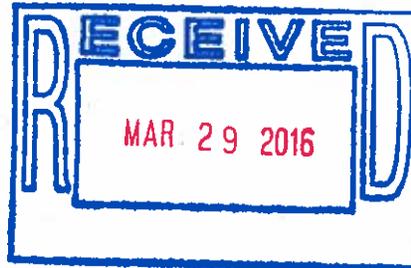

CRITICAL AREAS ASSESSMENT REPORT

BUCKLEY RESIDENTIAL PROPERTY CITY OF BUCKLEY, WASHINGTON



Prepared For:
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Evans Development, LLC
P.O. Box 1744
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Prepared By
TALASAEA CONSULTANTS, INC.

28 September 2015
(Revised 28 March 2016)

**Buckley Residential Property
City of Buckley, Washington**

Prepared For:

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28 September 2015

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EXECUTIVE SUMMARY

PROJECT NAME: Buckley Residential Property

CLIENT: Dave Evans, Evans Development, LLC

SITE LOCATION: Site is located east of South Spiketon Road between Ryan Road and Tanner Avenue in the City of Buckley, Pierce County, Washington. The Public Land Survey System location of the property is Section 23, T40N, R1E, Willamette Meridian.

PROJECT STAFF: William E. Shiels, Principal; David R. Teesdale, PWS, Senior Wetland Ecologist; Jennifer M. Marriott, PWS, Senior Ecologist

FIELD SURVEY: Site evaluation work was accomplished on 4 June 2015 and 1 July 2015.

DETERMINATION: Three (3) wetlands were identified on the Buckley Residential property within the eastern third of the property. No streams were identified within the project limits. The majority of the site is actively used as improved pasture. A wooded area is located in the eastern portion of the Site through which horse trails are maintained. Wetland A is a 2,599 square foot (sf) herbaceous wetland that extends into the pasture for a small distance. Wetland B totals 588 sf, and is located south of Wetland A. Both Wetland A and B occur primarily within an old farm road. Wetland C is part of a larger wetland that extends offsite to the south and east, with 3.7 acres occurring within the Site. Wetland A was rated as a Category IV wetland with 10-foot standard buffers. Wetland B was rated as a Category IV wetland with 10-foot standard buffers. Wetland C was rated as Category III rating with 25-foot standard buffers. Wetland B forms a mosaic with Wetland C and assumes the standard buffer of Wetland C. Buffers for Wetlands A, B, and C would adjust accordingly for a high intensity land use to 25 feet, 50 feet, and 50 feet, respectively.

VEGETATION: A large portion of the site is improved pasture that is actively plowed, seeded and maintained. Species present included a mix of seeded pasture grasses and typical weedy, disturbed sites species such as English plantain, clovers, and dandelion. The forested portion of the Site consists of a mixed coniferous and deciduous forest with Himalayan blackberry the most common understory species with a primarily red alder canopy.

HYDROLOGY: Wetland hydrology for most of the delineated wetlands is supported, for the most part, by shallow groundwater levels, ponding, and interception of precipitation. A stream, Spiketon Ditch, flows offsite to the southeast to which Wetland C appears to drain.

SOILS: One (1) soil series is mapped onsite by the National Resource Conservation Service (NRCS). Buckley gravelly silt loam, 0 to 3% slopes. Buckley gravelly silt loam, 0 to 3% slopes is listed as a hydric soil based on the National Technical Committee for Hydric Soils – Hydric Soils List (NRCS 2014).

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CHAPTER 1. INTRODUCTION

1.1 Report Purpose

This Critical Areas Assessment Report is the result of an evaluation of existing conditions on the Buckley Residential property (referred to hereinafter as the Project Site, or Site) located in the City of Buckley, Washington (**Figure 1**). The Project Site is the location of a proposed short plat. The purpose of this report is to: 1) identify and describe critical areas located on or adjacent to the Project Site, including streams and wetlands; 2) describe classifications and ratings for any critical areas identified; and 3) provide a regulatory review. The report has been prepared to comply with the requirements of the Buckley Municipal Code (BMC) Section 12.08 – Critical Areas.

This report will provide and describe the following information:

- General property description;
- Methodology for critical areas investigation;
- Results of background review and field investigation;
- Description of regulatory framework for protection of critical areas.

