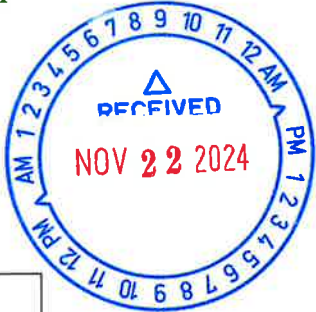




Wetland & Aquatic Sciences  
Wildlife Ecology  
Landscape Architecture



**TECHNICAL MEMORANDUM**

September 24, 2024

To:	Scott Lien Kamiak 1700 Westlake Avenue N. Suite 200 Seattle WA. 98109
From:	Kolten Kosters, M.S., SPWS Wetland Scientist Raedeke Associates, Inc.
RE:	Bullfrog Housing Cle Elum Critical Area Report (RAI Project No. 2024-079-001)

Raedeke Associates, Inc. visited the Bullfrog Housing site on September 20, 2024. The purpose of our site visit was to collect data to characterize the existing site conditions and document any fish and wildlife habitats, streams, and wetlands on or in the vicinity of the project site. The project site consists of a 1.72-acre property that is currently developed and is surrounded by residential or commercial developments. During our site investigation, we did not identify the presence of any sensitive fish and wildlife habitat, streams, or wetlands in the vicinity of the project site.

**PROJECT LOCATION**

The 4240 Bullfrog Housing project site is an approximately 1.72-acre site located at 4240 Bullfrog Road in the City of Cle Elum, Washington. The project site is identified as Kittitas County Tax Parcel No. 11360. This places the project site in a portion of Section 21, Township 20 North, Range 15 East, W.M. Parcel maps retrieved online from Kittitas County depict the property boundaries.

The project site is bordered to the north by an undeveloped lot that currently contains paved parking areas, to the east and south by the Cle Elum School District maintenance and operations buildings, and to the west by Bullfrog Road and commercial developments. The project site is accessed by way of a paved driveway from Bullfrog Road.



## **METHODS**

### **Wetlands**

The U.S. Army Corps of Engineers (COE) wetland definition was used to determine if any portions of the project area could be classified as wetland. A wetland is defined as an area “inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Federal Register 1986:41251).

We based our investigation upon the guidelines of the U. S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and subsequent amendments and clarifications provided by the COE (1991a, 1991b, 1992, 1994), as updated for this area by the regional supplement to the COE wetland delineation manual for the Western Mountains, Valleys, and Coast Region (COE 2010). The COE wetlands manual is required by state law (WAC 173-22-035, as revised) for all local jurisdictions, including the City of Bellevue. As outlined in the COE wetland delineation manual, wetlands are distinguished by the presence of three diagnostic characteristics: hydrophytic vegetation (wetland plants), hydric soil (wetland soil), and wetland hydrology.

### **Streams**

The ordinary high water mark (OHWM) of streams will be determined using definitions provided by the Washington State Shorelines Management Act of 1971: “that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation.” (RCW 90.58.030(2)(c) and WAC173-22-030(5)). The OHWM will be delineated using procedures outlined in the 1994 Washington Department of Ecology Shoreline Administrators Manual.

## **BACKGROUND REVIEW**

Before our site visit, we collected maps and information from the U.S.D.A Natural Resources Conservation Service (2024) Web Soil Survey and U.S. Fish and Wildlife Service (USFWS 2024) National Wetland Inventory online mapper, Kittitas County (2024) Compas map, and the Washington Department of Fish and Wildlife (2024) habitats and species (PHS) database.



## FIELD SAMPLING PROCEDURES AND DATA ANALYSIS

Raedeke Associates, Inc. staff visited the study area on September 20, 2024. We visually examined vegetation, soils, and hydrology in representative portions of the study area according to the procedures described in the Regional Supplement (COE 2010).

Plant identifications were made according to standard taxonomic procedures described in Hitchcock and Cronquist (2018), with nomenclature as updated by the U.S. Army Corps of Engineers National Wetland Plant List (COE 2020). We estimated the percent coverage of each plant species. Wetland classification follows the USFWS wetland classification system (Cowardin et al. 1992). We determined the presence of a hydrophytic vegetation community using the procedure described in the Regional Supplement (COE 2010), which requires the use of the dominance test, unless positive indicators of hydric soils and wetland hydrology are also present, in which case the prevalence index or the use of other indicators of a hydrophytic vegetation community as described in the Regional Supplement (COE 2010) may also be required.

