value	Weight	Total
	Less Than	More Than					
April	2.06	3.75	0.89	Dry	1	1	1
May	1.09	2.29	1.54	Normal	2	2	4
June	0.97	1.78	1.19	Normal	2	3	6
July 1-12	0.23	0.63	0.00				
<b>Sum<sup>1</sup></b>							<b>11</b>
May	1.09	2.29	1.54	Normal	2	1	2
June	0.97	1.78	1.19	Normal	2	2	4
July	0.23	0.63	0.16	Dry	1	3	3
Aug 1 - 12	0.26	1.02	0.00				
<b>Sum</b>							<b>9</b>

<sup>3</sup> Dry = 6 – 9 points; Normal = 10 – 14 points; Wet = 15 – 18 points

#### 3.3.2 Wetlands

A linear feature occurs along the western edge of this parcel. Given the built-nature of this feature, a review of historical information on this Site was completed to determine the origin of this particular feature, including aerial imagery and the site plans of the current building (**Appendices F and G**). This Site was part of a larger agricultural operation and shows no stream or wetland features until 1965 where an inconclusive feature appears within this farm field. The feature does not show clear features of either a wetland or stream, but is more consistent with the start of a drainage. Given that this is located within a clearly heavily managed field makes this feature potentially ephemeral at best, and does not provide conclusive evidence. Accordingly, by 1969 the feature is no longer apparent. No other visual evidence of a stream or wetland in this area are apparent until after the 1980 site plans reflect an “existing by-pass ditch around Metro Park ‘N Ride.” The drainage plans for the existing facility dated from 1980 show the onsite drainage routed through the onsite detention pond and then discharging into this existing

ditch. This feature is labeled as having an outlet in the NW corner of the feature that conveys any water offsite. While this feature was man-made, it does not appear to have been constructed from another wetland or stream, suggesting this feature may not be jurisdictional. Out of an abundance of caution, this feature was delineated as a wetland since sufficient evidence was not found regarding its built nature (no site plans were found that noted this as a built feature).

Based on existing conditions, this feature meets the three (3) parameters to be a wetland. No bed and bank occurs within this feature that would be indicative of a stream. The areas that met the three (3) wetland parameters were delineated in the field and are reflected in the site survey and attached figures. Dominant vegetation within this feature include red-osier dogwood, red alder, black cottonwood, field horsetail, creeping buttercup, and pacific willow. Planted oaks line the top of bank of this feature. Datasheets are provided as **Appendix G**.

Surface hydrology was lacking, but secondary hydrologic indicators were present. Hydrology was also assumed based on the soils and vegetation present within the areas that did meet the wetland parameters, compared to where wetland indicators were lacking.

The wetland was rated as a Category IV wetland (**Appendix I**).

### 3.3.3 Streams

No streams were identified on or near the Site. Tibbetts Creek is located more than 300 feet from the Site. Another open channel that appears to be part of the area stormwater system is located just north of the Tibbetts Valley Park parking lot. This feature is also more than 300 feet from the southwest corner of the Site. The feature onsite flows north and not south into the offsite open channel.

### 3.3.4 Native Vegetation

Native vegetation onsite is limited to around the constructed detention pond and on or adjacent to the feature along the western parcel boundary. Oaks were planted at the top of bank of the linear feature. Other landscape trees were planted along Newport Way NW. The remainder of the Site is paved or contains the building.

## 3.4 Wildlife

General observations on expected and observed wildlife usage is below.

### 3.4.1 General Wildlife Usage

Common urban wildlife such as small to medium mammals and birds are expected to use the Site, though connectivity for land-based wildlife is poor given the area is surrounded by intense urban development. Opportunities for listed species is very limited given the dearth of available habitat on the Site. Tibbetts Creek serves as a corridor, but is located across Newport Way NW which is inherently limiting for some wildlife to cross safely.

### 3.4.2 Federally Listed Species

No habitat occurs onsite that would support federally listed species. Salmonids are known to occur within Tibbetts Creek, which is assumed to be the ultimate discharge point for stormwater leaving this Site.

There is the low potential of Bald Eagle flyovers or perching on trees within the Site given the proximity of Lake Sammamish, but no evidence of nesting or roosting was observed, nor are any mapped on or adjacent to the Site.

#### 3.4.3 State Listed Species

State priority habitats on the Site include wetlands. No priority snags or logs or riparian habitat occurs on or adjacent to the Site. It is expected that wildlife and state listed species that typically use these habitats have the very low potential to use the Site, however, on and offsite conditions are degraded. No state listed species are known or were observed using the Site.

#### 3.4.4 Local Species

Common urban wildlife are expected to use the Site, though the City of Issaquah does not have its own list of local species of importance.

## 4. Regulatory Review

The Site falls under the jurisdiction of the City of Issaquah, State of Washington, and the US Army Corps of Engineers. A summary of the relevant regulations follows.

### 4.1 Federal Regulations

Waters of the US, including wetlands and streams, occur on or adjacent to the Site and may be subject to applicable Federal regulations. Wetland and stream (watercourse) impacts are regulated at the Federal level by Sections 404 and 401 of the Clean Water Act. The US Army Corps of Engineers (USACE) is responsible for administering compliance with Section 404 via the issuance of Nationwide or Individual Permits for any fill or dredging activities within wetlands under USACE jurisdiction. If no actions are proposed that would directly impact a wetland or stream, then no coordination with the USACE is necessary for Section 404 compliance.

### 4.2 State Regulations

Wetlands on the Site are subject to applicable State regulations. However, City regulations retaining to wetlands and streams are based on state guidelines and will dictate critical areas protections.

#### 4.2.1 Washington State Department of Ecology (ECY)

Any project that is subject to Section 404 permitting is also required to comply with Section 401 Water Quality Certification, which is administered by the Washington State Department of Ecology (DOE). If no actions are proposed that would directly impact a wetland or stream, then no coordination with the USACE is necessary for Section 404 compliance, which would also include Section 401 compliance.

#### 4.2.2 Washington State Department of Fish and Wildlife (WDFW)

Projects that have the potential to affect the bed or bank of a stream require an Hydraulic Project Application (HPA) permit through the WDFW. Stormwater infrastructure itself does not require an HPA unless occurring within proximity to a stream. If the project does not occur within proximity to a stream that would trigger an HPA, then no WDFW coordination would be necessary.

### 4.3 Local Regulations

The Site falls within the City of Issaquah limits and is subject to the regulations of the Issaquah Municipal Code (IMC).

#### 4.3.1 Shoreline Jurisdiction

The Site does not occur within Shoreline jurisdiction.

#### 4.3.2 Non-Shoreline Jurisdiction

Critical areas on the Site are subject to the regulations of IMC Chapter 18.802 *Critical Areas Regulations*.



### Wetlands

The wetland delineated onsite rated as a Category IV wetland with a 50-foot standard buffer for high intensity land use. The onsite buffer is mostly built environment, including the drive aisle of the Issaquah Transit Center. Where vegetation exists, it is mostly native vegetation.

Private utilities may occur within the outer 25% of a buffer with conditions, as can pedestrian trails.

### Streams

No streams occur on or near the Site.

### Building/Structure Setback

The stream buffers require a 15-foot building setback line to prevent encroachment into the critical areas following construction.

### 4.3.3 Flood Hazard Area

No 100-year floodplains are mapped on or adjacent to the Site.

## 5. Summary

The Site is a developed four (4) acre property located within the urban area of Issaquah. The Site is located north of Tibbetts Valley Park and the Issaquah Transit Center. One (1) feature was identified onsite along the western boundary that met the definition of a wetland and was delineated as such. This feature rated as a Category IV wetland with a 50-foot standard buffer for a high intensity land use and 15-foot building setback.

## 6. References

1. Anderson, P. S., Meyer, S., Olsen, P., & Stockdale, E. (2016). *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State*. Lacey, WA: Washington Department of Ecology, Shorelines & Environmental Assistance Program.
2. Cowardin, L. M., Carter, V., Golet, F. C., & LaRoe, E. T. (1979). *Classification of Wetlands and Deepwater Habitats of the United States*. Washington, DC: U.S. Department of the Interior, Fish and Wildlife Service.
3. Environmental Laboratory. (1987). "*Corps of Engineers Wetlands Delineation Manual*," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
4. Issaquah Municipal Code (IMC) Chapter 18.802 Critical Areas Regulations (accessed 11 October 2024).
5. Hruby, T. (2014). *Washington State Wetland Rating System for Western Washington: 2014 Update* (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
6. Lichvar, R. (2012). The National Wetland Plant List. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. Retrieved from [http://acwc.sdp.sirsi.net/client/search/asset:asset?t:ac=\\$N/1012381](http://acwc.sdp.sirsi.net/client/search/asset:asset?t:ac=$N/1012381)
7. U.S. Army Corps of Engineers. (2010, May). Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U. S. Army Corps of Engineers. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
8. United States Department of Agriculture, Natural Resources Conservation Service. 2024. *Field Indicators of Hydric Soils in the United States, Version 9.0*. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

# APPENDIX A

Jennifer Marriott, PWS – Resume

Kristen Numata, PWS - Resume

## Jennifer M. Marriott, PWS

PO Box 155, Redmond, WA 98073

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### QUALIFICATIONS

- 🌿 Master of Science, Soil Science, University of Florida, Gainesville, FL, 2010
- 🌿 Master of Science, Biology (Ecology), University of Central Florida, Orlando, FL, 2003
- 🌿 Bachelor of Science, Biology, University of Central Florida, Orlando, FL, 2001
- 🌿 Professional Wetland Scientist (No. 1891)

### FOCUS AND EXPERTISE

- 🌿 Project Management
- 🌿 Project Summaries and Rapid Environmental Due Diligence Reports
- 🌿 Wetland and Stream Delineations/Habitat Evaluation
- 🌿 Wetland (Critical Areas) Permitting
- 🌿 Mitigation Planning
- 🌿 Wetland Functional Assessment
- 🌿 Hydric Soil Determinations
- 🌿 Training and Mentoring

### EXPERIENCE

- 🌿 Senior Ecologist/Owner; Wet.land, LLC; March 2020 - Present
- 🌿 Senior Ecologist/Project Manager; Talasaea Consultants, Inc.; June 2015 – March 2020
- 🌿 Senior Project Scientist; BL Companies, Inc.; July 2012 – July 2014
- 🌿 Environmental Scientist 3; RETTEW Associates, Inc.; March 2011 – February 2012
- 🌿 Ecologist; Cardno-ENTRIX, Inc. (formerly known as ENTRIX, Inc., fka Biological Research Associates); July 2003 – March 2011

### SKILLS, TRAINING & PROFESSIONAL MEMBERSHIPS

- 🌿 Washington (Coastal Training Program Workshops)
  - Multiple hydric soils training workshops (2008 to present; Florida, Pennsylvania, Ohio, Washington)
  - Revised Washington State Wetland Rating System, 2014 (April 2015, October 2022)
  - Using the Credit-Debit Method for Estimating Mitigation Needs (October 2015)
  - Using Field Indicators for Hydric Soils (November 2015)
  - Grass, Sedge, and Rush Identification for Western WA Puget Lowland Habitats (March 2016)
  - How to Determine the Ordinary High Water Mark (September 2016)
  - WSDOT Biological Assessment Training (2022)
  - Salmon Ecology and Habitat Restoration (NWETC, 2023)

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[kristen@wet.land](mailto:kristen@wet.land)  
Work: 206-309-8100 | Cell: 206-930-4845



### QUALIFICATIONS

- 🌿 Wetland Science and Management Certificate, University of Washington Professional Continuing Education, Seattle, WA, 2016
- 🌿 Bachelor of Science, Biology, Santa Clara University, Santa Clara, CA, 2014
- 🌿 Bachelor of Science, Environmental Science, Santa Clara University, Santa Clara, CA, 2014
- 🌿 Professional Wetland Scientist (No. 3412)
- 🌿 Certified Erosion and Sediment Control Lead (No. 70592)

### FOCUS AND EXPERTISE

- 🌿 Critical Areas Delineations and Site Assessments
- 🌿 Wetland Functional Assessment
- 🌿 Geographic Information Systems
- 🌿 Critical Area Permitting
- 🌿 Mitigation Planning and Performance Monitoring
- 🌿 Environmental Compliance and Construction Oversight

### EXPERIENCE

- 🌿 Ecologist/Owner; Wet.land, LLC; January 2022 – Present
- 🌿 Project Biologist; PBS Engineering and Environmental, Inc.; July 2019 – December 2021
- 🌿 Biologist/Environmental Scientist; David Evans and Associates, Inc.; July 2018 – July 2019
- 🌿 Ecologist; Talasaea Consultants, Inc.; July 2015 – July 2018

### SKILLS, TRAINING & PROFESSIONAL MEMBERSHIPS

- 🌿 Washington (Coastal Training Program Workshops)
  - Revised Washington State Wetland Rating System, 2014 (March 2016, October 2022)
  - Using the Credit-Debit Method for Estimating Mitigation Needs (April 2017)
  - How to Determine Ordinary High Water Mark (June 2017)
  - Grass, Sedge, and Rush Identification for Western WA Puget Lowland Habitats (February 2018)
  - Winter Tree and Shrub Identification for Western WA Puget Lowland Habitats (February 2019)
  - Navigating SEPA (March 2019)
- 🌿 Other Technical Training
  - Junior Author, Washington State Department of Transportation (WSDOT) Biological Assessment Preparation for Transportation Projects Training (March 2020)
  - Fish Passage: Inventory and Assessment, Washington Department of Fish and Wildlife, (WDFW) (August 2020)
  - Fish Passage: Habitat Survey, WDFW (August 2020)