1.2 Statement of Accuracy

Wetland delineation, characterization, rating, and functional analyses were conducted by trained professionals at Talasaea Consultants, Inc., and adhered to the protocols, guidelines, and generally accepted industry standards available at the time work was performed. The conclusions in this report are based on the results of analyses performed by Talasaea Consultants and represent our best professional judgment. We believe the information provided herein is accurate and true to the best of our knowledge. Talasaea Consultants does not warrant any assumptions or conclusions not expressly made in this report, or based on information or analyses other than what is included herein.

William E. Shiels, Principal

David R. Teesdale, Senior Wetland Ecologist

CHAPTER 2. GENERAL PROPERTY DESCRIPTION

2.1 Project Location and General Property Description

The Project Site is a rectangular parcel (parcel number 0619101076) totaling approximately 18.6 acres (**Figure 2**). The Public Land Survey System location of the Project Site is Section 23, Township 40N, Range 1E, Willamette Meridian.

The Project Site is bordered on the west side by South Spiketown Road, a private residence with associated improved pastures to the south, and residential properties to the north. The property bordering on the east is actively farmed. A small area in the southeast corner of the Site abuts a relatively undisturbed forested area that continues to (is adjacent to) Spiketown Ditch. The Site is currently maintained and used as improved pasture for horses. Typical species are a variety of pasture grasses and typical disturbed field forbs such as clovers (*Trifolium* spp.), dandelion (*Taraxacum officinale*), and English plantain (*Plantago major*).

The topography of the Site is mostly level (**Figure 3**). The difference in elevation is approximately five (5) feet from the eastern border of the site to the lowest spot in the southwest corner.

A preliminary site evaluation in Spring 2015 identified an atypical situation for delineating wetlands within the Site due to soil compaction resulting from many years as an improved pasture for horses. The generally disturbed onsite conditions precluded a clear analysis of the presence of wetland hydrology. Initial soil samples indicated a compact, moist surface horizon with very dry soils below the compacted layer. Monitoring wells were installed in March 2015 to document onsite conditions to establish where wetland hydrology might be met within the Project Site. After six (6) weeks of collecting data, the results were then used in conjunction with onsite conditions to establish the wetland boundaries, or to document the lack of wetlands. Three (3) wetlands, Wetlands A, B, and C, were located along the western edge of the forested component of the Site. Wetlands A and B remain primarily within an old farm road that is maintained along a fence line to prevent the horses from accessing the forested area. Wetland C extends back into the forested area. Both Wetlands A and C partially occur within the improved pasture.

Drain tiles occur across the western open field of the Site, though they were not functioning well until recently due to substantial soil compaction. The pasture was overgrazed by horses, which compacted the upper soil surface significantly such that no moisture extended below the upper few inches of the soil. The soil layers below the upper 6 inches were dry and crumbly.

2.2 Land Use and Zoning.

The Site is currently zoned as Residential. The Site and properties in the vicinity are currently used for agriculture, as well as for low- to medium-density residential.

CHAPTER 3. METHODOLOGY

The critical areas analysis of the Site involved a three-part effort. The first part consisted of a preliminary assessment of the Site and the immediate surrounding area using published environmental information. This information included:

- 1) Wetland and soils information from resource agencies;
- 2) Critical areas map information from Pierce County and the City of Buckley;
- 3) Orthophotography;
- 4) LIDAR terrain data; and,
- 5) Relevant studies completed or ongoing in the vicinity of the Site.

The second part involved the installation of monitoring wells to measure live data to establish where wetland hydrology was present or absent within the Project Site. These data were then used to complete the third step, the delineation of onsite critical areas.

The third part consisted of a site investigation where direct observations and measurements of existing environmental conditions were made. Observations included plant communities, soils, and hydrology. This information was used to help characterize the existing conditions of the property, and to identify and delineate critical areas (See **Section 3.2 – Field Investigation** below).