We excavated pits to at least 18 inches below the soil surface to describe the soil and hydrologic conditions throughout the study area. We sampled soil at locations that corresponded with vegetation sampling areas and potential wetland areas. Soil colors were determined using the Munsell Soil Color Chart (Munsell Color 2009). We used the indicators described in the Regional Supplement (COE 2010) to determine the presence of hydric soils and wetland hydrology.

## RESULTS

### Existing Conditions

During our September 20, 2024, site investigation we did not find any wetlands, streams, or sensitive, endangered, or threatened fish and wildlife habitat in the vicinity of the project site. Most of the project site is developed and contains existing single-family and/or commercial buildings, paved parking areas and driveways, and landscaping. The only existing native vegetation is located along the west margin of the site situated between a paved parking lot and Bullfrog Road. The undeveloped portion of the site currently contains an overstory of ponderosa pine (*Pinus ponderosa*, FACU) and Douglas-fir (*Pseudotsuga mensezii*, FACU) trees with an understory of dull oregongrape (*Mahonia nervosa*, FACU), snowberry (*Symphoricarpos albus*, FACU), creeping bentgrass (*Agrostis stolonifera*, FAC), bluebunch wheatgrass (*Pseudoroegneria spicata*, FACU), and cheatgrass (*Bromus tectorum*, FACU) (Sample Plot 1).

Soils throughout the project site are not hydric and consist of up to 6 inches of dark grayish brown (10YR 3/2) sandy loam soils over dark yellowish brown (10YR 4/3) sandy

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loam soils to a depth of greater than 12 inches. We did not observe any indicators of wetland hydrology throughout the project site (Sample Plot 1).

### **Fish and Wildlife Habitat**

During our site investigation, we did not observe any streams within at least 300 feet of the Bullfrog Housing project site. The site has been historically graded and is relatively flat. A slight topographic draw is located approximately 500 feet south of the project site. Based on our visual observations from the public right away along Bullfrog Road this ravine does not appear to contain a stream channel and was dominated by forested upland plant species.

The project site is mapped on the WDFW (2024) Priority Habitat and Species map as being within a quarter section that contains elk concentrations. As noted above, the project site has been historically developed and other than the few ponderosa pine trees along the west margin does not provide significant elk habitat. During our site investigation, we noted that there appeared to be some potential historic elk antler rub on at least two of the ponderosa trees. Despite this minimal evidence of historic use, we did not observe any current indicators of elk use on the site including recent forage/browse of low-lying vegetation, scent marking, bedding depressions, or the presence of scat or game trails. As the site is currently developed and maintained as housing and is located within an urbanized area it is unlikely that elk currently routinely utilize the site.

We did not observe any endangered, threatened, or endangered species or their habitats on or near the project site.

### **CONCLUSION**

During our site investigation, we did not find any wetlands, streams, or priority or sensitive fish and wildlife habitat in proximity to the Bullfrog Housing project site. The site has been previously developed and contains existing single-family homes, roads, and driveways. The proposed project would redevelop the project site to include the development of new apartment buildings along with parking infrastructure (see attached site plan). Based on the current plans, the west margin of the site would remain undeveloped and would preserve most of the existing ponderosa pine and Douglas-fir trees. As such, it does not appear that the proposed project will result in any adverse impacts on fish and wildlife habitat, including elk concentrations in proximity to the site.

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## LIMITATIONS

We have prepared this report for the exclusive use of Kamiak and their consultants. No other person or agency may rely upon the information, analysis, or conclusions contained herein without permission from Kamiak.

The determination of ecological system classifications, functions, values, and boundaries is an inexact science, and different individuals and agencies may reach different conclusions. With regard to wetlands, the final determination of their boundaries for regulatory purposes is the responsibility of the various agencies that regulate development activities in wetlands. We cannot guarantee the outcome of such determinations. Therefore, the conclusions of this report should be reviewed by the appropriate regulatory agencies.

