HABITAT TECHNOLOGIES

CRITICAL AREAS ASSESSMENT
AND
BIOLOGICAL EVALUATION

PARCEL 0420037037
5505300831, 808 – 14th Street SW
City of Puyallup, Pierce County, Washington

This document has been updated to incorporate additional information consistent with City of Puyallup third-party reviews dated March 17, 2022 and July 18, 2022

prepared for

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INTRODUCTION

As initially proposed, the overall action would divide an existing approximately 0.93-acre parcel into two (2) generally equal sized new parcels. Following this proposed division of land, the existing single-family homesite would be retained within one of the newly created parcels and the second newly created parcel would be suitable for the development of a new single-family homesite consistent with the community. The project site (**Parcel 5505300831**) was located at 808 – 14th Street SW within the City of Puyallup, Pierce County, Washington (Figure 1).

PROJECT SITE DESCRIPTION

The project area is rectangular in shape, approximately 0.93-acres in size, and located within a well urbanized portion of the City of Puyallup that is well served by existing public roadways along with public and private public utilities. The project site is surrounded by existing single-family homesites, managed yards, a public roadway, and church/religious facilities. Seasonal stormwater runoff from the project site along with this portion of the City of Puyallup that does not infiltrate within managed yards and landscaping enters a City of Puyallup stormwater system located within 14th Street SW adjacent to the eastern boundary of the project site. This City stormwater system leads generally southerly within a City of Puyallup stormwater collection and conveyance system to enter Meeker Ditch approximately 600 feet offsite to the south of the project site. Meeker Ditch is an open City managed ditch within the unimproved 10th Avenue SW Corridor that conveys both a remnant stream and directed stormwater from well-urbanized areas generally to the west to eventually enter Clarks Creek, a tributary to the Lower Puyallup River well offsite to the north of the project site.

BACKGROUND INFORMATION

NATIONAL WETLAND INVENTORY

The *National Wetland Inventory (NWI) Mapping* completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment (Figure 2). This mapping resource did not identify any wetlands or surface water drainages within or immediately adjacent to the project site.

STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington *Priority Habitats and Species (PHS) Mapping* was reviewed as a part of this assessment (Figure 3). This mapping resource did not identify any priority habitats or priority species within or immediately adjacent to the project site.

STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife (WDFW) *SalmonScape Mapping* was reviewed as a part of this assessment (Figure 4). This mapping resource did not identify any streams within or immediately adjacent to the project site. This mapping resource did identify both Meeker Ditch offsite to the south and Clarks Creek offsite to the west.

Meeker Ditch has been documented to provide spawning and rearing habitats for coho salmon (*Oncorhynchus kisutch*), cutthroat trout (*Oncorhynchus clarkii*), and chum salmon (*Oncorhynchus keta*). Clarks Creek has been the subject of State of Washington, Puyallup Tribal, and private enhancement programs and has been documented to provide habitats for coho salmon, Chinook salmon (*Oncorhynchus tshawytscha*), chum salmon, cutthroat trout, and steelhead/rainbow trout (*Oncorhynchus mykiss*).

STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource did not identify any wetlands or drainage corridors within or immediately adjacent to the project site. This mapping resource did identify Meeker Ditch offsite to the south as a Type U Water (unknown) and Clarks Creek offsite to the west as a Type S Water (shoreline of the state).

CITY OF PUYALLUP MAPPING

The City of Puyallup *Mapping Inventory* was reviewed as a part of this assessment (Figure 6). This mapping resource did not identify any wetlands or streams within or immediately adjacent to the project site. This mapping resource did identify a “field verified” wetland offsite to the south of the project site – in the location of two existing single-family homesites. Also identified were Meeker Ditch and an associated created mitigation wetland offsite to the south and Clarks Creek offsite to the west.

The *Flood Plain Mapping* (Figure 6A) prepared by the City of Puyallup identified that the central and southeastern portions of the project site were overlain by an area exhibiting a 1% annual chance of flooding (AE flood zone).

SOILS MAPPING

The *Soil Mapping Inventory* completed by the Natural Resource Conservation Service (NRCS) was reviewed as a part of this assessment (Figure 7). This mapping resource identified the soils throughout the project site as Sultan silt loam. The Sultan soil series is defined as moderately well drained, as formed in alluvium, and as not listed as a “hydric” soil.

ONSITE ASSESSMENT

CRITERIA FOR ENVIRONMENTALLY CRITICAL AREAS IDENTIFICATION

To allow for proposed site planning, the assessment and delineation of specific environmentally critical areas within and immediately adjacent to the project site followed the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the Washington State *Wetland Rating System for Western Washington: 2014 Update* Publication #14-06-029 (Hruby, 2014), the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030), and City of Puyallup – *Chapter 21.06*. This assessment did not include an assessment of potential steep slope, potential critical aquifer recharge areas, floodplain areas, erosion hazard areas, or geotechnically hazardous critical areas.

WETLANDS: Wetlands are transitional areas between aquatic and upland habitats. In general terms, wetlands are lands where the extent and duration of saturation with water is the primary factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, et al., 1979). Wetlands are generally defined within land use regulations as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (United States Army Corps of Engineers 1987). Wetlands exhibit three essential characteristics, all of which must be present for an area to meet the established criteria (United States Army Corps of Engineers, 1987 and United States Army Corps of Engineers, 2010). These essential characteristics are:

1. **Hydrophytic Vegetation:** The assemblage of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence. Hydrophytic vegetation is present when the plant community is dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season.