3.1 Background Data Reviewed

Background information from the following sources was reviewed prior to field investigations:

- US Fish and Wildlife Service (USFWS), Wetlands Online Mapper (National Wetlands Inventory, NWI) (www.wetlandsfws.er.usgs.gov/wtlnds/launch.html);
- Natural Resources Conservation Service (NRCS), Web Soil Survey (www.websoilsurvey.nrcs.usda.gov/app/);
- NRCS National Hydric Soils List by State (www.soils.usda.gov/use/hydric/lists/state.html);
- Pierce County GIS Database (Pierce County, 2010);
- StreamNet database, 2015 (www.streamnet.org);
- SalmonScape database, 2015 (www.wdfw.wa.gov/mapping/salmonscape/databases);
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) Database on the Web (January 2014) (<http://wdfw.wa.gov/mapping/phs/>); and
- Washington Department of Natural Resources (WDNR) Natural Heritage Database (January 2014)

3.2 Field Investigation

The Project Site was evaluated by Talasaea Consultants on 4 June 2015 and 1 July 2015.

A preliminary site visit in Spring 2015 determined that much of the pasture component of the Site was significantly disturbed due to the presence of horses and long-term maintenance as an improved pasture. The soils were significantly compacted by the animals present, and thus presented an atypical situation with regard to wetland determinations. A decision was made to install groundwater monitoring wells to establish an accurate baseline of onsite hydrology so that a determination could be made as to which areas of the open field actually possessed positive indicators of wetland hydrology.

On 4 June 2014, a more comprehensive Site assessment was conducted, including delineating the wetland boundaries based on current conditions in conjunction with the monitoring well data. At the same time, a visual-only inspection was conducted on the adjacent properties. Wetland delineation used the routine methodology described in the *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, 2010). Wetlands were classified using the *Washington State Wetland Rating System for Western Washington* (2004, rev. 2014).

Plant species were identified according to the taxonomy of Hitchcock and Cronquist (Hitchcock and Cronquist 1973). Taxonomic names were updated and plant wetland status was assigned according to *North American Digital Flora: National Wetland Plant List, Version 2.4.0* (Lichvar, et al. 2014). Wetland classes were determined with the U.S. Fish and Wildlife Service's system of wetland classification (Cowardin, et al., 1979). Vegetation was considered hydrophytic if greater than 50% of the dominant plant species had a wetland indicator status of facultative or wetter (i.e., facultative, facultative wetland, or obligate wetland).

Wetland hydrology was determined based on the presence of hydrologic indicators listed in the Corps' Regional Supplement. These indicators are separated into Primary Indicators and Secondary Indicators. To confirm the presence of wetland hydrology, one Primary Indicator or two Secondary Indicators must be demonstrated. Indicators of wetland hydrology may include, but are not necessarily limited to, drainage patterns, drift lines, sediment deposition,

watermarks, stream gauge data and flood predictions, historic records, visual observation of saturated soils, and visual observation of inundation. Where these visible indicators of wetland hydrology were lacking, the monitoring well data was used to supplement site conditions to make a wetland determination and delineation.

Soils on the Site were considered hydric if one or more of the hydric soil indicators listed in the Corps Regional Supplement are present. Indicators include presence of organic soils, reduced, depleted, or gleyed soils, and/or redoximorphic features in association with reduced soils. It is important to note that the lack of a hydric soil indicator does not equate to the lack of a hydric soil. There is only a positive association between hydric soil indicators and the presence of hydric soils. Additional documentation may be necessary in circumstances where the presence or absence of hydric soils may determine the outcome of a wetland delineation.

An evaluation of patterns of vegetation, soil, and hydrology was made along the interface of wetland and upland. Test pits were dug in representative areas to document existing site conditions. **Appendix A** contains data forms prepared by Talasaea for the representative locations. These data forms document the vegetation, soils, and hydrology information that aided in the critical areas determination. **Appendix B** contains the wetland rating forms prepared by Talasaea.

3.3 Monitoring Well Methods

Monitoring wells were installed based on the most recent guidance from the Corps, the Technical Standard for Water-Table Monitoring of Potential Wetland Sites (USACE 2005). The Site was characterized during the initial field visit to establish baseline site conditions prior to the installation of the monitoring wells. Monitoring wells were installed at predetermined locations across the reconditioned pasture areas in a grid system. A total of 23 wells were initially installed with an additional 10 wells installed within the forested eastern portion of the site. However, monitoring of these wells was discontinued part way through since no development is planned to occur in the forested area. The monitoring well data are provided within **Appendix C**. The methodology used to determine normal rainfall, as well as data for Site-specific conditions, is provided as **Appendix D**.