# APPENDIX B

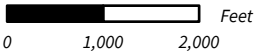
Figures





LEGEND

-  Subject Property
-  Study Area (300')



SOURCE: ESRI WORLD TOPOGRAPHY AND HILLSHADE

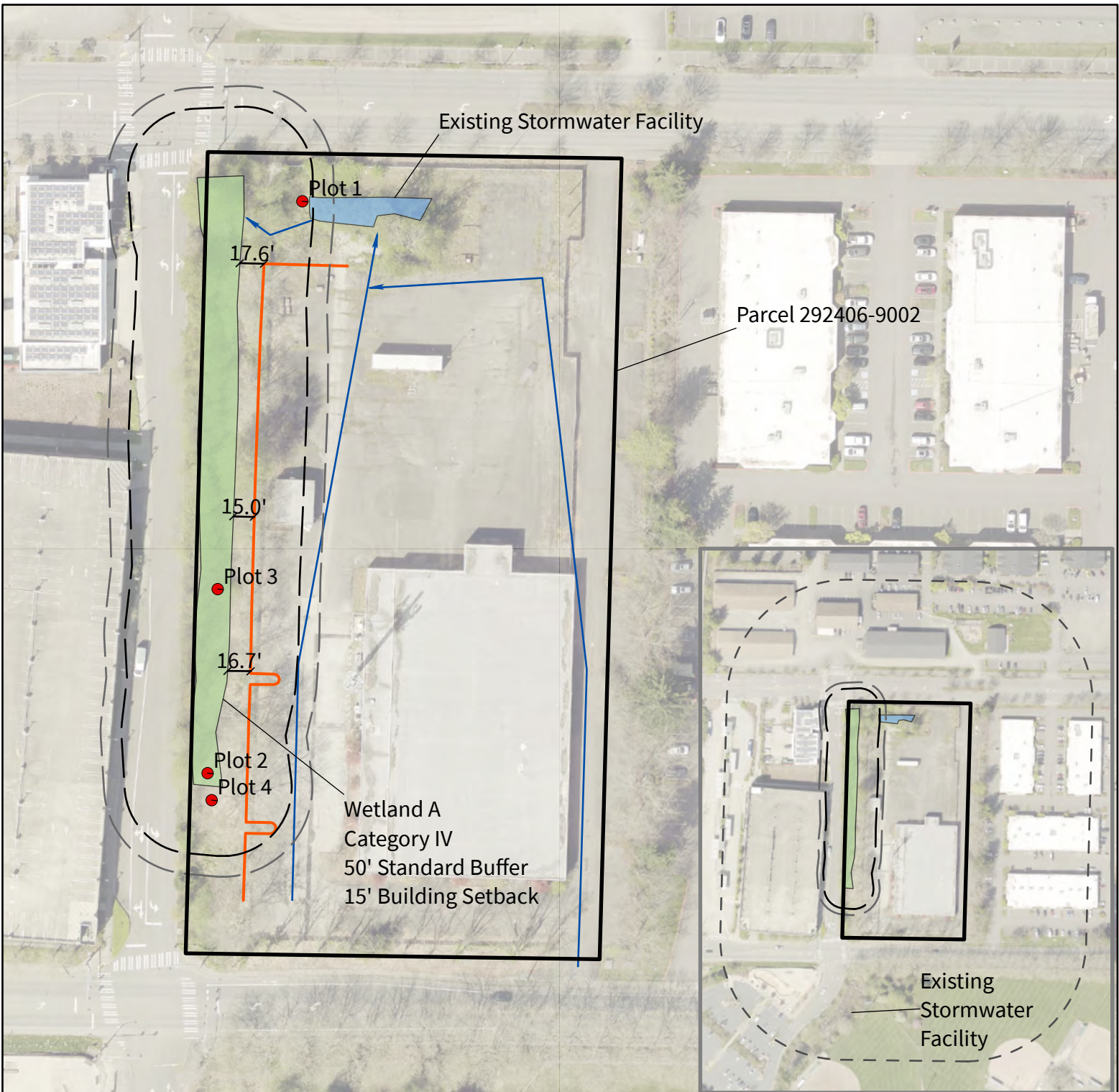


**VICINITY MAP**  
King County Housing Authority  
Parcel 292406-9002  
1550 Newport Way Northwest, Issaquah, Washington

#0189  
OCT 2024

**FIGURE 1**





## LEGEND

	Subject Property		Plots
	Limits of Impervious (only within Wetland Buffer)		Wetland A
	Stormwater Pipe		Wetland Buffer (50')
	Stormwater Pond		BSBL (15')



0 50 100 Feet

SOURCE: SURVEY BY DAVID EVANS AND ASSOCIATES



## EXISTING CONDITIONS MAP

King County Housing Authority  
Parcel 292406-9002  
1550 Newport Way Northwest, Issaquah, Washington

#0189  
OCT 2024

FIGURE 2

# APPENDIX C

## Topographic Survey

LEGAL DESCRIPTION

LOT 2, CITY OF ISSAQUAH SHORT PLAT NO. SP-79-12, RECORDED UNDER RECORDING NUMBER 8001020405, AND REVISED BY INSTRUMENT RECORDED UNDER RECORDING NUMBER 9510199010, RECORDS OF KING COUNTY, WASHINGTON;

EXCEPT THAT PORTION CONVEYED TO THE CITY OF ISSAQUAH BY DEED RECORDED UNDER RECORDING NUMBER 9406302366; SITUATE IN THE CITY OF ISSAQUAH, COUNTY OF KING, STATE OF WASHINGTON.

NOTES CORRESPONDING TO SCHEDULE B SPECIAL EXCEPTIONS

PER COMMITMENT PROVIDED BY FIDELITY NATIONAL TITLE OF WASHINGTON, INC., FILE NO. 20375033-416-416, EFFECTIVE COMMITMENT DATE OF APRIL 24, 2017 AT 8:00 A.M.

ITEMS 1 THROUGH 4 AND 7 THROUGH 8, INCLUSIVE, PERTAIN TO TAXES, SEWER TREATMENT CAPACITY CHARGES, DEED OF TRUST AND UNRECORDED LEASEHOLDS AND OTHER INFORMATIONAL DOCUMENTS. SAID ITEMS DO NOT PERTAIN TO THIS ALTA/NSPS LAND TITLE SURVEY.

5. THIS PROPERTY IS SUBJECT TO COVENANTS, CONDITIONS, RESTRICTIONS, RESERVATIONS, EASEMENTS OR OTHER SERVITUDES, IF ANY, DISCLOSED BY THE SHORT PLAT RECORDED UNDER RECORDING NO. 8001020405 AND REVISIONS THERETO BY INSTRUMENT RECORDED UNDER RECORDING NO. 9510199010.

6. THIS PROPERTY IS SUBJECT TO AN EASEMENT FOR THE PURPOSE OF AN UNDERGROUND ELECTRIC SYSTEM IN FAVOR OF PUGET SOUND POWER & LIGHT COMPANY, AS DISCLOSED BY INSTRUMENT RECORDED MARCH 25, 1981 UNDER RECORDING NUMBER 8103250387, RECORDS OF KING COUNTY, WASHINGTON. CONTAINS COVENANT PROHIBITING STRUCTURES OVER SAID EASEMENT OR OTHER ACTIVITIES WHICH MIGHT ENDANGER THE UNDERGROUND SYSTEM. (THIS EASEMENT HAS BEEN GRAPHICALLY DEPICTED HEREON.)

GENERAL NOTES

1. EASEMENTS AND LEGAL DESCRIPTION ARE BASED ON THE TITLE REPORT BY FIDELITY NATIONAL TITLE OF WASHINGTON, INC., ORDER NO. 20375033-416-416, DATED APRIL 24, 2017, AT 8:00 A.M.

2. PRIMARY CONTROL POINTS AND ACCESSIBLE MONUMENT POSITIONS WERE FIELD MEASURED UTILIZING GLOBAL POSITIONING SYSTEM (GPS) SURVEY TECHNIQUES USING TRIMBLE R10 GNSS EQUIPMENT. MONUMENT POSITIONS THAT WERE NOT DIRECTLY OBSERVED USING GPS SURVEY TECHNIQUES WERE TIED INTO THE CONTROL POINTS UTILIZING TRIMBLE VX SPATIAL STATION FOR THE MEASUREMENT OF BOTH ANGLES AND DISTANCES. THIS SURVEY MEETS OR EXCEEDS THE STANDARDS SET BY WAC 332-130-090.

3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON JUNE 29-JULY 21, 2017, UPDATED IN SEPTEMBER 2024, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THOSE TIMES.

4. UTILITY LOCATIONS SHOWN ON THIS SURVEY DRAWING ARE BASED UPON FIELD LOCATION OF EXISTING UTILITY STRUCTURES, FIELD LOCATION OF CONDUCTIBLE UNDERGROUND UTILITIES BASED ON PAINT MARKS OR OTHER MARKINGS ESTABLISHED BY A UTILITY LOCATE SERVICE AND UTILITY LOCATIONS BASED ON UTILITY MAPS PROVIDED BY UTILITY PURVEYORS. OTHER UNDERGROUND UTILITIES MAY EXIST. NO SUB-SURFACE EXPLORATION WAS DONE TO VERIFY UTILITY ROUTINGS. THE ROUTING OF ALL BURIED UTILITIES SHOULD BE CONFIRMED WITH THE UTILITY PURVEYOR AND EXPOSED IN AREAS CRITICAL TO DESIGN.

5. GROSS LAND AREA: 174,189 S.F. (4.0 ACRES)

6. WETLANDS WERE DELINEATED ON THE WEST SIDE OF THE SUBJECT PROPERTY BY WET-LAND CORPORATION IN AUGUST 2024.

FLOOD ZONE INFORMATION

BY GRAPHICAL PLOTTING ONLY THIS PROPERTY LIES WITHIN ZONE "X" (AREA DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANCE FLOODPLAIN) AS IDENTIFIED ON FLOOD INSURANCE RATE MAP NUMBER 53033C0691J, BEARING A REVISION DATE OF AUGUST 19, 2020.

ZONING INFORMATION

ZONING CLASSIFICATION FOR SUBJECT PROPERTY IS UC (URBAN CORE).

HORIZONTAL DATUM NAD 83/2011

BASIS OF BEARINGS

HELD A BEARING OF NORTH 01°35'43" EAST ALONG THE CENTERLINE OF 12th AVE NW BETWEEN FOUND STREET MONUMENTS AT THE INTERSECTION OF 12th AVE NW WITH NEWPORT WAY NW AND THE INTERSECTION OF 12th AVE NW WITH NW MAPLE ST.

VERTICAL DATUM NAVD 88

BENCH MARKS

ORIGINAL BENCHMARK:

TBM 'A': CHISELED SQUARE IN NW CORNER OF TRANSFORMER PAD, BY SE PROPERTY CORNER, EL=78.53'

TBM 'B': TOP SE BOLT AT THE BASE OF TRAFFIC SIGNAL POLE, BY SW PROPERTY CORNER, EL=79.44'

SURVEY REFERENCES

CITY OF ISSAQUAH SHORT PLAT NO. SP-79-12, REC. NOS. 8001020405 AND 9510199010

CITY OF ISSAQUAH SHORT PLAT NO. PLN 06-00147 DF, REC. NO. 20090911900003

ROWLEY INDUSTRIAL PARK, VOL 130 OF PLATS, PGS 4-7, REC. NO. 8502130803

ISSAQUAH BUSINESS CENTER, VOL 177 OF PLATS, PGS 77-78, REC. NO. 9610030885

RECORD OF SURVEY FOR US POSTAL SERVICE, REC. NO. 8704099003

RECORD OF SURVEY FOR SR 900 R/W CENTERLINE ALIGNMENT, REC. NO. 20030409900010

ALL RECORDS OF KING COUNTY, WASHINGTON

SYMBOL LEGEND

□	CB	CATCH BASIN ( TYP I )
⊕	SDMH	STORM DRAIN MANHOLE (TYP II)
○	SDCO	STORM DRAIN CLEANOUT
○	SSMH	SANITARY SEWER MANHOLE
○	SSCO	SANITARY SEWER CLEANOUT
⊕	FH	FIRE HYDRANT
⊕	ICV	IRRIGATION CONTROL VALVE
⊕	WM	WATER METER
⊕	WV	WATER VALVE
⊕	GM	GAS METER
⊕	GV	GAS VALVE
⊕	EJB	ELECTRICAL JUNCTION BOX
⊕	PP	POWER POLE
⊕	GA	UTILITY POLE ANCHOR
⊕	SL	STREET LIGHT
⊕	PV	POWER VAULT
⊕	XFR	PAD MOUNTED TRANSFORMER
⊕	SLB	STREET LIGHT BOX
⊕	PM	POWER METER
⊕	TS	TRAFFIC SIGNAL
⊕	TSV	TRAFFIC SIGNAL VAULT
⊕	TR	TELEPHONE JCT. RISER
⊕	TMH	TELEPHONE MANHOLE
⊕	TV	TV RISER
⊕	MB	MAILBOX
⊕	BOL	BOLLARD
⊕	SGN	SIGN
⊕		WETLAND FLAG LOCATION
⊕		TEST PLOT
⊕	SH	SPRINKLER HEAD
⊕	MIC	FOUND MONUMENT IN CASE
⊕		BENCH MARK
⊕		SET LEAD AND TACK
⊕		REBAR WITH CAP "DEA 21467"
CLF	CHAIN LINK FENCE	
CONC	CONCRETE	
EXTR	EXTRUDED CURB	
FFE	FINISHED FLOOR ELEVATION	
PA	PLANTER AREA	
R/W	RIGHT OF WAY	
SWD	STATUTORY WARRANTY DEED	

HATCH LEGEND

Concrete hatch	CONCRETE
Asphalt hatch	ASPHALT PAVEMENT
Building hatch	EXISTING BUILDING

TREE LEGEND

Star symbol	CONIFER TREE
C	CEDAR
F	FIR
Circle symbol	DECIDUOUS TREE
DEC	DECIDUOUS
M	MAPLE

LINE LEGEND

SS	SANITARY SEWER LINE
SD	STORM DRAIN
W	WATER LINE
OHP	POWER OVERHEAD
P	POWER BURIED
TEL	TELEPHONE BURIED
TV	CABLE TELEVISION BURIED
G	GAS LINE
X-X	FENCE LINE

TOPOGRAPHIC SURVEY

TRAILHEAD APARTMENTS  
KING COUNTY HOUSING AUTHORITY  
1550 NEWPORT WAY NW, ISSAQUAH, WA.