2. **Hydric Soil:** A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper parts. Most hydric soils exhibit characteristic morphologies that result from recent periods of saturation or inundation. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods.

3. **Wetland Hydrology:** Permanent or periodic inundation, or surface soil saturation, at least seasonally. Wetland hydrology indicators are used in combination with indicators of hydric soil and hydrophytic vegetation to define the area. Wetland hydrology indications provide evidence that the site has a continuing wetland

hydrology regime. Where hydrology has not been altered vegetation and soils provide strong evidence that wetland hydrology is present.

STREAMS: A stream is defined by the City of Puyallup as a feature where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition is not intended to include artificially created irrigation ditches, canals, storm or surface water devices, or other entirely artificial watercourses, unless they are used by salmonids or created for the purposes of stream mitigation.

CRITICAL FISH AND WILDLIFE HABITAT AREAS: The City of Puyallup defines "fish and wildlife habitat conservation areas" as those areas that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term.

(a) These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness. These areas also include locally important habitats and species as determined by the city.
(b) "Habitats of local importance" designated as fish and wildlife habitat conservation areas include those areas found to be locally important by the city.
(c) These areas do not include such artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district, unless these features are documented as being used by salmonids for habitat.

FIELD OBSERVATION

The project site was accessed via an existing driveway connection to 14th Street SW along the eastern boundary of the project site. The entire project site has been managed as a single-family homesite (initially constructed in 1905) and associated managed yard and garden areas. The project site was generally flat and surrounded by existing single-family homesites and similarly sized and smaller parcels. Representative field data worksheets (**WETLAND DETERMINATION FORMS**) are provided in Appendix A.

- **Vegetation**

The plant community throughout the project stie has been altered by prior permitted clearing, grading, homesite removals, and the placement of clean imported gravelly loam fill materials. The existing single-family homesite within the northeastern portion of the project site includes ornamental landscaping, lawn, and garden areas. The remainder of

the project site was dominated by a managed lawn with a few small fruit trees. Observed species throughout the majority of the project site included bluegrass (*Poa* spp.), bentgrass (*Agrostis tenuis*), orchardgrass (*Dactylis glomerata*), quack grass (*Agropyron repens*), fescue (*Festuca* spp.), sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), reed canarygrass (*Phalaris arundinacea*), bracken fern (*Pteridium aquilium*), buttercup (*Ranunculus repens*), cats-ear (*Hypochaeris radicata* and *Hypochaeris lanatum*), clover (*Trifolium* spp.), daisy (*Bellis* spp.), mustard (*Brassica campestris*), plantain (*Plantago major*), Queen Annes lace (*Daucus carota*), dandelion (*Taraxacum officinale*), bull thistle (*Cirsium vulgare*), and Canadian thistle (*Cirsium arvensis*).

- **Soil**

The project site had been cleared and leveled several decades ago in the development of an existing single-family homesite and associated managed yard and lawn areas. As defined at representative sample plots the soil throughout the majority exhibited characteristics typical of the Sultan soil series. The surface soil generally to a depth of four (4) to nine (9) inches was very dark grayish brown (10YR 3/2) to dark brown (10YR 3/3) in coloration and silty loam in texture. The surface soil exhibited often dense grass root structure. The subsoil to a depth of 24 inches exhibited a brown (10YR 4/3) to dark yellowish brown (10YR 3/4) coloration and a silty loam texture. The soil throughout the majority of the project site did not exhibit prominent field indicators of hydric soils.

A very shallow topographic depression was present within the northcentral portion of the project site generally within an area of a prior garden. The surface soil to a depth of approximately nine (9) inches within this area exhibited a very dark grayish brown (10YR 3/2) coloration and a silty loam in texture. The subsoil to a depth of 24 inches exhibited a dark grayish brown coloration and a silty loam texture. The subsoil exhibited somewhat faint redoximorphic features and appeared more typical of the Briscot soil series (a somewhat poorly drained soil also mapped within the Lower Puyallup River Valley).

- **Hydrology**

Initial onsite assessments of potential onsite wetland hydrology patterns were completed during the summer and fall of 2021. As noted during these initial assessments the project site did not exhibit prominent field indicators of wetland hydrology patterns. However, City of Puyallup Third-Party review completed on March 2, 2022 identified the potential presence of seasonal surface water throughout the project site and especially within the northcentral portion of the project site. Since this observation was so contrary to those of Habitat Technologies, Habitat Technologies immediately began an assessment of early growing seasonal hydrology patterns to better understand the potential reasons for divergent findings.

On April 17, 2022, Habitat Technologies established a pattern of four (4) monitoring locations to define onsite hydrology patterns from the middle of April through the end of May 2022. Because the project site is actively managed as a part of the existing single-

family homesite each monitoring location was defined with a hand-held GPS so that monitoring would be completed within generally the same locations over the monitoring period. Twice a week at each monitoring location a monitoring hole was dug by hand to a depth of approximately 24 inches. East monitoring hole was allowed to remain open for a period of 30 to 60 minutes. The level of free water and the level of soil saturation was then identified as measured in inches from the soil surface for each monitoring hole (Appendix B).