3.4 Personnel

Field investigations and evaluations were conducted by Bill Shiels, Principal, David R. Teesdale, Senior Wetland Ecologist, and Jennifer M. Marriott, Senior Wetland Ecologist. Bill Shiels has a Bachelor's Degree in Biology from Central Washington University and a Master's Degree in Biological Oceanography from the University of Alaska. He has over 35 years of experience in wetland delineations and mitigations. David Teesdale has a Bachelor's Degree in Biology from Grinnell College, Iowa, and a Master's Degree in Ecology from Illinois State University. He has 15 years of experience in wetland delineations and biological evaluations. Jennifer Marriott has a Bachelor's Degree in Biology from the University of Central Florida, a Master's Degree in Biology (Ecology) from the University of Central Florida, and a Master's Degree in Soil Science from the University of Florida. She has 12 years of experience in wetland delineations and habitat assessments.

CHAPTER 4. RESULTS

4.1 Analysis of Existing Information

This section describes the results of our in-house research and field investigations. For the purpose of this report, the term “vicinity” describes an area approximately ¼ mile around the Project Site.

4.1.1 National Wetlands Inventory – Buckley Quadrangle

The Project Site is located in the southeast quadrant of the Buckley Quadrangle. We reviewed the Buckley Quadrangle for mapped wetlands (**Figure 3**). The National Wetlands Inventory (NWI) does map two (2) wetlands on the Site and two (2) wetlands in the vicinity of the Site.

The two (2) onsite NWI mapped wetlands are identified as palustrine forested, seasonally flooded wetlands (PFOC). The larger PFO mapped wetland in the northeast corner of the site does not correlate with any features delineated within the Site. The smaller PFO wetland mapped in the southeast corner does correlate with Wetland C, except Wetland C is much larger than indicated on the NWI maps.

A palustrine scrub-shrub wetland that is seasonally flooded (PSSC) is identified within the parcel south of the Site and may be connected to the flagged onsite Wetland C. A fourth mapped wetland occurs on the west side of South Spiketon Road in the vicinity of the Site. This palustrine emergent, temporarily flooded (PEMA) wetland appears to connect to Spiketon Ditch.

4.1.2 Natural Resources Conservation Service Soils Data

The Natural Resources Conservation Service (NRCS) maps one soil type (Buckley gravelly silt loam, 0 to 3% slopes, map unit 8A) on the Site (**Figure 4**). Buckley gravelly silt loam, 0 to 3% slopes, is a poorly drained soil that formed on lahars.

The surface layer is a black gravelly silt loam to approximately 9-10 inches. The subsoil is mottled very dark grayish-brown gravelly loam to a depth of approximately 16 inches underlain by a mottled grayish brown gravelly sandy clay loam. The National Technical Committee on Hydric Soils includes Buckley gravelly silt loam on its list of hydric soils.

4.1.3 Pierce County GIS Database and City of Buckley Inventoried Wetlands and Streams Map

The Pierce County GIS database maps no wetlands on the Site and two unverified wetlands¹ offsite to the west and south (**Figure 5**). One of the unverified wetlands is mapped offsite on the west side of West Spiketon Road. The second unverified wetland is located along Spiketon Ditch south of the Site. No verified wetlands are mapped within the Site. Pierce County does not map any streams on the Site.

4.1.4 WDFW Priority Habitats and Species & WDNR Natural Heritage Databases

WDFW Priority Habitats and Species online mapper does not indicate any priority habitats on or in the vicinity of the Project Site. Additionally, the WDNR Natural Heritage Database does not map any natural heritage species or habitats on or in the vicinity of the Project Site. The Priority

¹ Pierce County makes a distinction in their GIS database between “field-verified” wetlands and unverified wetlands. We suspect that the unverified wetlands are based on terrain data or interpretation of aerial photography, but have never been “ground-truthed.”

Habitats and Species online mapper does indicate that a single priority species, Elk (*Cervus elaphus*), are located in the vicinity of the Project Site. Elk are neither State- nor Federally-listed species.