DAVID EVANS  
AND ASSOCIATES INC.  
20300 Woodinville Snohomish Rd. NE, Ste A  
Woodinville Washington 98072  
Phone: 425.415.2000



REVISIONS: APPD.

DATE: SEPT. 26, 2024  
DESIGN:  
DRAWN:  
CHECKED:  
REVISION NUMBER:

SCALE: 1"=20'

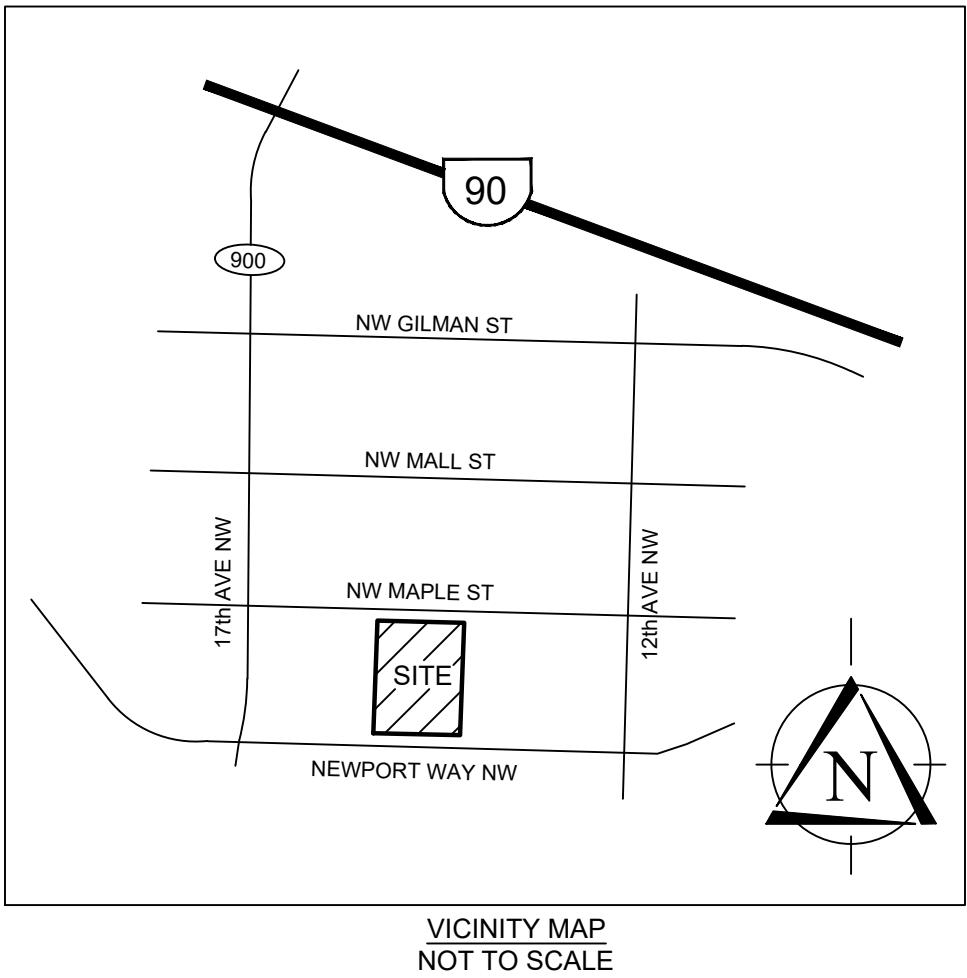
PROJECT NUMBER:  
KCHA00006077

DRAWING FILE:  
SV-BS-KCHA6077.dwg

SHEET NO.

1

OF 3



VICINITY MAP  
NOT TO SCALE



# TOPOGRAPHIC SURVEY

JOHN P. CHRISTENSEN  
STATE OF WASHINGTON  
42428  
REGISTERED  
PROFESSIONAL LAND SURVEYOR

REVISIONS: APP

DATE: SEPT. 26, 2024  
DESIGN:  
DRAWN:  
CHECKED:  
REVISION  
NUMBER:

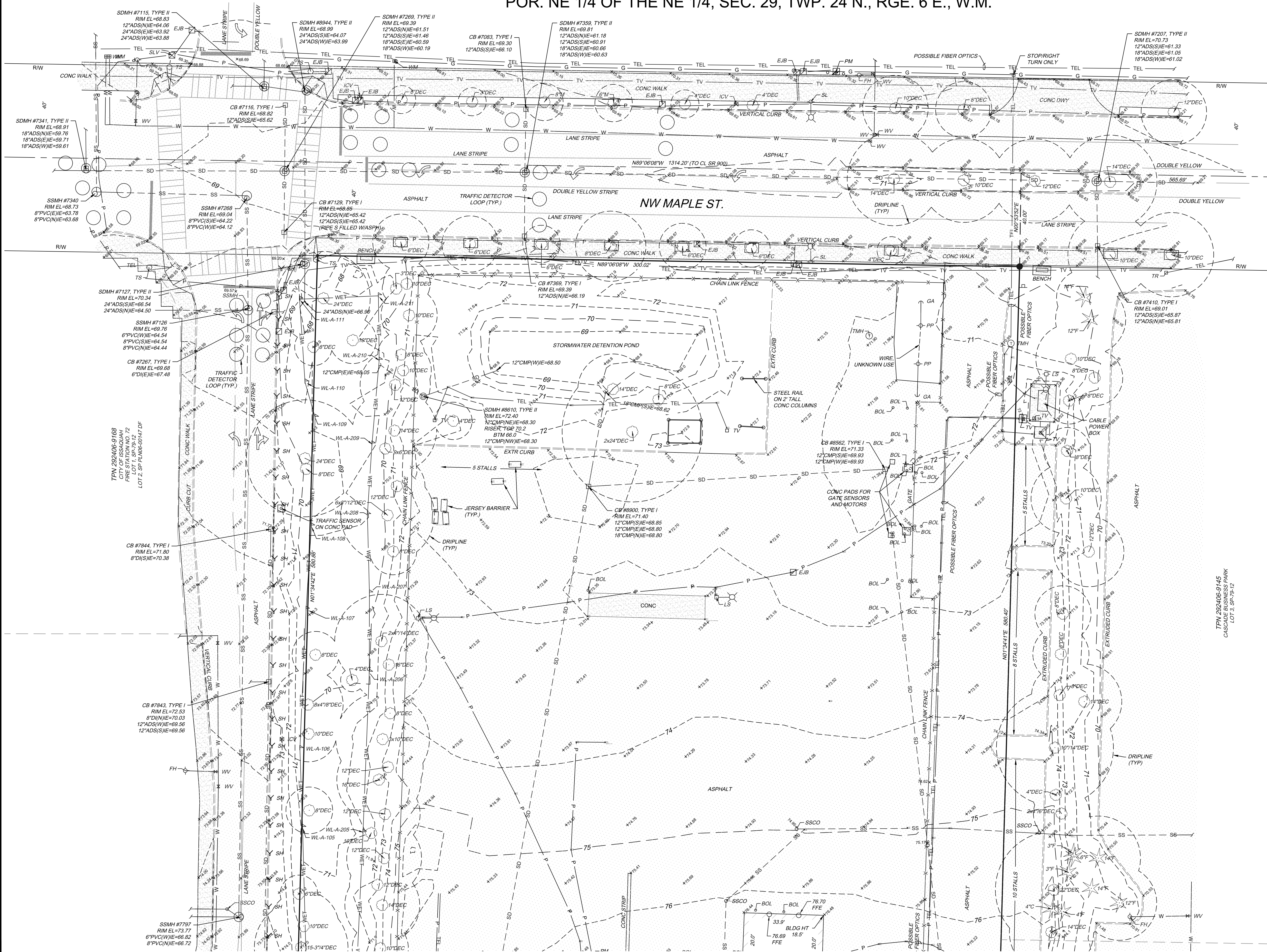
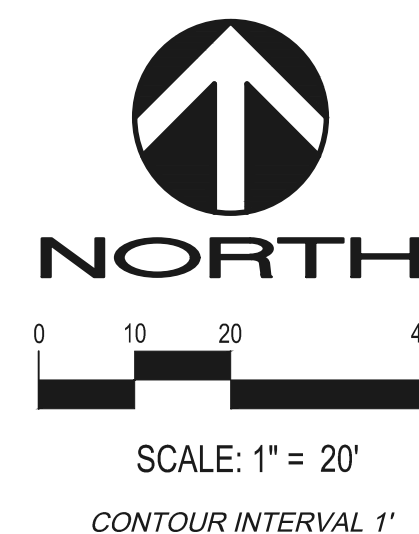
SCALE: 1"=20'

PROJECT NUMBER:  
KCHA00006077

DRAWING FILE:  
SV-BS-KCHA6077.dwg

SHEET NO.

2  
OF 3

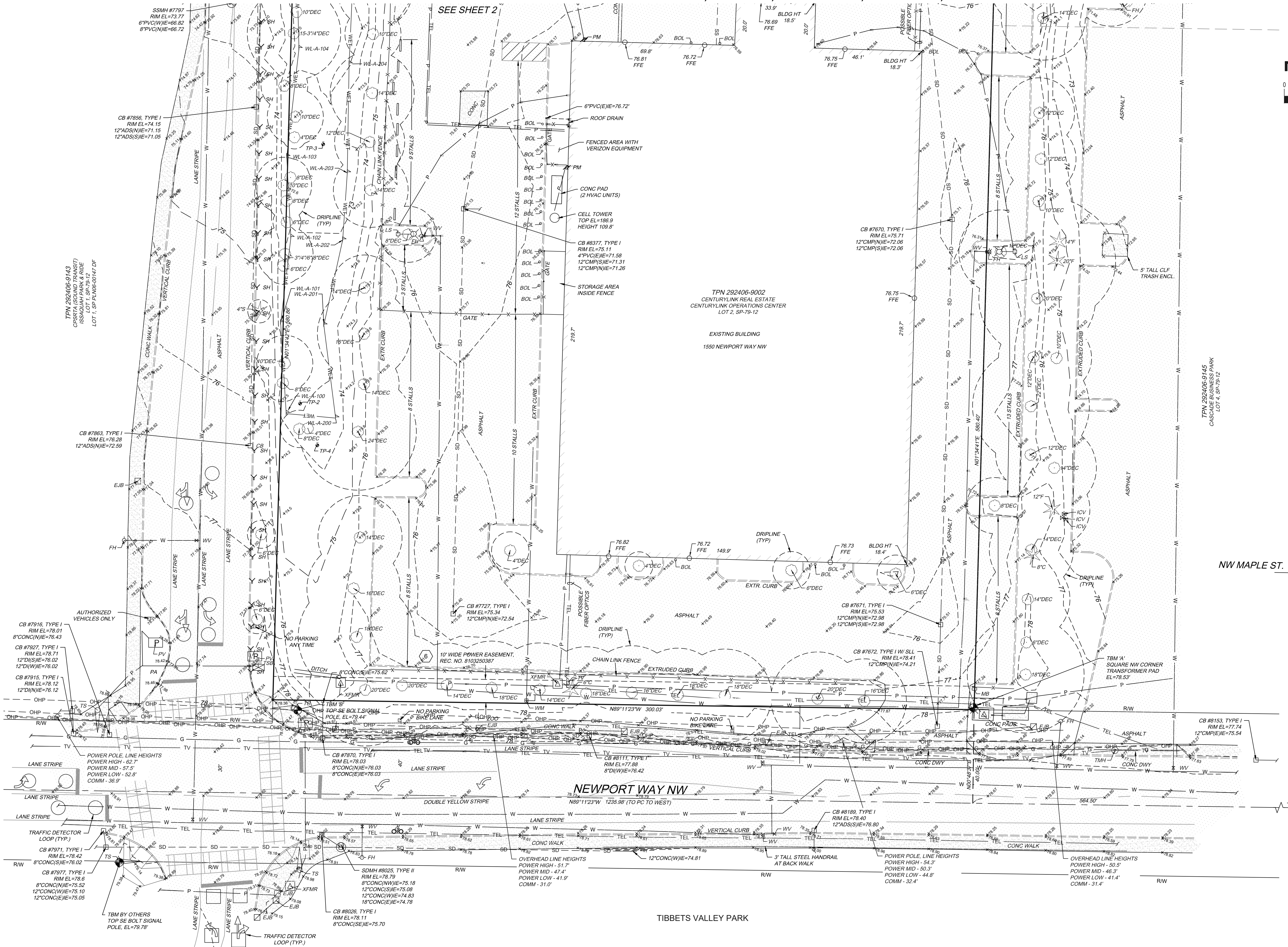
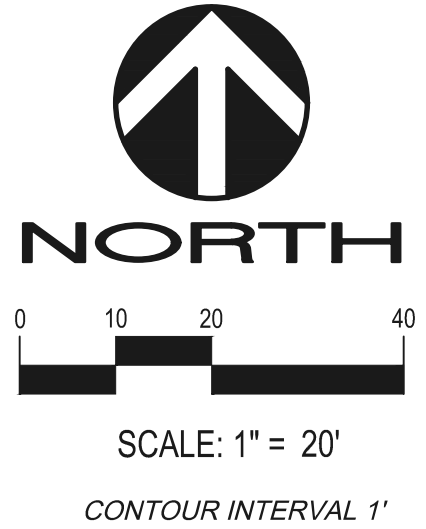


SEE SHEET 3

Plot Date: 10/1/2024 10:38 AM  
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By: Charles Cornwall  
By: Cpc File: P:\K\KCHA00006077\0400CAD\SV\Bases\SV-BS-KCHA6077.dwg



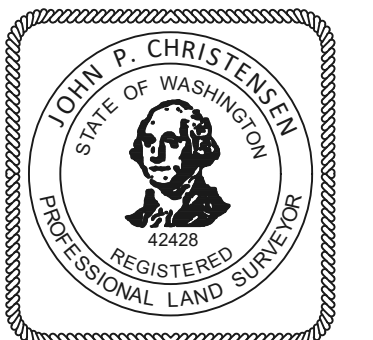
POR. NE 1/4 OF THE NE 1/4, SEC. 29, TWP. 24 N., RGE. 6 E., W.M.