ASSESSMENT FINDINGS

WETLANDS

As noted above, the entire project site along with adjacent parcels had been modified and manipulated for the past several decades as a part of single-family residential development and utilization. The activities had generally included previous clearing and grading, the establishment and management of single-family homesites, the establishment and management of associated landscaping and yard areas, the creation and maintenance of overground and underground utilities, the creation and management of City stormwater collection and conveyance facilities, and the creation and management of public and private roadways.

Since the character of the project site has been historically disturbed and continuously maintained for ongoing residential utilization, the present character of the existing plant communities and the soil profile within the upper 24 inches may not be reliable indicators of the presence or absence of wetlands. As such, the presence or absence of wetland hydrology would appear to be the most reliable indicator for the determination of whether or not a “wetland” would be present within the project site.

- **Wetland Hydrology Review**

As identified above, an assessment of shallow groundwater/wetland hydrology patterns was completed from the middle of April 2022 through the end of May 2022. This assessment documented both the level of free water and the level of soil saturation within representative monitoring plots. Documented onsite hydrology patterns were then compared to seasonal rainfall data to determine if the hydrology patterns observed occurred during normal climatic conditions or during either wetter than normal or drier that normal seasonal conditions.

2022 MONTH	30%<[A]	AVE [A]	30%>[A]	PPT[B]	CONDITION[C]	CONDITION VALUE	MONTH WEIGHT VALUE	PRODUCT
March	3.46	4.58	5.34	4.92	N	2	1	2
April	2.53	3.51	4.14	3.69	N	2	2	4
May	1.76	2.67	2.67	3.56	W	3	3	9
						Sum		**15**

Notes:

Growing Season: There is a 70% chance of the growing season (24°F or higher) occurring between Jan 30 and Dec 13 (317 days).

If sum is:	Condition Values:
6 - 9 then prior period was drier than normal	Dry (D) = 1
10 – 14 then prior period was normal	Normal (N) = 2
15 – 18 then prior period was wetter than normal	Wet (W) =3

[A] AgACIS for McMillin Reservoir, WA WETS Station (NRCS 2022)
[B] AgACIS for Parkland 0.9 NE, WA (CoCO RaHS) (NRCS 2022)
[C] Conditions are considered normal if they fall within the low and high range around the average
[*] NOTE that different stations are used due to data availability

Based on the combined review of rainfall occurrence within the general area of the project site between the first of March and the end of May 2022, documented climatic conditions were slightly wetter than normal. This wetter than normal condition is defined by precipitation during May (Condition Value of 3).

- **Wetland Hydrology Conclusion**

Based on the observations documented from the middle of April 2022 through the end of May 2022, shallow seasonal groundwater or saturated soils were not present within 12 inches of the surface for a continuous period of time sufficient to meet the established wetland hydrology criteria as outlined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010). In addition, since the period documented occurred during a spring period of normal and wetter than normal rainfall conditions the findings can be reasonably extrapolated to be representative of the entire growing season.

The conclusion that no portion of the project site exhibited soil saturation or shallow ground water sufficient to meet the established wetland criteria is supported by the following:

- In accordance with the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010) and area exhibits wetland hydrology **if** it is inundated or saturated to the surface for at least 5% of the growing season in most years (50% probability of recurrence) during normal climatic conditions.

- As defined on the WETS Table information, the growing season for the area of the project site is 317 days in length. A such 5% of the growing season results in a total of approximately 16 days.

- For an area to meet the wetland hydrology criterion, such an area would need to exhibit saturated soils or shallow groundwater for 16 consecutive days during the defined growing season.

- As documented from the middle of April 2022 through the end of May 2022 (a total of 46 days), no portion of the project site exhibited 16 consecutive days of saturated soils or shallow groundwater.

- While the 2022 assessment did not begin until the middle of April the onsite assessment did occur during slightly wetter than normal climatic conditions such that the extrapolation of these results to normal conditions would indicate that there are even fewer days when saturated soils or groundwater are within 12 inches of the surface onsite during the growing season.

No portion of the project site, or area within the immediate vicinity of the project site was identified to exhibit all three of the criteria for designation as "wetland."

STREAMS

No portion of the project site, or area within the immediate vicinity of the project site was identified to exhibit a defined channel or swale created by the concentrated movement of surface water.

FISH AND WILDLIFE SPECIES AND HABITATS

The project area was located within a well-urbanized portion of the City of Puyallup. The project area and adjacent parcels were dominated by existing managed single-family homesites, public roadways, public utilities, and church/religious facilities. Based on direct observations, prior observations within the project area, and a review of existing onsite and adjacent habitats wildlife species that were observed or that would be expected within the project site include American crow (*Corvus brachynchos*), rock dove (*Columbia livia*), mourning dove (*Zenaida macroura*), violet green swallow (*Tachycineta thallassina*), song sparrow (*Melospiza melodia*), American robin (*Turdus migratorius*), dark eyed junco (*Junco hyemalis*), Steller's jay (*Cyanocitta stelleri*), starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), purple finch (*Carpodacus purpureus*), Anna's hummingbird (Calypte anna), rufous hummingbird (*Selasphorus rufus*), red tailed hawk (*Buteo jamaicensis*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), deer mouse (*Peromyscus maniculatus*), vole (*Microtus* spp.), mole (*Scapanus* spp.), bats (*Myotis* spp.), Norway rat

(*Rattus norvegicus*), eastern cottontail (*Sylvilagus floridanus*), and common garter snake (*Thamnophis sirtalis*). The majority of these species would also utilize the managed habitats associated with adjacent parcels and in particular those areas where bird-feeders are available.