4.1.5 StreamNet and SalmonScape Databases

We reviewed the StreamNet and SalmonScape databases for presence of fish in the vicinity of the Project Site. Spiketon Ditch is located in the vicinity of the Project, although no portions of this stream occur within the Project Site. **Table 1** below contains a list of the anadromous fish species present in the vicinity of the Project Site.

Table 1. List of Anadromous Fish Species

Common Name	Scientific Name	StreamNet Results	SalmonScape Results
Fall Chinook	<i>Oncorhynchus Tshawytscha</i>	Not Present	Presence Modeled
Coho	<i>O. kisutch</i>	Not Present	Presence Potential - Blocked
Winter steelhead	<i>O. mykiss</i>	Not Present	Presence Potential - Blocked
Chum	<i>O. keta</i>	Not Present	Presence Modeled (fall chum only)
Pink	<i>O. gorbuscha</i>	Not Present	Presence Modeled (odd years only)

4.2 Analysis of Existing Conditions

Talasaesa Consultants evaluated site in Spring 2015 to conduct a preliminary site evaluation and establish baseline site conditions. Groundwater monitoring wells were installed on the Site on 6 March 2015 and were monitored twice weekly through 21 April 2015. The existing drainage system on the Site was repaired and the soil plowed on or near 1 April 2015. Plowing was performed to loosen soil that had been previously compacted by horses. We conducted a more extensive evaluation of existing Site conditions on 4 June 2015 with a follow-up Site visit on 1 July 2015. Our site work included digging test pits in representative areas to document existing site conditions and a more extensive exploration of the Site using a soil auger. The results of our test pit evaluations are included in **Appendix A** of this report within the USACE datasheets. Weather conditions during the site delineations on both 4 June and 1 July 2015 were clear and sunny with no rain.

4.2.1 Groundwater Well Monitoring

Groundwater monitoring is frequently used to determine if a disturbed or atypical site has inundation or saturation to within 12 inches of the soil surface for a period of time sufficient to allow the development of anaerobic conditions. In the Pacific Northwest, wetland hydrology is said to be present if the soil is inundated or saturated to within 12 inches of the soil surface for a minimum of 14 consecutive days during years with normal patterns of precipitation. Determining whether normal patterns of precipitation are present requires an analysis of daily precipitation amounts starting at least three months prior to the start of groundwater well monitoring and extending through the monitoring period. Precipitation patterns are compared

against WETS² data from a local weather station. These data provide monthly average precipitation, 30th percentile, and 70th percentile ranges based on a minimum of 30 years of data. A description of the process for determining normal patterns of precipitation is provided in **Appendix D**. Our analysis of the precipitation patterns for our groundwater monitoring period is also included in **Appendix D**. A graphic representation of the patterns of precipitation for our groundwater monitoring period is represented on **Figure 6**.

In general, patterns of precipitation during our groundwater monitoring period were determined to be dryer than normal. There was a two week time frame during our groundwater monitoring period where patterns of precipitation were generally within the range of normal conditions. This time frame occurred during the second and third weeks of March after our initial well installation occurred. All but two of our groundwater monitoring wells had positive indications of wetland hydrology through our 31 March monitoring event. We would normally conclude from these results that the site exhibited wetland hydrology. However, all of the wells that previously showed wetland hydrology prior to the repair of the onsite drainage system immediately generally showed no wetland hydrology from 3 April 2015 to 27 April 2015 (the end of our groundwater monitoring of this Site). This is a remarkable result considering that the Buckley soils on site are a relatively dense soil with poor drainage capabilities. We, therefore, conclude from these results that the previous indications of wetland hydrology were the result of a drainage system that was no longer functioning properly and that after normal maintenance and repair of the drainage system (including plowing and disking of the fields), the normal conditions of the site were restored and that wetland hydrology does not exist.

Of the 23 wells consistently monitored, only one (1) well (Well #22) clearly possessed sufficient hydrology to meet wetland hydrology criteria. However, based on rainfall data, the months preceding and during the monitoring period were drier than normal. Given the drier than normal rainfall, we scrutinized the monitoring well data further and identified two (2) additional wells (Wells # 16 and #17) that might have likely met wetland hydrology criteria had rainfall been within the normal range. Well #22 is included within the delineation of Wetland A. Wells #16 and #17 are located outside of the areas delineated as Wetland C and Wetland B, respectively, based on current conditions, but are completely contained within the associated buffers (**Figure 7**).