TOPOGRAPHIC SURVEY

TRAILHEAD APARTMENTS  
KING COUNTY HOUSING AUTHORITY  
1550 NEWPORT WAY NW, ISSAQUAH, WA.

DAVID EVANS  
AND ASSOCIATES INC.  
20300 Woodinville Snohomish Rd. NE, Ste A  
Woodinville Washington 98072  
Phone: 425.415.2000



REVISIONS: APPD.

DATE: SEPT. 26, 2024  
DESIGN:  
DRAWN:  
CHECKED:  
REVISION NUMBER:

SCALE: 1"=20'

PROJECT NUMBER:  
KCHA00006077

DRAWING FILE:  
SV-BS-KCHA6077.dwg

SHEET NO.

3

OF 3

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Save Date: 10/1/2024 10:37 AM  
By: Charlie Cornwall  
By: GRC File: P:\KCHA00006077\0400CADSV\BASE\SV-BS-KCHA6077.dwg

# APPENDIX D

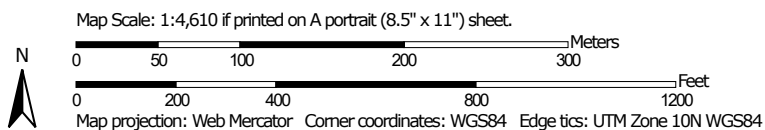
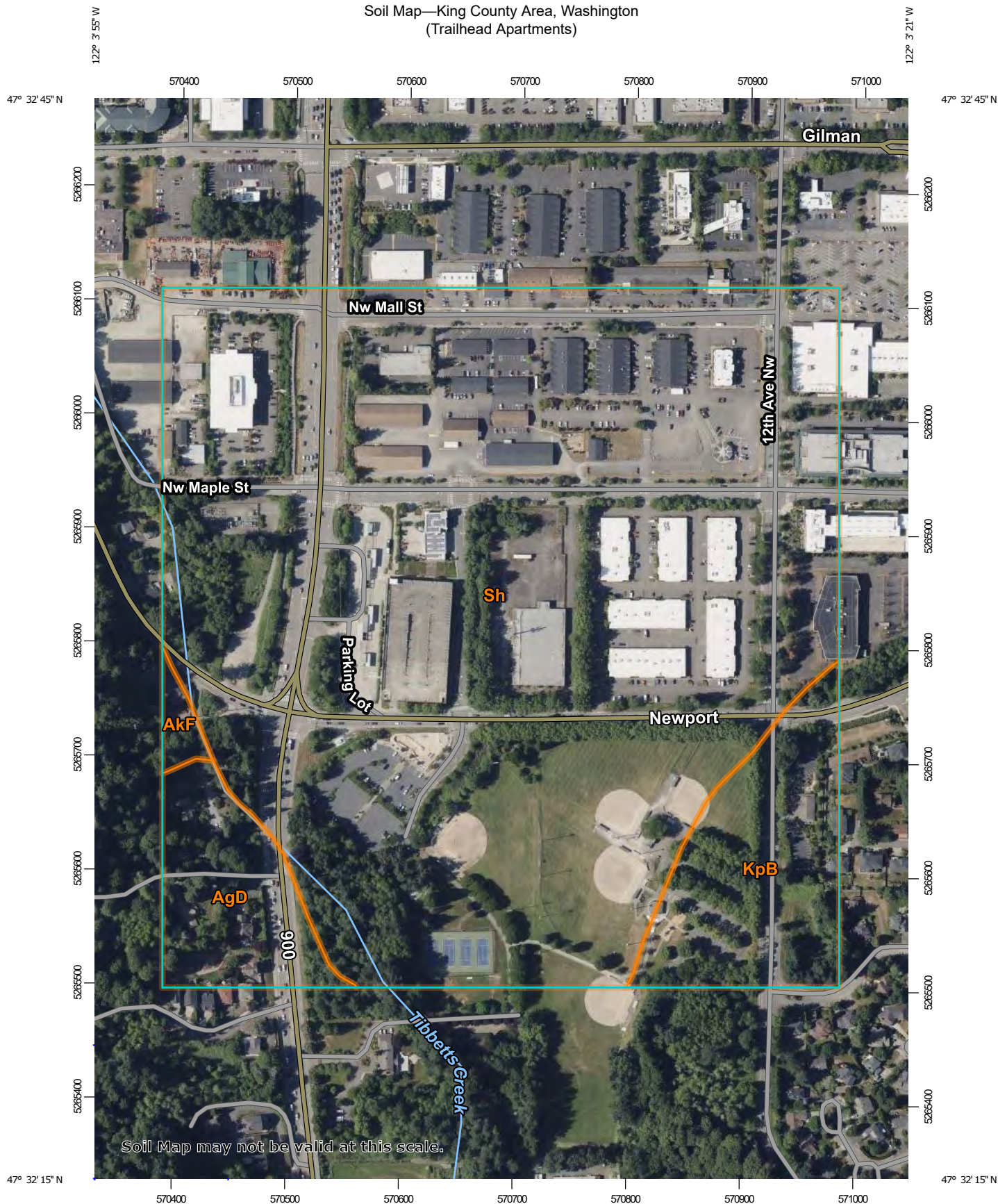
## Agency Database Results

## Agency Database Websites

Database	Agency (Database Manager)	Website
Township, Range, Section Map	WSDOT	<a href="https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&amp;layers=97a5ae98d8d04458860f64e201d155c4">https://www.arcgis.com/home/webmap/viewer.html?useExisting=1&amp;layers=97a5ae98d8d04458860f64e201d155c4</a>
Watershed Boundaries	ECY	<a href="https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fhydro.nationalmap.gov%2Farctis%2Frest%2Fservices%2Fwbd%2FMapServer&amp;source=sd">https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fhydro.nationalmap.gov%2Farctis%2Frest%2Fservices%2Fwbd%2FMapServer&amp;source=sd</a>
Websoils	NRCS	<a href="https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx">https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx</a>
National Wetlands Inventory	USFWS	<a href="https://www.fws.gov/wetlands/data/Mapper.html">https://www.fws.gov/wetlands/data/Mapper.html</a>
Map Service Center	FEMA	<a href="https://msc.fema.gov/portal/home">https://msc.fema.gov/portal/home</a>
Washington State Water Quality Atlas	ECY	<a href="https://apps.ecology.wa.gov/waterqualityatlas/wqa/map">https://apps.ecology.wa.gov/waterqualityatlas/wqa/map</a>
Priority Habitats and Species (PHS)	WDFW	<a href="https://geodataservices.wdfw.wa.gov/hp/phs/">https://geodataservices.wdfw.wa.gov/hp/phs/</a>
Forest Practices Application Mapping Tool	WDNR	<a href="https://fpamt.dnr.wa.gov/default.aspx">https://fpamt.dnr.wa.gov/default.aspx</a>
Statewide Integrated Fish Distribution (SWIFD) Web Map	NWIFC	<a href="https://geo.nwifc.org/swifd/">https://geo.nwifc.org/swifd/</a>
Washington State Fish Passage	WDFW	<a href="https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html">https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html</a>



# Soil Map—King County Area, Washington (Trailhead Apartments)



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

10/11/2024  
Page 1 of 3



# Soil Map—King County Area, Washington (Trailhead Apartments)

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: King County Area, Washington

Survey Area Data: Version 20, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AgD	Alderwood gravelly sandy loam, 15 to 30 percent slopes	5.3	5.8%
AkF	Alderwood and Kitsap soils, very steep	0.6	0.7%
KpB	Kitsap silt loam, 2 to 8 percent slopes	8.1	9.0%
Sh	Sammamish silt loam	76.7	84.5%
<b>Totals for Area of Interest</b>		<b>90.7</b>	<b>100.0%</b>



U.S. Fish and Wildlife Service

# National Wetlands Inventory

## Trailhead Apartments



U.S. Fish and Wildlife Service, National Standards and Support Team,  
wetlands\_team@fws.gov

October 11, 2024

### Wetlands



Estuarine and Marine Deepwater



Estuarine and Marine Wetland



Freshwater Emergent Wetland



Freshwater Forested/Shrub Wetland



Freshwater Pond



Lake



Other



Riverine

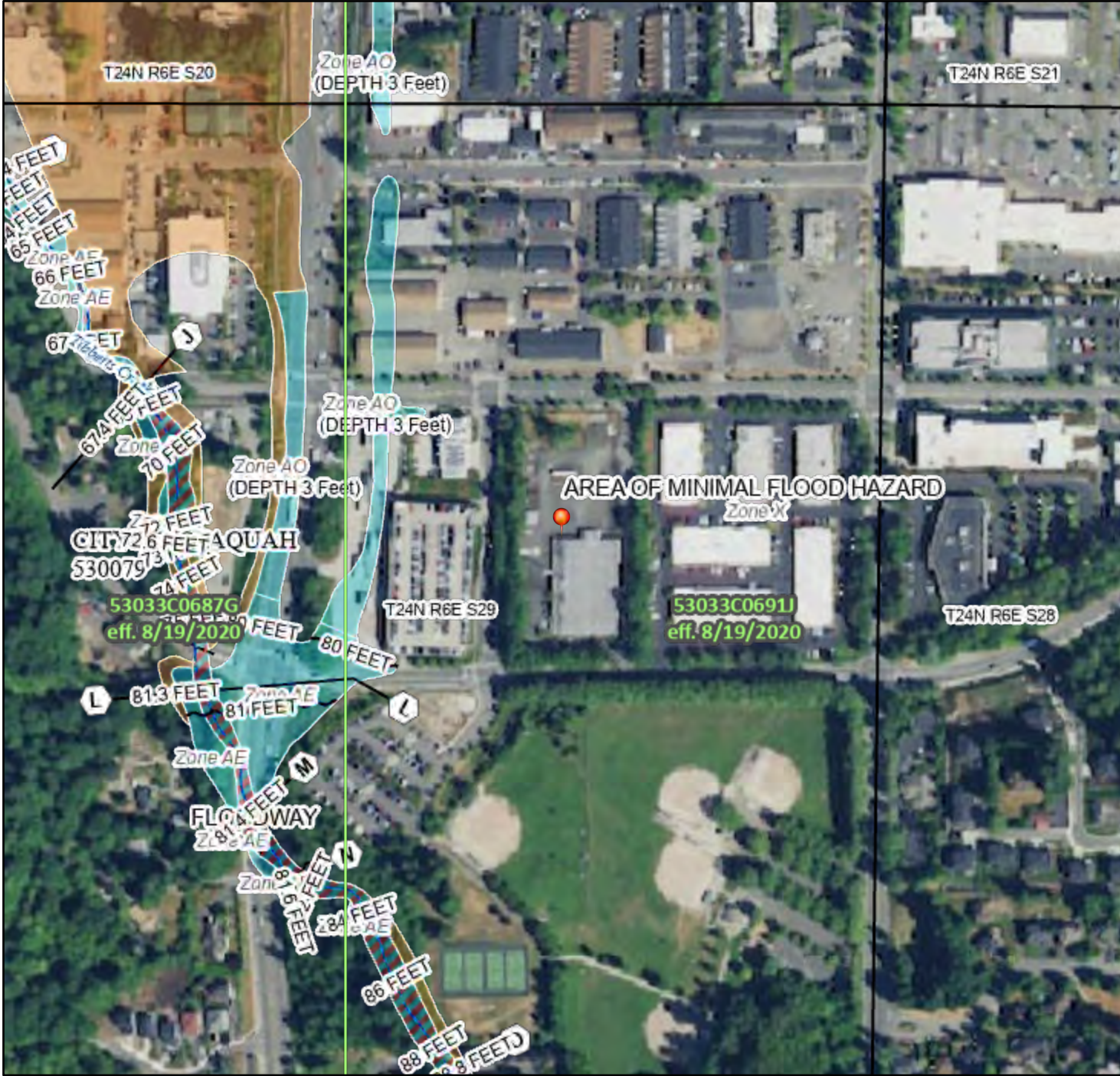
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



# National Flood Hazard Layer FIRMMette



122°3'57"W 47°32'44"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

122°3'19"W 47°32'19"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/11/2024 at 12:17 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

---



### Legal Description

Landing  
Waste Area  
Clumped  
WRTS/GRTS  
Existing Structure

S20 T24.0N R06.0E, S29 T24.0N  
R06.0E, S28 T24.0N R06.0E, S21 T24.0N  
R06.0E

Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to rely on outside information, the Department of Natural Resources cannot accept responsibility for errors or omissions, and therefore, there are no warranties that accompany this material.