The project site was not observed and has not been documented to provide spawning or rearing habitats for amphibian. The project site was also not observed and has not been documented to provide direct habitats for fish species.

Both Meeker Ditch and Clarks Creek well offsite have been documented to provide habitats for a variety of fish and wildlife species. Meeker Ditch has been documented to provide habitats for coho salmon (*Oncorhynchus kisutch*), cutthroat trout (*Oncorhynchus clarkii*), and chum salmon (*Oncorhynchus keta*). Clarks Creek has been the subject of State of Washington, Puyallup Tribal, and private enhancement programs and has been documented to provide habitats for coho salmon, Chinook salmon (*Oncorhynchus tshawytscha*), chum salmon, cutthroat trout, and steelhead/rainbow trout (*Oncorhynchus mykiss*). Addition, non-salmonid fish species within these surface water corridors include sculpin (*Cottus* spp.), three spine stickleback (*Gasterosteus aculeatus*), sucker (*Catostomus* spp.), Western brook lamprey (*Lampetra richardsoni*), bullhead (*Ameiurus* spp.), and sunfish (*Lepomis* spp.).

- **State Priority Species**

A very limited number of species identified by the State of Washington as "Priority Species" were observed onsite or potentially may utilize the habitats provided within the project site. Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.

Game Species: Species identified by the State of Washington as "game species" are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. A single "game species" – mourning dove - may use the habitats provided within the project area.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. No State Candidate species were observed or have been documented to use the habitats provided within the project site.

State Threatened: State Threatened species are native to the state of Washington and are likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. The project site did not provide and has not been documented to provide direct critical habitats for State Threatened species.

State Endangered: State endangered species means any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. The project site did not provide and has not been documented to provide direct critical habitats for State Endangered species.

- **Federally Listed Species**

The project site did not provide and has not been documented to provide direct critical habitats for federally listed endangered, threatened, or candidate species. Clarks Creek offsite to the west has been documented to provide habitats for Puget Sound Chinook salmon and Puget Sound Steelhead trout – both federally listed threatened species. Both Clarks Creek and Meeker Ditch have been documented to provide habitats for coho salmon – a federally listed "species of concern." In addition, the Clarks Creek Corridor, along with the Puyallup River and local lakes, has been documented to provide habitats for bald eagle (*Haliaeetus leucocephalus*) – a federally listed "species of concern."

PROPOSED ACTION

EXISTING PARCEL DIVISION

As noted above, the initially proposed action is the division of the existing approximately 0.93-acre parcel into two (2) generally equal sized new parcels. This initial proposed action would not involve the manipulation or modification of the project site. Following this proposed division of land, the existing onsite single-family homesite would be retained within one of the newly created parcels and a new single-family homesite consistent with the neighborhood would be constructed within the second, newly created parcel.

The project site, along with adjacent properties, had been greatly modified since the late 1800s initially for agricultural crop production and then urbanization to establish a residential community. This residential community generally focused on the development and management of single-family homesites, the development and management of public roadways, the development and management of public and private utilities, the development and management of church/religious facilities, and the development and management of a City of Puyallup stormwater capture and conveyance facilities. While the general area of the project site had been modified through prior and ongoing urbanization and well served by City of Puyallup stormwater facilities a portion of the project site has been identified as within the regulated base flood elevation (BFE) for the AE Zone (100-year floodplain) at 32 feet. As presently defined by survey the BFE covers approximately 7,576 square feet of the project site primarily within the central and central-western portion of the project site.

NEW SINGLE-FAMILY HOMESITE CONSTRUCTION

Following the issuance of required environmental and construction permits from the City of Puyallup for new single-family homesite construction within the new second parcel, onsite actions would initially define the required work areas and a working schedule. Initial onsite actions would focus on the clear identification of work and staging areas, the placement of protective construction fencing, the placement of protective security fencing, and the placement of protective erosion controls as required. A small to medium sized excavator would then remove only those onsite soils required for the placement of the homesite foundation, associated structures, and utilities. Removed soils not required onsite for replacement would be placed within a dump truck for export to an offsite approved disposal site.

New homesite construction would not modify the majority of the newly created parcel. In addition, the new homesite construction actions would utilize the existing stormwater systems within and adjacent to the project site within the 14th Street SW Corridor. Best Management Practices for noise, dust, and water quality protections would also be followed during new homesite construction.

As noted above, new homesite construction shall implement a variety of impact avoidance and minimization strategies. These strategies include site preparation and foundation work during the dry season or periods of dry weather; the control and treatment of potential stormwater runoff from the work area; a spill prevention and pollution control program; and the proper short-term storage, staging, inspection, and refueling of equipment. All equipment shall be properly maintained to limit noise and the proposed staging and equipment work areas shall be primarily along the northern/northwestern side of the new homesite foundation. Since the new homesite is generally located approximately 600 feet north of Meeker Ditch and over 1,400 feet east of Clarks Creek, it is expected that noise associated with the new homesite construction would not adversely impact offsite aquatic habitats. In addition, the new homesite construction sequence shall focus initially on the development of the foundation, exterior walls, and roof structures such that the majority of the noise generally associated with this project would be internalized within the homesite.