We warrant that the work performed conforms to standards generally accepted in our field and prepared substantially in accordance with then-current technical guidelines and criteria. The conclusions of this report represent the results of our analysis of the information provided by the project proponent and their consultants, together with information gathered in the course of the study. No other warranty, expressed or implied, is made.

Thank you for the opportunity to prepare this material for you. If you have any questions about this information, please call me at (206) 525-8122.





#### LITERATURE CITED

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September 24, 2024.

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

Project/Site: Bullfrog Housing City/County: Cle Elum Sampling Date: 9-20-2024

Applicant/Owner: Kamaika State: WA Sampling Point: SP1

Investigator(s): Kolten Kusters Section, Township, Range: S21 T20N R15E WM

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): 1-3

Subregion (LRR): Northwest Forests & Coasts (LRR A) Lat: 47.205561° Long: -120.980916° Datum: WGS1984

Soil Map Unit Name: Roslyn ashy sandy loam NWI classification: None

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

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No

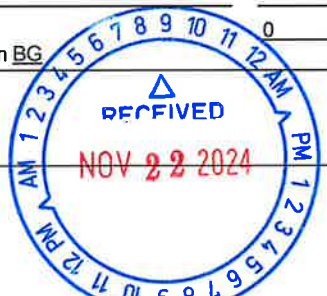
Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sample Plot 1 is located in the west portion of the site.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: 5 m)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. <u>Pinus ponderosa (ponderosa pine)</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
2. <u>Pseudotsuga mensezii (Douglas-fir)</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
		<u>80</u>	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3 m)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>
1. <u>Symphoricarpos albus (snowberry)</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	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>50</u> x 3 = <u>150</u> FACU species <u>110</u> x 4 = <u>440</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>160</u> (A) <u>590</u> (B)  Prevalence Index = B/A = <u>3.7</u>
2. <u>Mahonia nervosa (Oregon grape)</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
		<u>30</u>	= Total Cover	
Herb Stratum (Plot size: 1 m)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1. <u>Pseudoroegneria spicata (bluebunch wheatgrass)</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Agrostis stolonifera (creeping bent)</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>Bromus tectorum (cheatgrass)</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
		<u>50</u>	= Total Cover	
Woody Vine Stratum (Plot size: 3 m)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b>
1. _____	_____	_____	_____	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>BG</u>		<u>0</u>	= Total Cover	
Remarks:				