Approximate Scale : 1:4,800

0 200 400 800 Feet

Date: 10/11/2024 Time: 9:42 AM



# King County iMap



The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.

Date: 10/11/2024

Notes:



**King County**

# APPENDIX E

Photodocument





Panorama from northeast corner of the property. 12 July 2024.



Stormwater pond along north property line. 12 July 2024.



Stormwater pond along north property line. Location of Plot 1. 12 July 2024.



Existing buildings and impervious area. 12 July 2024.



Existing buildings and impervious area. 12 July 2024.





Wetland A. 13 August 2024.



Wetland A. 13 August 2024.



Stormwater pipe outlet into Wetland A. 13 August 2024.



Wetland A. 13 August 2024.

# APPENDIX F

Appendix G *Historical Documentation* of the Phase I Environmental Site Assessment,  
prepared by EBI Consulting

## **APPENDIX G**

### **HISTORICAL DOCUMENTATION**



Subject Property

Aerial Photograph  
Year: 1943





Aerial Photograph  
Year: 1957





Aerial Photograph  
Year: 1965





Aerial Photograph  
Year: 1969







Aerial Photograph  
Year: 1977







Aerial Photograph  
Year: 1980





Aerial Photograph  
Year: 1990





Aerial Photograph  
Year: 2005





Aerial Photograph  
Year: 2006





Aerial Photograph  
Year: 2009





Aerial Photograph  
Year: 2011





# APPENDIX G

Drainage Site Plan, 1980

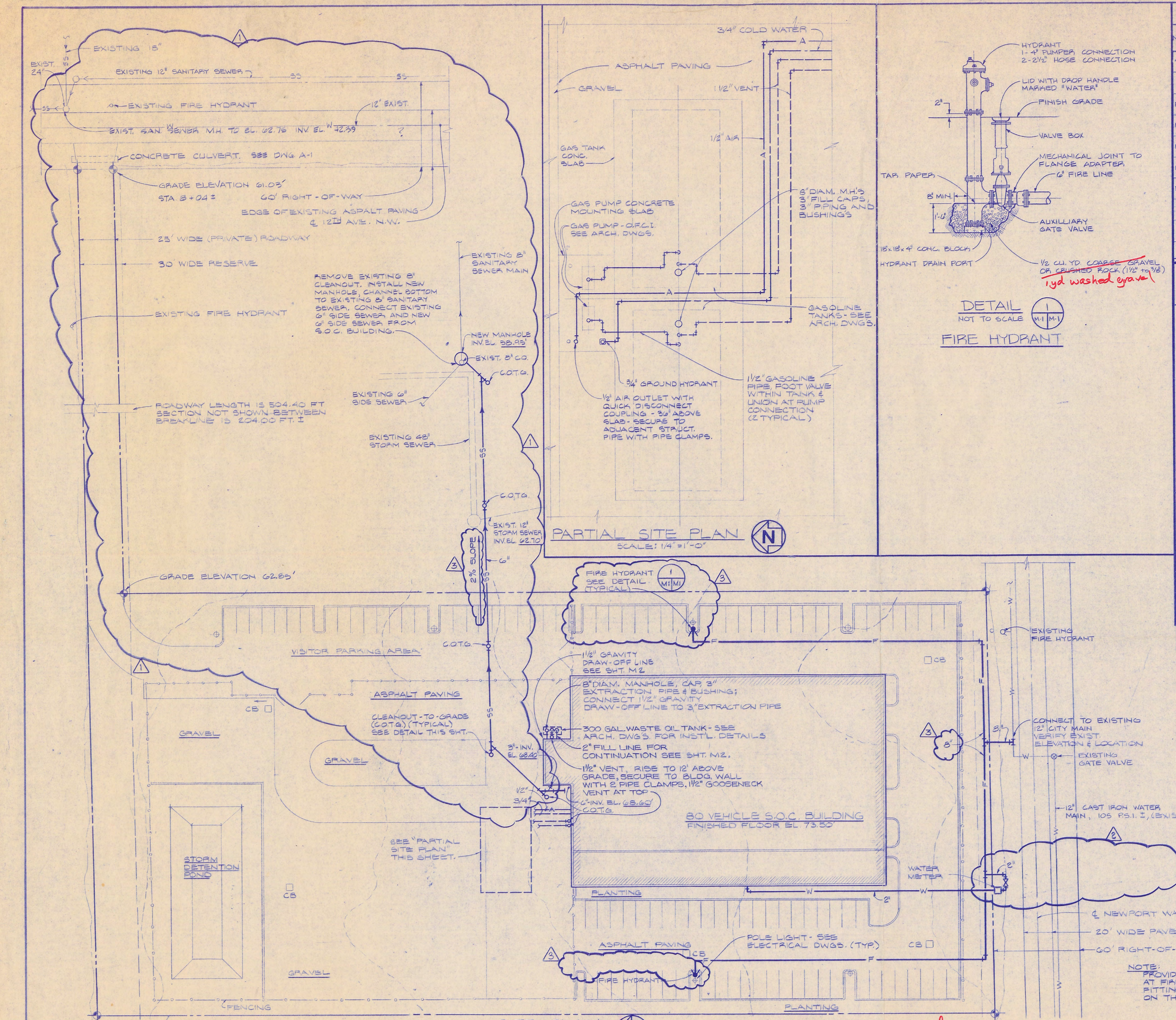


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1127

DRAWING NUMBER  
1127

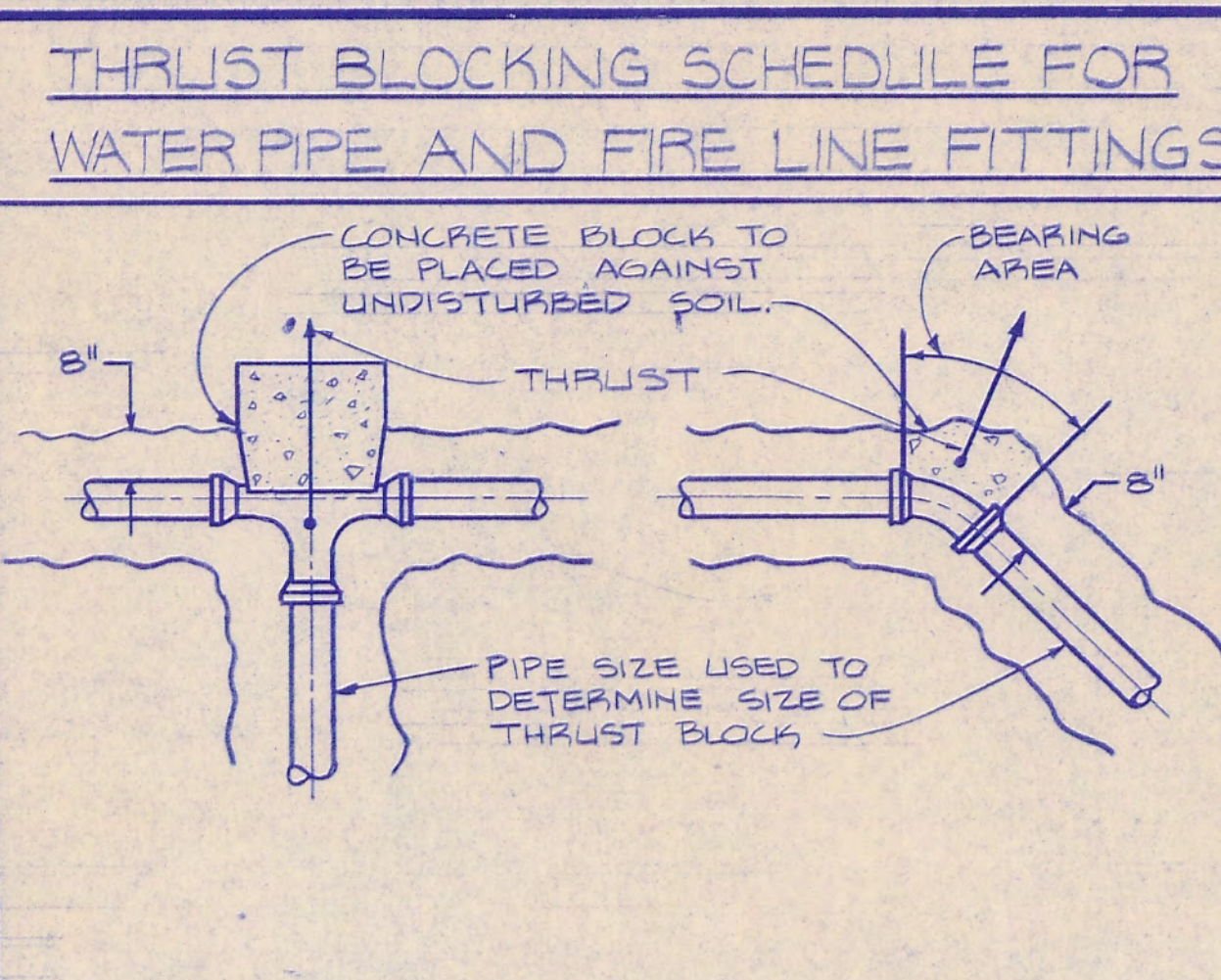
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DRAWING NUMBER  
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


FAN EQUIPMENT SCHEDULE					
MARK	LOCATION	CFM	OUTLET VELOCITY (FPM) MAX.	RPM	STATIC PRESSURE (IN. W.G.)
EF-1	TOOL ROOM	2,000	2000	965	0.85
EF-2	TOOL ROOM	2,000	1500	975	0.50
EF-3	GARAGE WALL	10,000	—	757	0.20
EF-4	GARAGE WALL	10,000	—	757	0.20
EF-5	GARAGE WALL	10,000	—	757	0.20
EF-6	AT LUBE RM. CEILING	650	885	—	5'
EF-7	TOILET ROOF	900	1000	1075	0.50