- **Unavoidable Floodplain Encroachment Mitigation**

The placement of the new single-family homesite within the new parcel would require an unavoidable encroachment into the presently identified floodplain. However, shifting of the new single-family homesite location further to the west to avoid placement within the floodplain would require the construction of a fire truck turnaround thus expanding the development area and impervious surfaces required to be constructed. The impacts to the floodplain as a result of the current proposed location of the new single-family homesite would be minimized by providing openings to the crawlspace of the single-family homesite to allow for the entry and exit of floodwaters. The openings provided would meet the requirements as set forth by section PMC 21.07.060. The small floodplain fill

created by the stem wall of the new single-family homesite would be fully mitigated by a compensatory storage area near the southeastern corner of the site that would be hydrologically connected to the existing floodplain.

DETRIMENTAL IMPACT AVOIDANCE METHODS

Following the initial action to divide an existing parcel into two new parcels the overall action proposes the construction a new single-family homesite within the second of the two newly created parcels. As noted above, the first newly created parcel would retain the existing single-family homesite and managed yard. The new single-family homesite would be consistent with neighborhood and would not require any adverse impacts or modifications to identified environmentally critical areas (wetlands, streams, critical habitats, riparian corridors, or existing vegetated buffers) within or immediately adjacent to the project site. In addition, the construction a new single-family homesite would not alter the existing City of Puyallup stormwater facilities within the general area of the project site. Best Management Practices shall be followed during single-family homesite construction to avoid potential adverse impacts associated with the overall site development actions.

SUMMARY OF POTENTIAL EFFECTS

- **Potential Direct or Indirect Effects**

The initial action to divide an existing parcel into two new parcels would not require site modifications and would have no potential direct or indirect effects.

New single-family homesite construction within the second of the newly created parcels would **not** require any adverse impacts or modification to identified critical areas (wetlands, streams, critical habitats, riparian corridors, or existing vegetated buffers) associated with offsite aquatic corridors. In particular, the project site is separated from Meeker Ditch approximately 600 feet to the south and from Clarks Creek by well over 1,400 feet to the west. The areas between the project site and these offsite aquatic corridors are well established by a variety of residential developments, church/religious facilities, public roadways, and both public and private utilities.

As noted above, the placement of the new single-family homesite within the new parcel would require an unavoidable encroachment into the presently identified floodplain. However, shifting of the new single-family homesite location further to the west to avoid placement within the floodplain would require the construction of a fire truck turnaround thus expanding the development area and impervious surfaces required to be constructed. The impacts to the floodplain as a result of the current proposed location of the new single-family homesite would be minimized by providing openings to the crawlspace of the single-family homesite to allow for the entry and exit of floodwaters.

The openings provided would meet the requirements as set forth by section PMC 21.07.060. The small floodplain fill created by the stem wall of the new single-family homesite would be fully mitigated by a compensatory storage area near the southeastern corner of the site that would be hydrologically connected to the existing floodplain.

FACTOR	EFFECTS DISCUSSION	EFFECTS DETERMINATION
New single-family homesite construction potential to impact the primary constituent elements for a listed species.	The proposed single-family homesite construction would be completed well outside both the Meeker Ditch and the Clarks Creek Corridors and would not require any adverse impacts or modification to identified critical areas (wetlands, streams, critical habitats, riparian corridors, or existing vegetated buffers). In addition, the areas between the project site and these offsite aquatic corridors are well established by a variety of generally residential urban developments and public roadways. Best Management Practices shall also be followed during single-family homesite construction to avoid potential adverse impacts associated with the overall site development actions.	No adverse effects.
Essential fish habitat	The combination of distance away from offsite aquatic areas, the urbanized character of the area of the project site, the avoidance/ minimization elements to be implemented, and the utilization of Best Management Practices the proposed action is not expected to result in direct or indirect adverse impacts to listed EFH.	No adverse effects.
Fish and wildlife conservation areas	The combination of distance away from offsite aquatic areas, the urbanized character of the area of the project site, the avoidance/ minimization elements to be implemented, and the utilization of Best Management Practices the proposed action is not expected to result in direct or indirect adverse impacts to fish and wildlife conservation areas.	No adverse effects.
Vegetation communities and habitat structures	The proposed action would be completed within an existing managed project site dominated by regularly mowed grasses and herbs. The proposed action would not be reasonably expected to impact existing vegetation communities or habitat structures associated with offsite wetlands, streams, critical habitats, riparian corridors, or existing vegetated buffers associated with either the offsite Meeker Ditch or the Clarks Creek Corridors.	No adverse effects.
Water quality	The proposed action would be completed within an existing managed project site dominated by regularly mowed grasses and herbs, and would not alter the existing City of Puyallup surface water management facilities associated with the general	No adverse effects.

	area of the project site. Seasonal surface water runoff from impervious surfaces will be dispersed into vegetated lawn areas where feasible via splash blocks and sheet flow.	
Water quantity, including flood and low flow depths, volumes and velocities	Seasonal surface water runoff from impervious surfaces will be dispersed into vegetated lawn areas where feasible via splash blocks and sheet flow. This action would not alter the existing City of Puyallup stormwater facilities within the general area of the project site. The proposed action would not be reasonably expected to impact existing water quality, including flood and low flow depths, volumes, or velocities associated with either the offsite Meeker Ditch or the Clarks Creek Corridors.	No adverse effects.
The channel's natural planform pattern and migration processes.	The proposed action would not be reasonably expected to impact channel planform patterns or migration processes associated with either the offsite Meeker Ditch or the Clarks Creek Corridors.	No adverse effects.
Spawning substrate.	The proposed action would not be reasonably expected to impact spawning substrates associated with either the offsite Meeker Ditch or the Clarks Creek Corridors.	No adverse effects.
Floodplain refugia.	The proposed action would not be reasonably expected to impact floodplain refugia associated with either the offsite Meeker Ditch or the Clarks Creek Corridors.	No adverse effects.