Areas around the wells that tested positive or potentially positive for the presence of wetland hydrology were further evaluated for the presence of hydric soil indicators and hydrophytic vegetation. Three (3) wetlands were delineated near the fence line along the eastern boundary of the pasture (**Figure 8**). Wetlands A and B are small isolated wetlands occurring almost entirely within an old farm road. Wetland C is a larger forested sedge meadow that appears to extend offsite to the south. We evaluated these wetlands using the *Washington State Wetland Rating System for Western Washington*.

4.2.2 Wetland A

Wetland A is a depressional palustrine emergent wetland (**Figure 8**) that is 2,599 square feet in size. Wetland A occurs within an old farm road and partially extends into the pasture. It likely was created by soil compaction from heavy farm equipment. The tree stratum within Wetland A

² WETS is an acronym with no apparent defined meaning. WETS tables were updated in 2012 to use data derived from the 30 year period between 1980 and 2010. The new WETS tables are, therefore, more representative of current climate conditions as affected by global climate change.

consists of a mixture of red alder (*Alnus rubra*) and Oregon ash (*Fraxinus latifolia*), but the canopy coverage of trees rooted wholly or partially within the wetland did not exceed 30% for this wetland to be considered forested. The understory consists predominantly of soft rush (*Juncus effusus*), taper-tip flat sedge (*Cyperus acuminatus*), and clustered rose (*Rosa pisocarpa*).

No indicators of wetland hydrology were identified within the field for Wetland A. Hydrology was assumed based on the monitoring well data. A soil test pit within the portion of Wetland A at the edge of the pasture met the depleted matrix (F3) hydric soil indicator. Otherwise, soils were typically a 10YR 2/1 loam with no redoximorphic features present, nor any organic material, mucky mineral or other organic-material based textures that might indicate a hydric soil.

Wetland A scored 6 for Water Quality Functions, 4 for Hydrologic Functions, and 3 for Habitat Functions. The Total Score for Functions is 13, which satisfies the criteria for classification as a Category IV wetland. Category IV wetlands in the City of Buckley with a high-intensity land use, such as active agriculture, have a 25-foot standard buffer.

4.2.3 Wetland B

Wetland B is a depressional palustrine emergent wetland (**Figure 8**) that is 588 square feet in size. Wetland B occurs mostly within an old farm road. The tree stratum within Wetland B consists of a mixture of red alder (*Alnus rubra*) and Oregon ash (*Fraxinus latifolia*), but the canopy coverage of trees rooted wholly or partially within the wetland did not exceed 30% for this wetland to be considered forested. The understory consists predominantly of soft rush (*Juncus effusus*), English hawthorn (*Crataegus monogyna*), and clustered rose (*Rosa pisocarpa*).

The only observed indicator of wetland hydrology was the presence of reduced iron based on an Alpha-alpha-Dipyridyl dye test in the field. No other hydrologic indicators were evident. Hydrology is also based on the monitoring well data in the vicinity. A soil test pit within Wetland B met the depleted matrix (F3) hydric soil indicator.

Wetland B scored 6 for Water Quality Functions, 4 for Hydrologic Functions, and 3 for Habitat Functions. The Total Score for Functions is 13, which satisfies the criteria for classification as a Category IV wetland. Category IV wetlands in the City of Buckley with a high-intensity land use, such as active agriculture, have a 25-foot standard buffer. However, because Wetland B forms a mosaic with Wetland C due to their proximity, Wetland B acquires the wetland rating and standard buffer of Wetland C. Wetland C was rated as a category III wetland which has a 50-foot standard buffer with a high-intensity land use in the City of Buckley, thus Wetland B will also have a 50-foot standard buffer despite its independent rating as a Category IV wetland.

4.2.4 Wetland C

Wetland C is a palustrine emergent and palustrine forested wetland located in the southeast corner of the Site (**Figure 8**). The onsite portion of Wetland C is approximately 3.7 acres. A very small portion of this wetland occurs within the open pasture component of the Site, with the remainder extending back extensively into the wooded area and offsite to the south and east. Hydrology appears to be supported, for the most part, by groundwater seepage and interception of surface runoff. A small stream/swale feature drains across the southeast corner of this wetland within the Site based on aerial imagery, but delineating this feature in the field was difficult. Dominant vegetation within this wetland include slough sedge (*Carex obnupta*), soft rush (*Juncus effusus*), Oregon ash (*Fraxinus latifolia*), and clustered rose (*Rosa pisocarpa*).