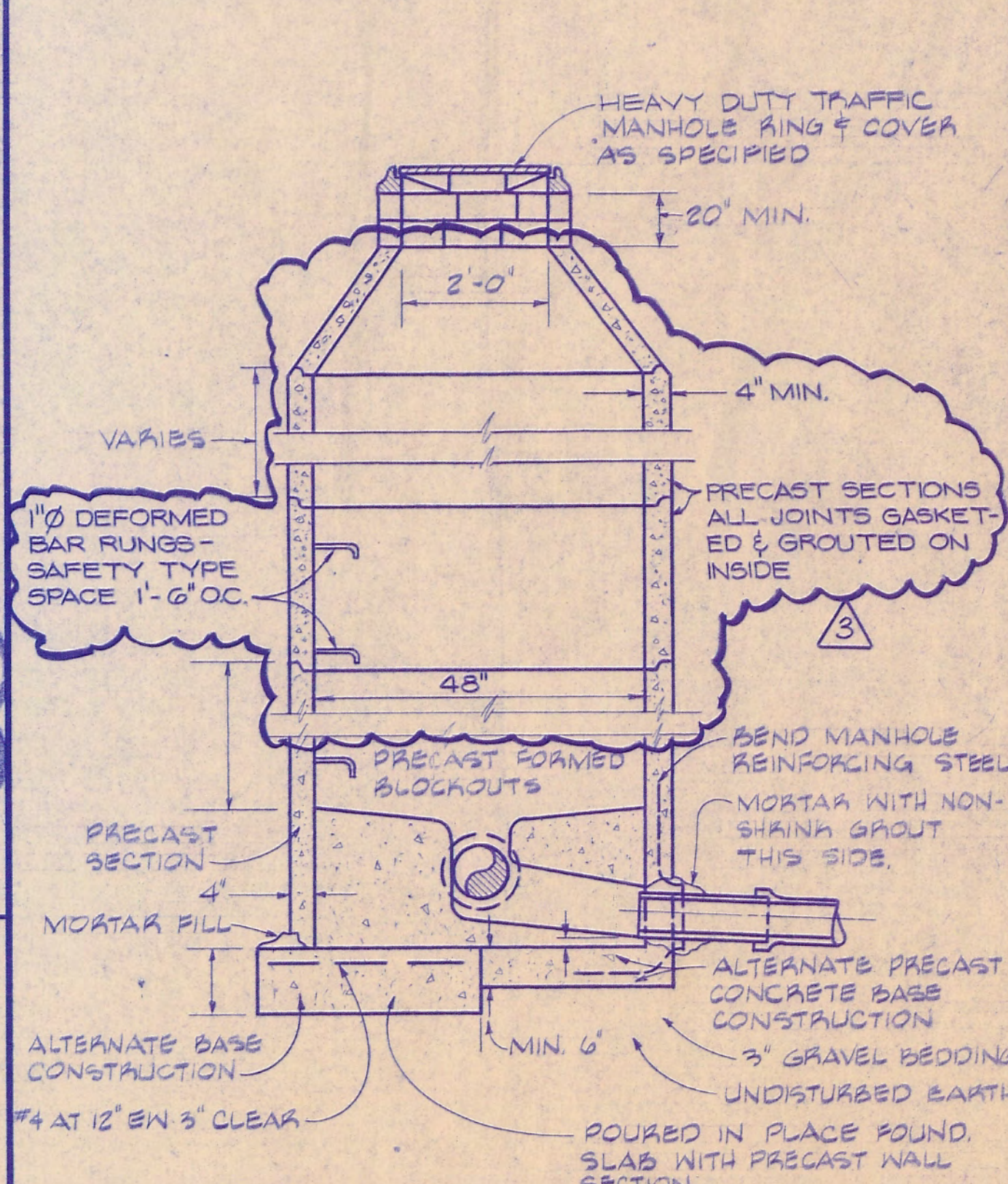
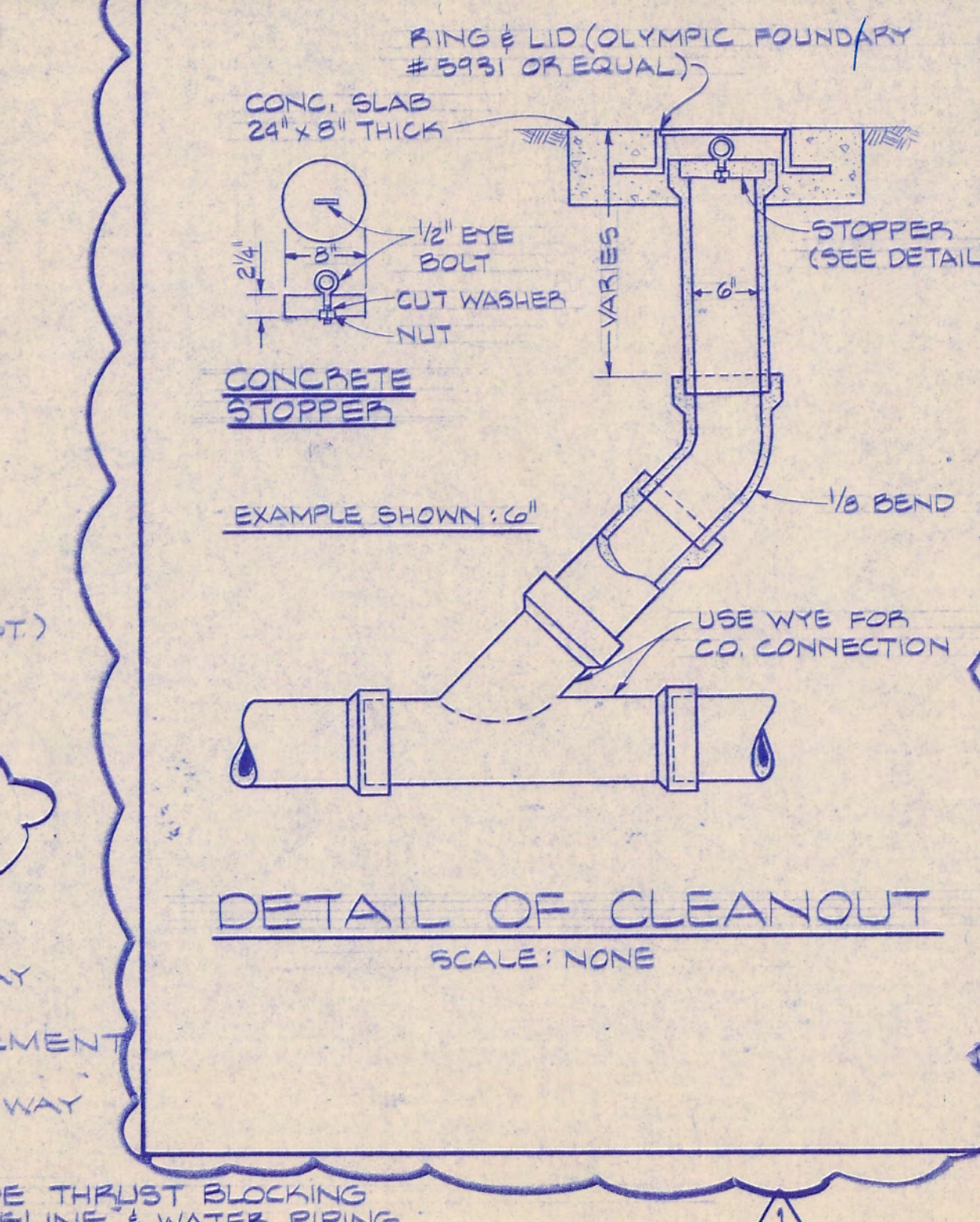
MECHANICAL SYMBOLS	
SS	SANITARY SEWER
W	WATER
F	FIRE LINE
MH	MANHOLE
CB	CATCH BASIN
FD	FLOOR CLEANOUT
COG	CLEAN OUT TO GRADE
INV. EL.	EXIST. CONTOUR LINE
INV. EL.	INVERT ELEVATION
FD	FIRE HYDRANT
PIPING	
—	SOIL OR WASTE (S OR W)
—	VENT (V)
—	COLD WATER (CW)
—	HOT WATER (HW)
—	GATE VALVE
—	FLOOR DRAIN



FITTING SIZES		MINIMUM BEARING AREA OF BLOCK IN SQUARE FT.					
TEST END		90°	45°	22 1/2°	11 1/4°		
3"	0.6	0.8	0.5	0.3	0.2		
4"	1.0	1.4	0.8	0.4	0.2		
6"	2.2	3.0	1.7	0.9	0.5		
8"	3.5	5.4	2.9	1.5	0.8		
10"	5.9	8.4	4.6	2.4	1.2		
12"	8.9	12.0	6.5	3.4	1.7		
14"	11.6	16.4	8.9	4.6	2.3		
16"	15.1	21.4	11.6	5.9	3.0		

VENTILATION	
—	SUPPLY AIR DUCT-TURNING UP OR TOWARD
—	SUPPLY AIR DUCT-TURNING DOWN OR AWAY
—	EXHAUST AIR DUCT-TURNING UP OR TOWARD
—	EXHAUST AIR DUCT-TURNING DOWN OR AWAY
—	CEILING DIFFUSER
—	SUPPLY GRILLE
—	EXHAUST GRILLE
—	PIPE DAMPER
—	EXHAUST CEILING GRILLE-DUCT CONNECTED
—	VOLUME DAMPER ("SINGLE LINE" DUCT)
—	VOLUME DAMPER ("DOUBLE LINE" DUCT)

PLUMBING FIXTURE SCHEDULE							
SYMBOL		FIXTURE	SERVICE SIZE-INCHES				REMARKS
PLAN	DIAGRAM		W.	V.	C.W.	H.W.	
WC		WATER CLOSET WALL TYPE	4	2	1	-	
UR		URINAL WALL TYPE	2	2	3/4	-	
LA		LAVATORY WALL TYPE	1 1/2	1 1/2	1/2	1/2	
EW		ELECTRIC WATER COOLER	1 1/2	1 1/2	1/2	-	
SS		SERVICE SINK	2	2	3/4	3/4	



CITY OF ISSAQUAH  
CITY ENGINEER  
APPROVES, DISAPPROVES FOR SERVICE  
DATE: 3/23/01  
BY: [Signature]  
REMARKS: 0 PER IS REQUIRED AND SERVICE HAS TO BE HYDRANT DRAIN REMOVED HIGH WASHED GRAVEL. THIS APPROVAL IS BASED ON THE OBTAINMENT OF THE SEWER EASEMENT.

3/24/01  
This approval pertains to water only, the sewer plan has been superseded.  
[Signature]

APPROVED  
CITY OF ISSAQUAH  
Engineering Dept.  
SEWER EASEMENT HAS BEEN OBTAINED AND THIS PLAN IS NOW APPROVED FOR SEWER CONSTRUCTION.

PACIFIC NORTHWEST BELL TELEPHONE CO.  
1600 7TH AVE. SEATTLE, WASHINGTON  
OFFICE OF THE BUILDING ENGINEER

ARCHITECTURAL FIRM  
HOLT ASSOCIATES  
1422 6TH AVE. WEST  
SEATTLE, WA 98119  
(206) 285-3064

CONSULTANT FIRM  
WOOD/HARRINGER, INC.  
CONSULTING ENGINEER

NAME: ISSAQUAH, WASH.  
DATE: 10-20-00  
DIN BY: [Signature]  
CITY: ISSAQUAH, WASH.  
PROJECT DESCRIPTION: NEW S.O.C. BUILDING

TYPE & NO. OF DWG.  
MIC  
11415  
100 125

Water-Sewer-Sanitary  
Drawing 2 Grid 8701  
U.S. West Phone Office



**DRAWING NUMBER**

PULAN HOLD CORPORATION • IRVINE, CALIFORNIA  
REORDER BY NUMBER 075AR

N.T.S.

N.T.S.

SCALE: 1" = 1' - 0"

N. T. 5

SCALE: 1" = 30'

11 NO.		ADD DRAINAGE DITCH AND 10" CULVERT PILING		12-30-80 DATE	
PACIFIC NORTHWEST BEUL TELEPHONE CO. 600 1TH AVE. SEATTLE, WASHINGTON OFFICE OF THE BUILDING INSPECTOR		THIS INFORMATION IS OF PUBLIC NATURE TO THE PUBLIC AND SHOULD BE APPROPRIATELY REPRODUCED		NAME DATE DS 10-80 CITY AND STATE SEATTLE WA	
ARCHITECTURAL FIRM HOLT ASSOCIATES 1422 8TH AVE. WEST SEATTLE, WA 98119 (206) 285-3064		CONSULTANT FIRM WILSEY & HAM, INC. CIVIL ENGINEERS 4218 SOUTH STEELE STREET SUITE 300 TACOMA, WASHINGTON 98409		LOCATION NAME 153AQAUAH, WASH. ADDRESS: NEWPORT WAY CITY & STATE SEATTLE, WASH. PROJECT ORIGINATOR NEW 802, BUILDING	
1982 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON <i>Ken Carson</i>		1982 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON <i>James H. Carson</i>		TYPE & NO. OF DWG. U.S. WEST C-1	
153AQAUAH STORM DRAINAGE, DETENTION, DETAILS & NOTES		70866 DATE 10-80		10-80 DATE 10-80	



# APPENDIX H

## Wetland Data Sheets

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Region

Project/Site: Trailhead Apartments City/County: Issaquah/King Sampling Date: 8/13/2024  
 Applicant/Owner: King County Housing Authority State: WA Sampling Point: 1  
 Investigator(s): JMM, KN Section, Township, Range: NE ¼ of Section 29, Township 24 North, Range 6 East  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 5+  
 Subregion (LRR): LRR A - Northwest Forests and Coast Lat: 47.542789 Long: -122.060733 Datum: WGS84  
 Soil Map Unit Name: Sammamish silt loam NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No      (If no, explain in remarks)  
 Are vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? (If needed, explain any answers in remarks) Yes X No       
 Are vegetation     , Soil     , or Hydrology      naturally problematic? Yes X No     

## SUMMARY OF FINDINGS - Attach site map showing sampling point location, transects, important features, etc.

Hydrophytic vegetation present?	Yes <u>X</u>	No <u>    </u>	Is the sampled area within a wetland?
Hydric soil present?	Yes <u>    </u>	No <u>X</u>	
Indicators of wetland hydrology present?	Yes <u>    </u>	No <u>X</u>	

Remarks: Unpaired plot at the northwest corner of the plot between Wetland A and the stormwater pond.

## VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Alnus rubra</u>		<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
3. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
		<u>30</u>	= Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>30' r</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: <u>    </u> Multiply by: <u>    </u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>65</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>2.77</u>
1. <u>Salix sitchensis</u>		<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
3. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
5. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
		<u>20</u>	= Total Cover		
Herb Stratum	(Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <u>4</u> - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) <u>5</u> - Wetland Non-Vascular Plants <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Unidentifiable grass</u>		<u>40</u>	<u>Y</u>	<u>(FAC)</u>	
2. <u>Hedera helix</u>		<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
4. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
5. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
6. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
7. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
8. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
9. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
10. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
11. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
		<u>45</u>	= Total Cover		
Woody Vine Stratum	(Plot size: <u>30' r</u> )				<b>Hydrophytic vegetation present?</b> Yes <u>X</u> No <u>    </u>
1. <u>Rubus armeniacus</u>		<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>    </u>		<u>    </u>	<u>    </u>	<u>    </u>	
		<u>10</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>55</u>					

Remarks:

## SOIL

**Sampling Point:** 1

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A, and 4B)</b>	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b>	<input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b>	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<b>Field Observations:</b>			<b>Wetland Hydrology Present?</b>
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> X	Depth (inches): <input type="text"/>	<b>Yes</b> <input type="checkbox"/> <b>No</b> <input checked="" type="checkbox"/> X
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> X	Depth (inches): <input type="text"/>	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> X	Depth (inches): <input type="text"/>	
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available			
Remarks:			

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Region

Project/Site: Trailhead Apartments City/County: Issaquah/King Sampling Date: 8/13/2024  
 Applicant/Owner: King County Housing Authority State: WA Sampling Point: 2  
 Investigator(s): JMM, KN Section, Township, Range: NE ¼ of Section 29, Township 24 North, Range 6 East  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none):  Slope (%):   
 Subregion (LRR): LRR A - Northwest Forests and Coast Lat: 47.541646 Long: -122.060987 Datum: WGS84  
 Soil Map Unit Name: Sammamish silt loam NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No  (If no, explain in remarks)  
 Are vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? (If needed, explain any answers in remarks) Yes X No   
 Are vegetation , Soil , or Hydrology  naturally problematic? Yes X No

## SUMMARY OF FINDINGS - Attach site map showing sampling point location, transects, important features, etc.

Hydrophytic vegetation present?	Yes <u>X</u>	No <u></u>	Is the sampled area within a wetland? Yes <u>X</u> No <u></u>
Hydric soil present?	Yes <u>X</u>	No <u></u>	
Indicators of wetland hydrology present?	Yes <u>X</u>	No <u></u>	

Remarks: Wetland A plots (TP 2 and TP 3) paired with upland plot 4.

## VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
		<u>0</u>	= Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>30' r</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.00</u>
1. <u>Cornus alba</u>		<u>80</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
		<u>80</u>	= Total Cover		
Herb Stratum	(Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
		<u>0</u>	= Total Cover		
Woody Vine Stratum	(Plot size: <u>30' r</u> )				<b>Hydrophytic vegetation present?</b> Yes <u>X</u> No <u></u>
1.					
2.					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum		<u>100</u>			

Remarks:



## SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 2/2	100					L	
7-9	10YR 2/2	95	7.5YR 4/6	5	C	PL	L	
9-11	10YR 2/2	85	10YR 5/3	10	C	M	L	
			10YR 3/6	5	C	M	L	
11-13+	10YR 2/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.    <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(Except MRLA 1)</b> <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks: _____)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic
---	--

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

## HYDROLOGY

Wetland Hydrology Indicators			
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <b>(except MLRA 1, 2, 4A, and 4B)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) _____ <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (2 or more required)</u> <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A, and 4B)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C3) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b> <input type="checkbox"/> Frost Heave Hummocks (D7)	

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b>  Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	
Remarks:	

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Region

Project/Site: Trailhead Apartments City/County: Issaquah/King Sampling Date: 8/13/2024  
 Applicant/Owner: King County Housing Authority State: WA Sampling Point: 3  
 Investigator(s): JMM, KN Section, Township, Range: NE ¼ of Section 29, Township 24 North, Range 6 East  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none):  Slope (%):   
 Subregion (LRR): LRR A - Northwest Forests and Coast Lat: 47.542015 Long: -122.060972 Datum: WGS84  
 Soil Map Unit Name: Sammamish silt loam NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No  (If no, explain in remarks)  
 Are vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? (If needed, explain any answers in remarks) Yes X No   
 Are vegetation , Soil , or Hydrology  naturally problematic? Yes X No

## SUMMARY OF FINDINGS - Attach site map showing sampling point location, transects, important features, etc.

Hydrophytic vegetation present?	Yes <u>X</u>	No <u></u>	Is the sampled area within a wetland? Yes <u>X</u> No <u></u>
Hydric soil present?	Yes <u>X</u>	No <u></u>	
Indicators of wetland hydrology present?	Yes <u>X</u>	No <u></u>	

Remarks: Wetland A plots (TP 2 and TP 3) paired with upland plot 4.

## VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub Stratum	(Plot size: <u>30' r</u> )				
1.					
2.					
3.					
4.					
5.					
		<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 <u>4</u> - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) <u>5</u> - Wetland Non-Vascular Plants <sup>1</sup> <u>Problematic Hydrophytic Vegetation<sup>1</sup></u> <u>(Explain)</u> <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Herb Stratum	(Plot size: <u>5' r</u> )				
1. <u>Ranunculus repens</u>		<u>90</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Equisetum arvense</u>		<u>10</u>	<u>N</u>	<u>FAC</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
		<u>100</u>	= Total Cover		
Woody Vine Stratum	(Plot size: <u>30' r</u> )				<b>Hydrophytic vegetation present?</b> Yes <u>X</u> No <u></u>
1.					
2.					
		<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum		<u>0</u>			

Remarks:

## SOIL

**Sampling Point:** 3

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A, and 4B)</b>	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b>	<input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b>	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b>	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available			
Remarks: Soils moist.			

# WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Region

Project/Site: Trailhead Apartments City/County: Issaquah/King Sampling Date: 8/13/2024  
 Applicant/Owner: King County Housing Authority State: WA Sampling Point: 4  
 Investigator(s): JMM, KN Section, Township, Range: NE ¼ of Section 29, Township 24 North, Range 6 East  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none):  Slope (%):   
 Subregion (LRR): LRR A - Northwest Forests and Coast Lat: 47.541593 Long: -122.060978 Datum: WGS84  
 Soil Map Unit Name: Sammamish silt loam NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No  (If no, explain in remarks)  
 Are vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? (If needed, explain any answers in remarks) Yes X No   
 Are vegetation , Soil , or Hydrology  naturally problematic? Yes X No

## SUMMARY OF FINDINGS - Attach site map showing sampling point location, transects, important features, etc.

Hydrophytic vegetation present?	Yes <u></u>	No <u>X</u>	Is the sampled area within a wetland? Yes <u></u> No <u>X</u>
Hydric soil present?	Yes <u></u>	No <u>X</u>	
Indicators of wetland hydrology present?	Yes <u></u>	No <u>X</u>	

Remarks: Upland plot 4 paired with Wetland A plots (TP 2 and TP 3).

## VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u>Quercus rubra</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u></u>	<u></u>	<u></u>	<u></u>	
3. <u></u>	<u></u>	<u></u>	<u></u>	
4. <u></u>	<u></u>	<u></u>	<u></u>	
<u>50</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>30' r</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: <u></u> Multiply by: <u></u> OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>120</u> x 4 = <u>480</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>155</u> (A) <u>585</u> (B) Prevalence Index = B/A = <u>3.77</u>
1. <u>Quercus rubra</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2. <u></u>	<u></u>	<u></u>	<u></u>	
3. <u></u>	<u></u>	<u></u>	<u></u>	
4. <u></u>	<u></u>	<u></u>	<u></u>	
5. <u></u>	<u></u>	<u></u>	<u></u>	
<u>70</u> = Total Cover				
Herb Stratum (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> 1 - Rapid Test for Hydrophytic Vegetation <u></u> 2 - Dominance Test is >50% <u></u> 3 - Prevalence Index is ≤3.0 <u></u> 4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet) <u></u> 5 - Wetland Non-Vascular Plants <sup>1</sup> <u></u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <u></u> <small><sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic</small>
1. <u>Ranunculus repens</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u></u>	<u></u>	<u></u>	<u></u>	
3. <u></u>	<u></u>	<u></u>	<u></u>	
4. <u></u>	<u></u>	<u></u>	<u></u>	
5. <u></u>	<u></u>	<u></u>	<u></u>	
6. <u></u>	<u></u>	<u></u>	<u></u>	
7. <u></u>	<u></u>	<u></u>	<u></u>	
8. <u></u>	<u></u>	<u></u>	<u></u>	
9. <u></u>	<u></u>	<u></u>	<u></u>	
10. <u></u>	<u></u>	<u></u>	<u></u>	
11. <u></u>	<u></u>	<u></u>	<u></u>	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' r</u> )				<b>Hydrophytic vegetation present?</b> Yes <u></u> No <u>X</u>
1. <u>Rubus armeniacus</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. <u></u>	<u></u>	<u></u>	<u></u>	
3. <u></u>	<u></u>	<u></u>	<u></u>	
<u>25</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				

Remarks:

## SOIL

**Sampling Point:** 4

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A, and 4B)</b>	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b>	<input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b>	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b>	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<input type="text"/>
(includes capillary fringe)		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available			
Remarks:			



# APPENDIX I

## Wetland Rating Form

## RATING SUMMARY – Western Washington

Name of wetland (or ID #):   Wetland A   Date of site visit:   8/13/2024  Rated by   JMM/KN   Trained by Ecology? ☒ Yes ☐ No Date of training   Oct-22  HGM Class used for rating   Slope   Wetland has multiple HGM classes? ☐ Yes ☒ No**NOTE: Form is not complete with out the figures requested (figures can be combined).**Source of base aerial photo/map   King County Aerial 2023  **OVERALL WETLAND CATEGORY**   IV   (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  
  X   **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	L	L	L	
Landscape Potential	M	M	L	
Value	H	M	L	<b>Total</b>
<b>Score Based on Ratings</b>	6	5	3	<b>14</b>

**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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	<b>X</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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to another figure</i> )	S 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

## HGM Classification of Wetland in Western Washington

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

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

S 1.0. Does the site have the potential to improve water quality?

S 1.1. Characteristics of the average slope of the wetland: (*a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance*)

Slope is 1% or less	points = 3	2
Slope is > 1% - 2%	points = 2	
Slope is > 2% - 5%	points = 1	
Slope is greater than 5%	points = 0	

S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (*use NRCS definitions*):

Yes = 3    No = 0

0

S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:

Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.*

Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	2
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	

Total for S 1

Add the points in the boxes above

4

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

S 2.0. Does the landscape have the potential to support the water quality function of the site?

S 2.1. Is &gt; 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1    No = 0

1

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other Sources

Yes = 1    No = 0

1

Total for S 2

Add the points in the boxes above

2

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

S 3.0. Is the water quality improvement provided by the site valuable to society?

S 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

S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.*

Yes = 1    No = 0

1

S 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 S 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*



**SLOPE WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface**flows*Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

points = 1

All other conditions

points = 0

0

**Rating of Site Potential** If score is: ☐ 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?

Yes = 1 No = 0

1

**Rating of Landscape Potential** If score is: ☒ 1 = M ☐ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)

points = 2

Surface flooding problems are in a sub-basin farther down-gradient

points = 1

No flooding problems anywhere downstream

points = 0

1

S 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 S 6

Add the points in the boxes above

1

**Rating of Value** If score is: ☐ 2 - 4 = H ☒ 1 = M ☐ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

**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.*

- |  |                                  |   |
|--|----------------------------------|---|
| <input type="checkbox"/> Aquatic bed   | 4 structures or more: points = 4 | 1 |
| <input type="checkbox"/> Emergent  | 3 structures: points = 2         |   |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)   | 2 structures: points = 1         |   |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)  | 1 structure: points = 0          |   |
| <i>If the unit has a Forested class, check if:</i>   |                                  |   |
| <input checked="" type="checkbox"/> 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 |                                  |   |

**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*).

- |  |                                     |   |
|--|-------------------------------------|---|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3 | 0 |
| <input type="checkbox"/> Seasonally flooded or inundated                                     | 3 types present: points = 2         |   |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | 2 types present: points = 1         |   |
| <input checked="" type="checkbox"/> Saturated only   | 1 types present: points = 0         |   |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |                                     |   |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |                                     |   |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  | <b>2 points</b>                     |   |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     | <b>2 points</b>                     |   |

**H 1.3. Richness of plant species**

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. *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*

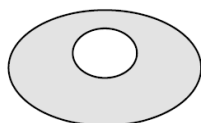
- |                 |                |            |   |
|-----------------|----------------|------------|---|
| If you counted: | > 19 species   | points = 2 | 1 |
|                 | 5 - 19 species | points = 1 |   |
|                 | < 5 species    | points = 0 |   |

**H 1.4. Interspersion of habitats**

Decide from the diagrams below whether interspersions 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.*



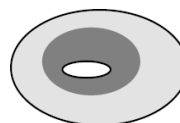
**None = 0 points**



**Low = 1 point**

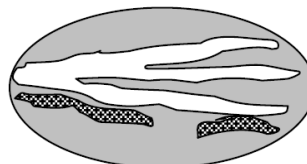
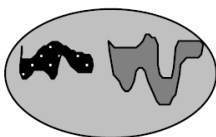


**Moderate = 2 points**



1

All three diagrams in this row are  
**HIGH = 3 points**



<b>H 1.5. Special habitat features:</b> Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i>		1
<input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)		
<input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland		
<input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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)		
<input type="checkbox"/> 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 ( <i>cut shrubs or trees that have not yet weathered where wood is exposed</i> )		
<input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated ( <i>structures for egg-laying by</i> )		
<input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
<b>Total for H 1</b>		4
<b>Rating of Site Potential</b> If Score is: <input type="checkbox"/> 15 - 18 = H <input type="checkbox"/> 7 - 14 = M <input checked="" type="checkbox"/> 0 - 6 = L Record the rating on the first page		

<b>H 2.0. Does the landscape have the potential to support the habitat function of the site?</b>		
<b>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</b> Calculate: _____ % undisturbed habitat + ( _____ % moderate & low intensity land uses / 2 ) = _____		
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
<b>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</b> Calculate: _____ % undisturbed habitat + ( _____ % moderate & low intensity land uses / 2 ) = _____		
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		2
<b>H 2.3 Land use intensity in 1 km Polygon: If</b> > 50% of 1 km Polygon is high intensity land use points = (-2) ≤ 50% of 1km Polygon is high intensity points = 0		-2
<b>Total for H 2</b>		0
<b>Rating of Landscape Potential</b> If Score is: <input type="checkbox"/> 4 - 6 = H <input type="checkbox"/> 1 - 3 = M <input checked="" type="checkbox"/> < 1 = L Record the rating on the first page		

<b>H 3.0. Is the habitat provided by the site valuable to society?</b>		
<b>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.</b>		
Site meets ANY of the following criteria: points = 2		0
<input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)		
<input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)		
<input type="checkbox"/> It is mapped as a location for an individual WDFW priority species		
<input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources		
<input type="checkbox"/> 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 100m points = 1 Site does not meet any of the criteria above points = 0		
<b>Rating of Value</b> If Score is: <input type="checkbox"/> 2 = H <input type="checkbox"/> 1 = M <input checked="" type="checkbox"/> 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.