Direct effects generally occur at or very close to the time of the proposed action. Because the proposed action would be completed within the onsite area previously leveled and presently managed as lawn, would implement a variety avoidance/ minimization strategies such as splash blocks for the new carport building and sheet flow dispersion for portions of the shared access driveway. As such, the proposed single-family homesite construction would not be reasonable expected to result in a change to the hydrologic or aquatic habitats within either the offsite Meeker Ditch or the offsite Clarks Creek Corridors.

Indirect effects are also a direct result of the proposed actions but are likely to occur later in time. These indirect effects may occur within the area of the proposed action or may occur outside the area directly affected by the proposed action. Because the proposed action would be completed within the general location onsite of a prior single-family homesite and would not be reasonably expected to alter existing seasonal stormwater runoff patterns within the general area of the project site the proposed new single-family homesite construction would not result in adverse impacts to modifications to high or low stream flows, modifications to stormwater runoff, the contribution of sediments that impact aquatic substrates, the blocking of connective corridors within habitat areas, an increase in instream water temperatures, the degradation of chemical or biological water quality parameters, the disturbance of riparian vegetation, the modification of large woody debris,

the destabilization of stream channels or channel forming processes, or the degradation of wetlands associated with aquatic drainage corridors within either the offsite Meeker Ditch or Clarks Creek Corridors.

- **Potential Interrelated Effects**

Following the new single-family homesite construction and associated yard establishment no further actions are presently proposed. The new single-family homesite would be occupied and managed in a similar manner as the prior onsite homesite and shall be consistent with the other residents within this portion of the City of Puyallup. Best Management Practices shall be implemented during and following homesite construction activities to ensure protection of local water quality and identified offsite aquatic habitats. No interrelated effects have been identified for this new single-family homesite construction.

- **Potential Interdependent Effects**

The proposed new single-family homesite construction would be completed within an area that has previously been leveled and managed as a part of the adjacent single-family homesite. Seasonal stormwater from the new homesite would be directed via splash blocks and topography into vegetated lawn and landscaped areas onsite for dispersion. As such, the proposed homesite construction would not cause a measurable adverse impact to existing habitats within or adjacent to the project area. No interdependent effects have been identified for this new single-family homesite construction.

- **Potential Cumulative Effects**

The project area is located within an existing, well-urbanized portion of the City of Puyallup. The proposed action would construct a new single-family homesite in an area that has previously been leveled and managed as a part of the adjacent single-family homesite. Upon the completion of the new single-family homesite construction the project site would be consistent with the neighborhood. As such, the new homesite construction would not be to result in adverse impacts associated with traffic, lighting, and noise within the project area, adjacent public roadways, and adjacent urbanized areas. In addition, new homesite development would not be reasonably expected to adversely impact downstream water quality as a result of onsite dispersion of stormwater from new applicable impervious surfaces, or any critical habitats within offsite Meeker Ditch, Clarks Creek, or Lower Puyallup River Corridors.

FLOODPLAIN FUNCTIONS EFFECTS DETERMINATION

The purpose of the *Floodplain Functions Analysis* is to define whether or not a proposed action would potentially result in adverse impacts on the existing floodplain functions. As noted above, the presently proposed action is the construction of a new single-family

homesite within the area of a prior single-family homesite. This construction of a new single-family homesite would **not** require any adverse impacts or modification to identified critical areas (wetlands, streams, critical habitats, riparian corridors, or existing vegetated buffers) within or immediately adjacent to the project site. Potential impact avoidance/minimization strategies associated with this new homesite construction include implementation of a variety of Best Management Practices associated with dust, noise, water quality, and potential erosion controls; the dispersion of seasonal stormwater runoff from impermeable onsite surfaces; and a limited footprint of area modification onsite.

FLOODPLAIN FUNCTIONS	PROPOSED PROJECT ELEMENTS	DETERMINATION
Water quantity and quality within adjacent aquatic system.	The proposed action would utilize onsite dispersion of seasonal stormwater runoff from impermeable surfaces where feasible. In addition, Best Management Practices shall be implemented. As such, the pre-construction water patterns shall be substantially the same as the post-construction water patterns.	No effects on these floodplain functions.
Flood velocities and volumes.	The proposed action would utilize onsite dispersion of stormwater runoff from impermeable surfaces where feasible. In addition, Best Management Practices shall be implemented. As such, the pre-construction water patterns shall be substantially the same as the post-construction water patterns. The placement of the new single-family homesite within the new parcel would require an unavoidable encroachment into the presently identified floodplain. The impacts to the floodplain as a result of the current proposed location of the new single-family homesite would be minimized by providing openings to the crawlspace of the single-family homesite to allow for the entry and exit of floodwaters. The openings provided would meet the requirements as set forth by section PMC 21.07.060. The small floodplain fill created by the stem wall of the new single-family homesite would be fully mitigated by a compensatory storage area near the southeastern corner of the site that would be hydrologically connected to the existing floodplain.	No effects on these floodplain functions.
Flood storage capacity	The proposed action would utilize onsite dispersion of seasonal stormwater runoff from impermeable surfaces where feasible. In addition, Best Management Practices shall be implemented. As such, the pre-construction	No effects on these floodplain functions.