Wetland C scored 7 for Water Quality Functions, 5 for Hydrologic Functions, and 4 for Habitat Functions. The Total Score for Functions is 16, which satisfies the criteria for classification as a Category III wetland. Category III wetlands in the City of Buckley with a high-intensity land use, such as active agriculture, have a 50-foot standard buffer.

The ratings and standard buffer requirements for Wetlands A, B, and C are contained in **Table 1** below.

Table 2. Wetland and Stream Ratings and Buffer Requirements

Wetland Name	Water Quality Score	Hydrology Score	Habitat Score	Total Score for Functions	Wetland Category & Stream Class	Standard Buffer Width (feet)	Buffer Width HI LU* (feet)
A	6	4	3	13	IV	10	25
B**	7	5	4	16	III	25	50
C	7	5	4	16	III	25	50

*High Intensity Land Use

**Wetland B independently scored as a Category IV wetland, but assumes the category and buffer of Wetland C, the higher category and buffer, because Wetlands B and C form a mosaic due to their physical proximity.

CHAPTER 5. REGULATORY REVIEW

5.1 City of Buckley Critical Areas Regulations

Critical Areas are regulated by the City of Buckley under Title 12 *Environment* of the Buckley Municipal Code (BMC) (Buckley 2015). Critical areas include wetlands, regulated fish and wildlife species and habitat conservation areas, and others. Wetlands are regulated under Chapter 12.09 *Wetlands*.

5.2 State and Federal Regulations

Wetlands Buckley Residential Property Site are also subject to Federal and State regulation under Sections 404 and 401 of the Clean Water Act (U.S. Government Printing Office 1972), and other State laws applicable to the protection of Waters of the State. The Federal Government, through the U.S. Army Corps of Engineers, may issue a Section 404 permit for projects that may affect a Water of the US. The Washington Department of Ecology is tasked with issuing Section 401 permits for projects that may discharge stormwater into Waters of the State. Projects that will involve work within the ordinary high water mark of a Water of the State will require a Hydraulic Project Approval permit from the Washington Department of Fish and Wildlife.

CHAPTER 6. SUMMARY

The Buckley Residential property is a rectangular parcel totaling approximately 18.6 acres. The western 2/3 of the property is currently in a high intensity land use as an actively maintained and heavily used horse pasture. The eastern third is a somewhat disturbed second growth forest that has riding trails casually maintained throughout for onsite recreation. The property is located within the Buckley City limits. Properties adjacent to the Project Site are also actively farmed and managed with limited residential use near the Site.

Three (3) wetlands occur within the Project Site. Wetlands A and B are rated as Category IV wetlands with 10-foot standard buffers that would increase to 25-foot buffers with a high intensity land use. Wetland B occurs within the buffer for Wetland C. Wetland C is rated as a Category III wetland with 25-foot standard buffers that would increase to 50-foot buffers with a high intensity land use.

Coordination with local, State and Federal agencies may be necessary to address potential impacts and subsequent mitigation to these wetlands or their buffers. Listed species are unlikely to be a concern within the Project Site due to a general lack of suitable habitats onsite. Talasaea can provide a more detailed permitting needs assessment once a development concept and site plan are prepared.

CHAPTER 7. REFERENCES

- City of Buckley Municipal Code. Chapter 12.08, *Critical Areas*.
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FIGURES

Figure 1 – Vicinity Map

Figure 2 – Site Map

Figure 3 – NWI Map

Figure 4 – NRCS Soils Map

Figure 5 – Pierce County GIS Map

Figure 6 – Normal Precipitation Worksheet for Buckley, 2015.

Figure 7 – Monitoring Well Location Map

Figure 8 – Existing Conditions Map

APPENDIX A
USACE WETLAND DATA SHEETS

APPENDIX B
DOE WETLAND RATING SHEETS

APPENDIX C
MONITORING WELL DATA

APPENDIX D
NORMAL PRECIPITATION DATA