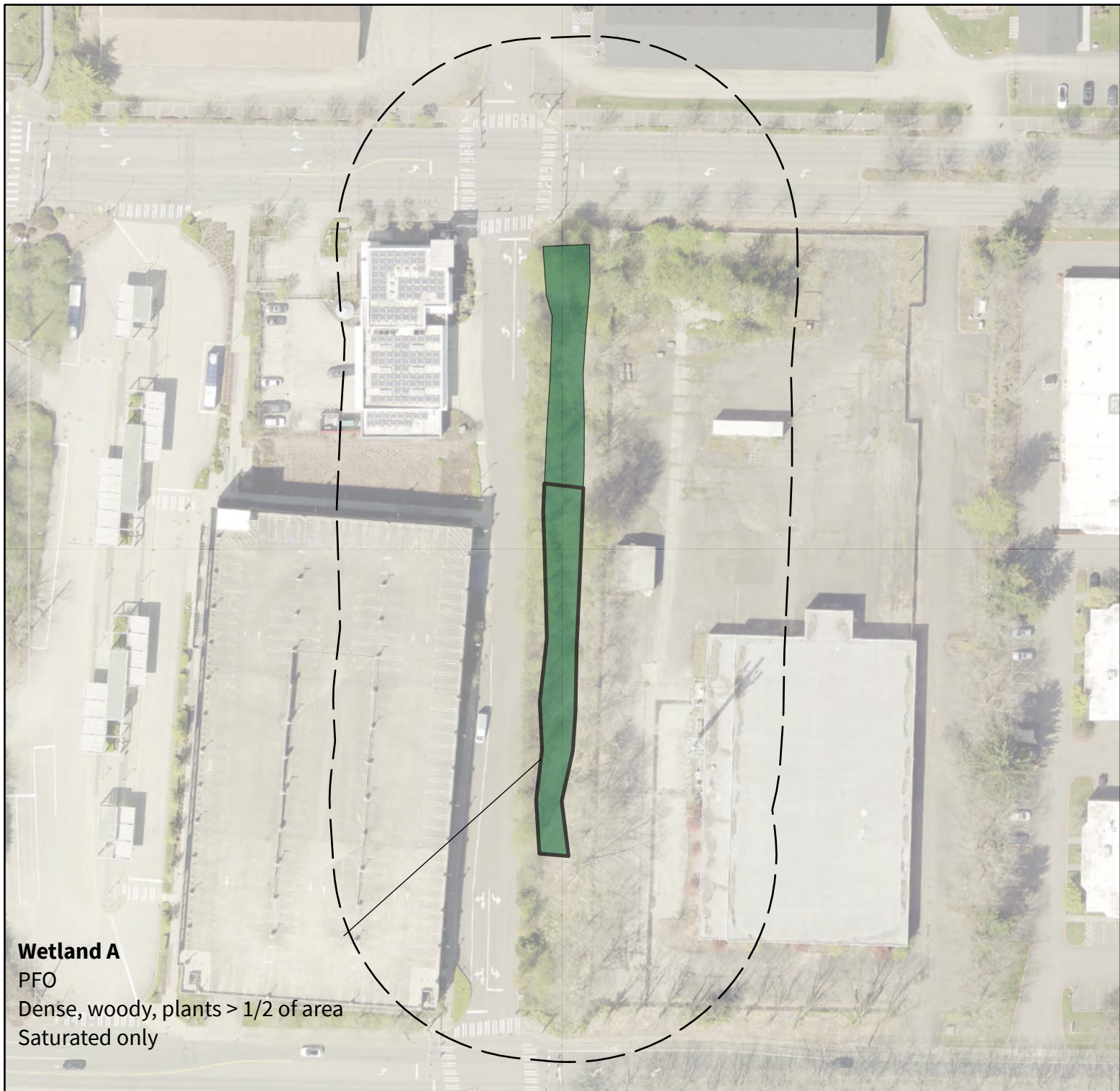
**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine Wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt <input type="checkbox"/> Yes - Go to <b>SC 1.1</b> <input checked="" type="checkbox"/> No = <b>Not an estuarine wetland</b>	
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? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No - Go to <b>SC 1.2</b>	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> 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 <i>Spartina</i> , see page 25) <input type="checkbox"/> 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. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Category II</b>	
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes - Go to <b>SC 2.2</b> <input checked="" type="checkbox"/> No - Go to <b>SC 2.3</b> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasetsearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasetsearch/wnhpwetlands.pdf</a> <input type="checkbox"/> Yes - <b>Contact WNHP/WDNR and to SC 2.4</b> <input checked="" type="checkbox"/> No = <b>Not WHCV</b> 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? <input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Not WHCV</b>	
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input checked="" type="checkbox"/> No - Go to <b>SC 3.2</b> 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? <input type="checkbox"/> Yes - Go to <b>SC 3.3</b> <input checked="" type="checkbox"/> No = <b>Is not a bog</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No - Go to <b>SC 3.4</b> <b>NOTE:</b> 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? <input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No = <b>Is not a bog</b>	

<p><b>SC 4.0. Forested Wetlands</b> Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (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.</p> <p><input type="checkbox"/> <b>Mature forests</b> (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).</p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input checked="" type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b> Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p><input type="checkbox"/> Yes - Go to <b>SC 5.1</b>    <input checked="" type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <p><input type="checkbox"/> 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).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b> Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p><input type="checkbox"/> Yes - Go to <b>SC 6.1</b>    <input checked="" type="checkbox"/> No = <b>Not an interdunal wetland for rating</b></p> <p><b>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)?</b></p> <p><input type="checkbox"/> Yes = <b>Category I</b>    <input type="checkbox"/> No - Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b></p> <p><input type="checkbox"/> Yes = <b>Category II</b>    <input type="checkbox"/> No - Go to <b>SC 6.3</b></p> <p><b>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?</b></p> <p><input type="checkbox"/> Yes = <b>Category III</b>    <input type="checkbox"/> No = <b>Category IV</b></p>	
<p><b>Category of wetland based on Special Characteristics</b> If you answered No for all types, enter "Not Applicable" on Summary Form</p>	NA





## LEGEND

— 150' Rating Buffer

Cowardin

PFO

Dense woody plants



0 50 100 Feet

SOURCE: SURVEY BY DAVID EVANS AND ASSOCIATES



## WETLAND RATING MAP

King County Housing Authority

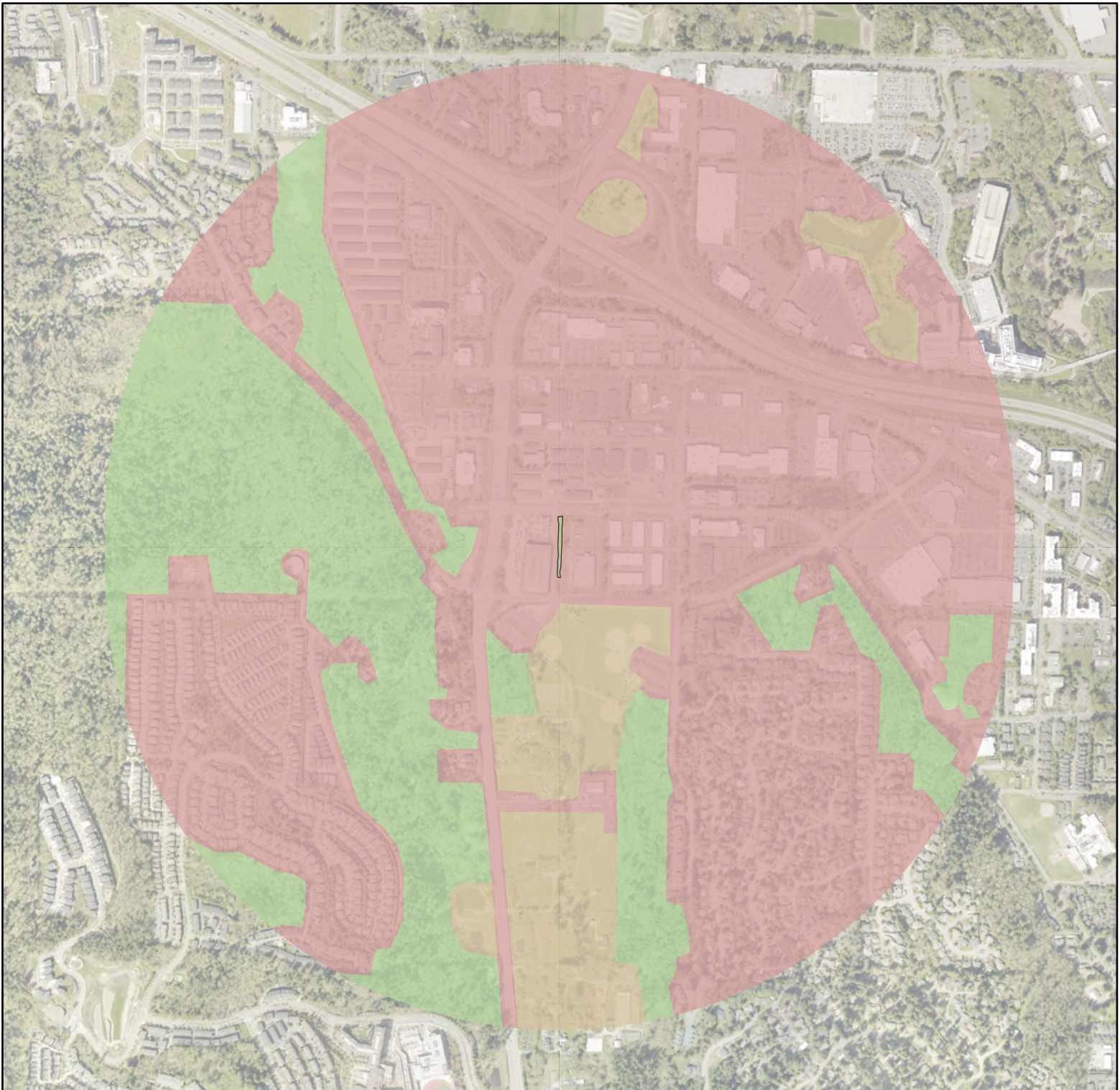
Parcel 292406-9002

1550 Newport Way Northwest, Issaquah, Washington

#0189  
OCT 2024

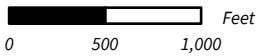
FIGURE A





LEGEND

- |  |  |
|--|--|
|  Wetland A |  Moderate/Low           |
|  High      |  Relatively Undisturbed |



SOURCE: SURVEY BY DAVID EVANS AND ASSOCIATES

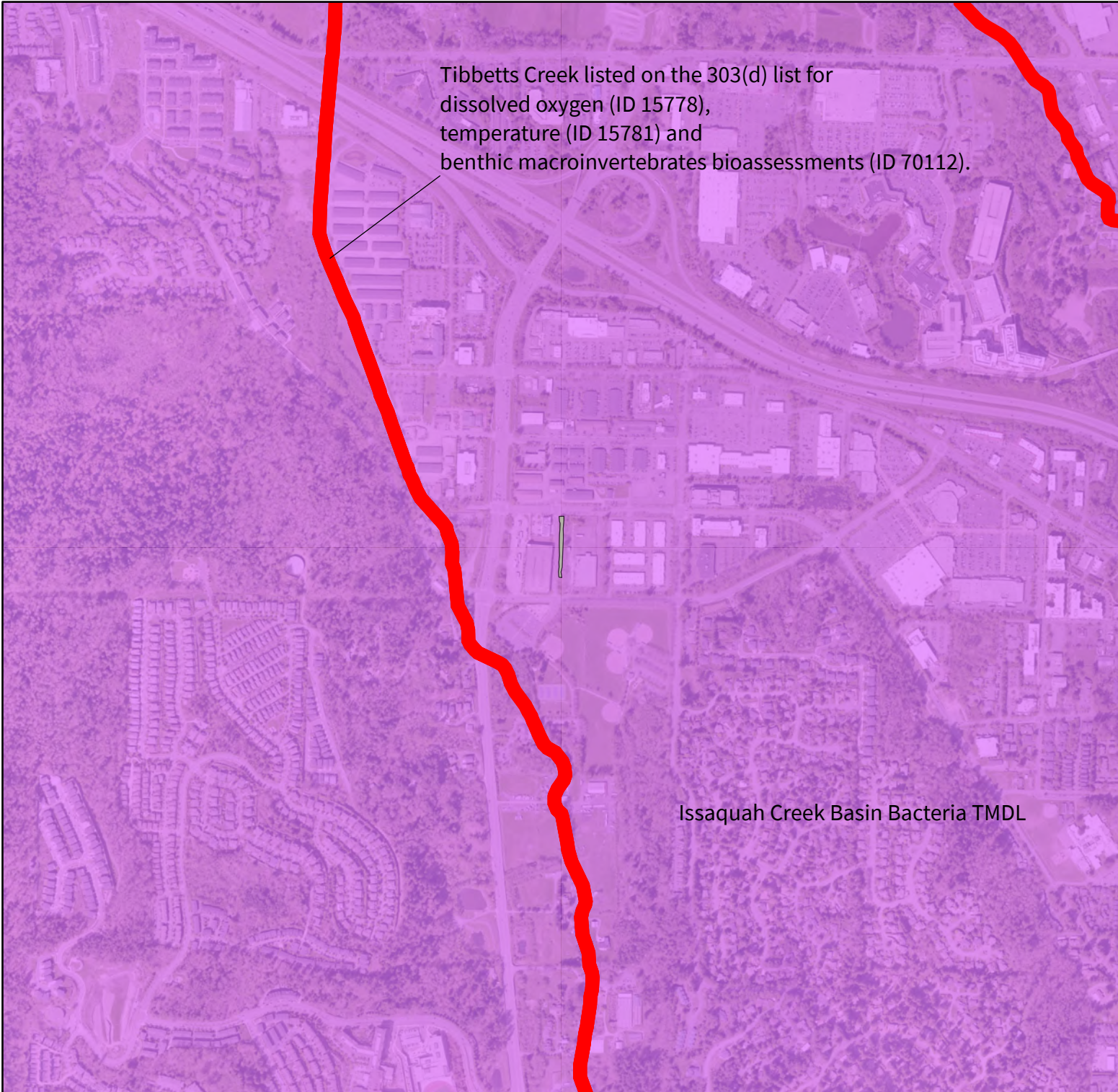


**WETLAND RATING MAP**  
 King County Housing Authority  
 Parcel 292406-9002  
 1550 Newport Way Northwest, Issaquah, Washington

#0189  
 OCT 2024

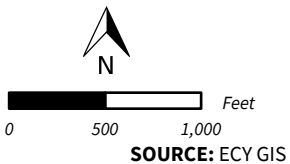
**FIGURE B**





LEGEND

- Wetland A
- 303(d) Listed Waters
- TMDL Boundaries



**WETLAND RATING MAP**  
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**FIGURE C**