	flood storage capacity shall be substantially the same as the post-construction water patterns. The placement of the new single-family homesite within the new parcel would require an unavoidable encroachment into the presently identified floodplain. The impacts to the floodplain as a result of the current proposed location of the new single-family homesite would be minimized by providing openings to the crawlspace of the single-family homesite to allow for the entry and exit of floodwaters. The openings provided would meet the requirements as set forth by section PMC 21.07.060. The small floodplain fill created by the stem wall of the new single-family homesite would be fully mitigated by a compensatory storage area near the southeastern corner of the site that would be hydrologically connected to the existing floodplain.	
Riparian vegetation	The project site is separated from the Meeker Ditch and Clarks Creek Corridors by existing urbanization. In addition, Best Management Practices shall be implemented. As such, the pre-construction riparian vegetation along these corridors shall not be altered and would be substantially the same as the post- construction riparian vegetation.	No effects on these floodplain functions.
Aquatic habitat forming processes	The project site is separated from the Meeker Ditch and Clarks Creek Corridors by existing urbanization. In addition, Best Management Practices shall be implemented. As such, the pre-construction aquatic habitat forming processes along these corridors shall not be altered and would be substantially the same as the post-construction aquatic habitat forming processes.	No effects on these floodplain functions.
Refuge from higher velocity floodwaters.	The project site is separated from the Meeker Ditch and Clarks Creek Corridors by existing urbanization. In addition, Best Management Practices shall be implemented. As such, the pre-construction refuge processes forming processes along these corridors shall not be altered and would be substantially the same as the post-construction aquatic habitat forming processes.	No effects on these floodplain functions.
Spawning substrate.	The proposed action would utilize onsite dispersion of seasonal stormwater runoff from impermeable surfaces where feasible. In	No effects on these floodplain functions.

	addition, Best Management Practices shall be implemented. As such, the pre-construction spawning substrate along these offsite corridors shall be substantially the same as the post-construction spawning substrate.	
Habitat isolation, channel modifications, sediment inputs, construction noise.	The project site is separated from the Meeker Ditch and Clarks Creek Corridors by existing urbanization. In addition, Best Management Practices shall be implemented. As such, the pre-construction habitat, channel, and sediment forming processes along these offsite corridors shall not be altered and would be substantially the same as the post-construction forming processes. Best Management Practices shall ensure the construction noise, dust, or water quality do not adversely impact these offsite corridors.	No effects on these floodplain functions.

EFFECT DETERMINATION

The overall purpose of the *Habitat Assessment* (HA) program is to provide a detailed analysis of the potential project related impacts (the development of a new single-family homesite within the second of the newly created parcels) on federally listed salmonid species and orcas generally associated with the Puyallup River Corridor and Puget Sound.

- Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) – ESA threatened
- Puget Sound steelhead trout (*Oncorhynchus mykiss*) – ESA threatened
- Bull trout - native char (*Salvelinus confluentus*) – ESA threatened
- Coho salmon (*Oncorhynchus kisutch*) – ESA species of concern
- Pink salmon (*Oncorhynchus gorbuscha*) – EFH listed
- Southern resident Orcas (*Orcinus orca*) – ESA endangered

The effects determination is defined as follows:

- **No Effect (NE):** The project will have no effect whatsoever on listed species and designated floodplain functions. An insignificant or discountable affect is not the same as no effect. If work affects any item evaluated in the HA, even insignificantly, an NE determination is typically not appropriate.

- **May Affect, Not Likely to Adversely Affect (NLAA):** The appropriate conclusion when effects on the species of floodplain functions that support these species are expected to be beneficial, discountable, or insignificant – even when considering direct, indirect, and cumulative impacts. Beneficial effects are positive impacts without and adverse effects on fish or habitats. Insignificant effects refer to the

size of the impact and discountable effects are those extremely unlikely to occur due to timing. Based on best judgement, a person cannot meaningfully measure, detect, or evaluated insignificant effects or expect discountable effects to occur. The term “negligible” means the same as “insignificant.”

- **Likely to Adversely Affect (LAA):** The effect of the project is likely to result in a short or long-term adverse effect on listed species or floodplain functions.

PROPOSED ACTION EFFECTS DETERMINATION

As outlined above, the proposed construction of a new single-family homesite within the second of the newly created parcels would not require any adverse impacts or modification to identified critical areas (wetlands, streams, critical habitats, riparian corridor, or existing vegetated buffers) or to the physical and biological processed that support and form these critical areas within or immediately adjacent to the project area. In addition, the proposed action would not impact existing floodplain functions within or adjacent to the project area. As such, a **No Effect** is appropriate for the proposed new single-family homesite construction action.