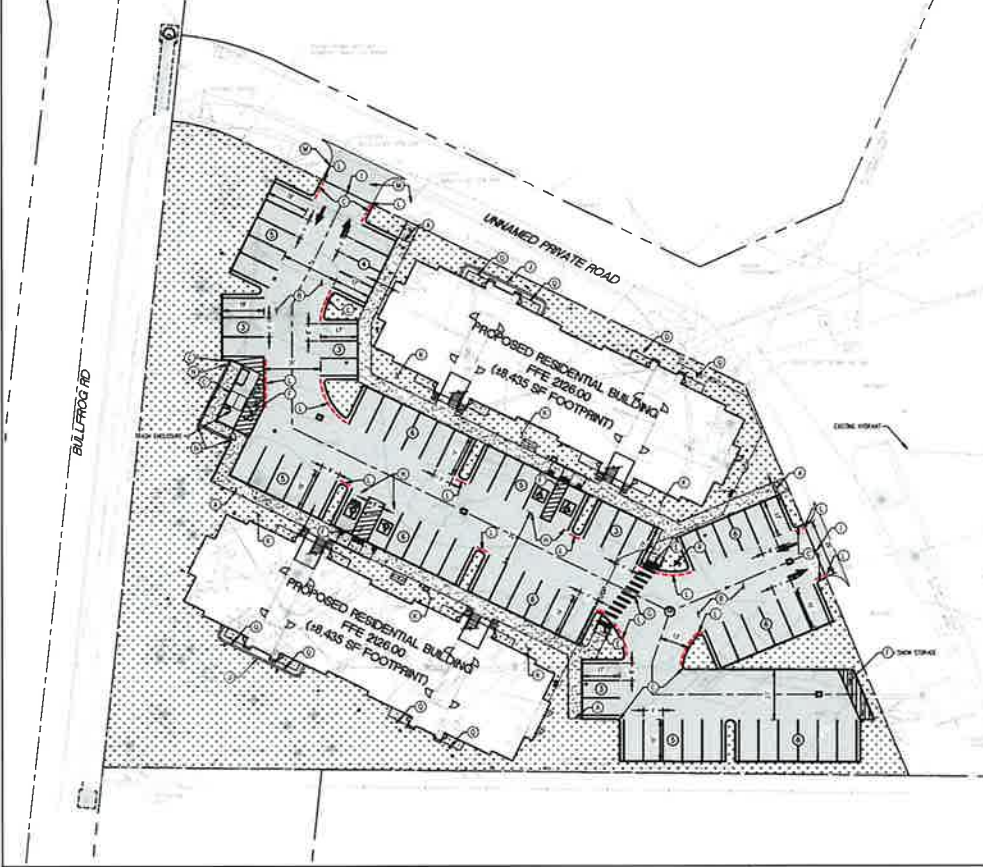






**SITE NOTES**

SEE SHEET C-11 FOR SITE NOTES

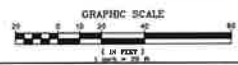


**SITE KEY**

- ① EXISTING CONCRETE SIDEWALK
- ② STAINLESS-STEEL APPLIED CONCRETE FINISHING
- ③ 6" CONCRETE SLAB ON UNFINISHED GROUND (SEE NOTE #5)
- ④ PROPOSED ACCESSIBLE CURB RAMP (FIR)
- ⑤ EXISTING EXTERIOR FINISH (SEE SHEET FOR FINISH SCHEDULE)
- ⑥ AREA STRENGTH AT SINGLE WHEEL (17) LACS 11 AT 8'-0" O.C.
- ⑦ 6" WIDE EXTERIOR FINISHING (SEE SHEET FOR FINISH SCHEDULE) WITH 1/2" ASPHALT FINISH (SEE SHEET C-11 FOR FINISH SCHEDULE)
- ⑧ ACCESSIBLE PARKING SPACE (24'x12' MINIMUM) WITH ACCESSIBLE SPACE
- ⑨ PROPOSED DRIVEWAY
- ⑩ PROPOSED 8" BLOCK RETAINING WALL (SEE SHEET C-11 FOR DETAILS)
- ⑪ PROPOSED LANDSCAPING (SEE LANDSCAPE PLAN FOR DETAILS)
- ⑫ FIRE LANE SYMBOL
- ⑬ PROPOSED EXISTING DRIVEWAY AND DRIVEWAY TO HIGHWAY
- ⑭ 12" x 4" (2" CURB) CONCRETE LANDSCAPE CURB
- ⑮ CLEAN AND CONCRETE BASE (SEE ARCHITECTURAL PLANS)
- ⑯ PATIO (SEE ARCHITECTURAL PLANS)
- ⑰ AREA DRAIN (SEE SHEET C-12)
- ⑱ NEW FIRE HYDRANT (SEE SHEET C-13)

**LEGEND**

- ① PROPERTY LINE
- ② FIRE LANE MARKING
- ③ PAYMENT SYMBOL
- ④ ROOFING OVERLAP
- ⑤ CONCRETE SIDEWALK
- ⑥ APPLIED FINISHING
- ⑦ LANDSCAPING (SEE LANDSCAPE PLANS)
- ⑧ CONCRETE SLAB ON UNFINISHED GROUND (8" x 6")
- ⑨ LANDSCAPING SYMBOL (SEE SHEET C-11 FOR DETAILS)
- ⑩ CONCRETE BLOCK RETAINING WALL (SEE SHEET C-11 FOR DETAILS)
- ⑪ PAYMENT SYMBOL (1" WIDE BLOCK STRIP, 40-DEG ANGLE, 2" DEEP)
- ⑫ DRIVEWAY
- ⑬ PARKING DRIVEWAY



No.	Date	By	Revision Description

Checked By	Issue Date
	11/19/2024
Drawn By	
Checked By	Project No.
	20240003



KAMIAK  
4240 BULLFROG ROAD  
CLE ELUM, WA 98922

SITE PLAN

C-10

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