STANDARD OF CARE

This document has been completed by Habitat Technologies for the use by **Kristian and Joann Mullan**. Prior to extensive site planning the findings documented in this report should be reviewed, verified, and approved by the City of Puyallup and potentially other resource and permitting agency(s) staff. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck
Senior Wetland Biologist

Thomas D. Deming, SPWS
Habitat Technologies

FIGURES

Figure 1 Site Vicinity

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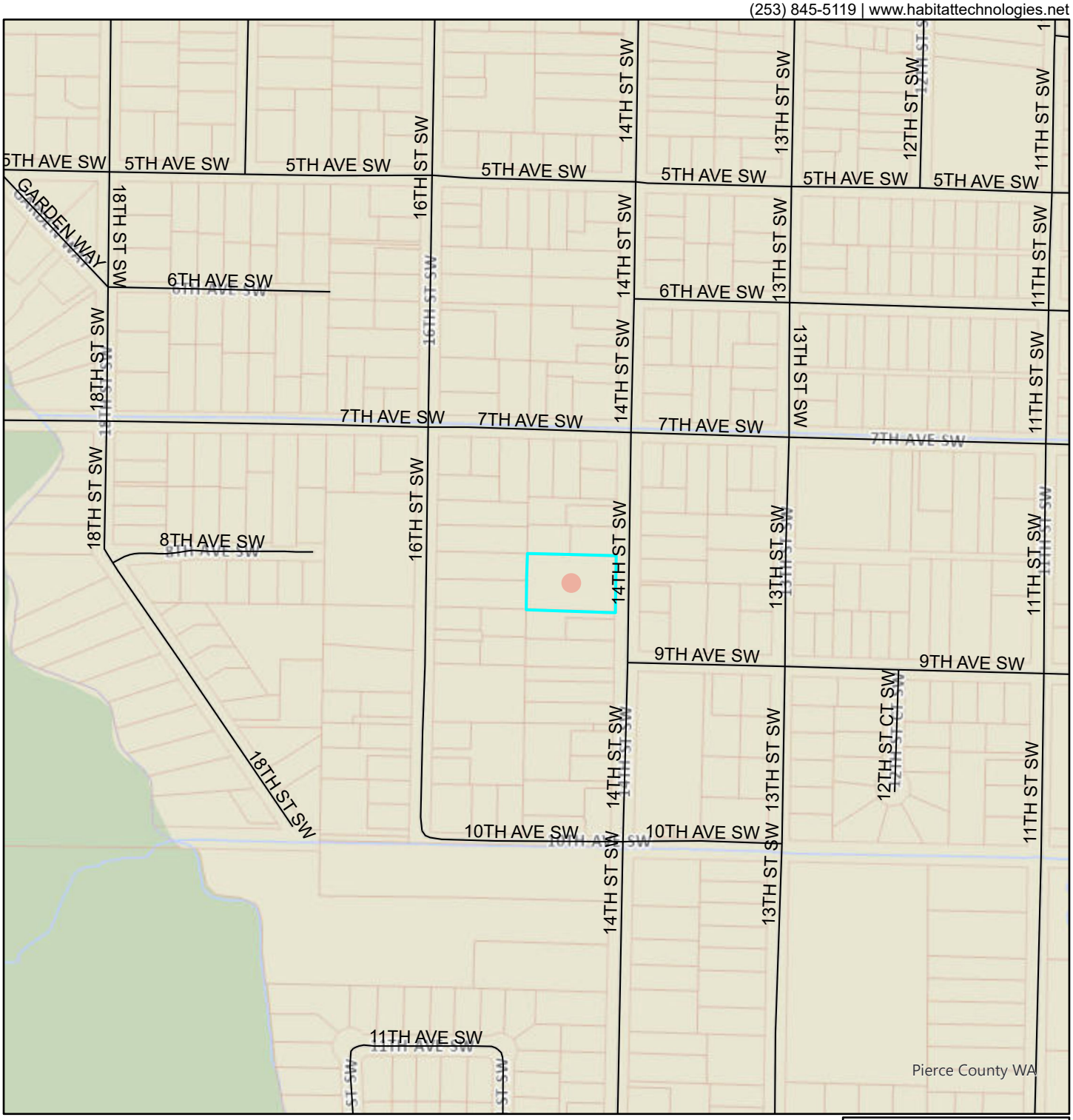

Legend

- Roads
- Priority Habitat and Species

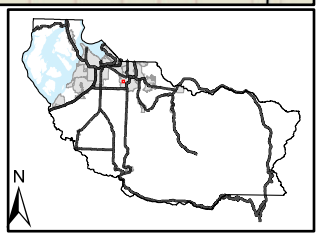

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Figure 2 NWI Mapping

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Legend

- Roads
- National Wetlands Inventory

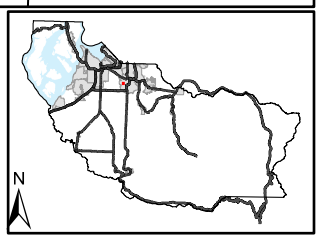

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Figure 3 PHS Mapping

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Legend

- Roads
- Priority Habitat and Species

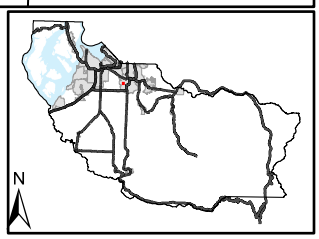

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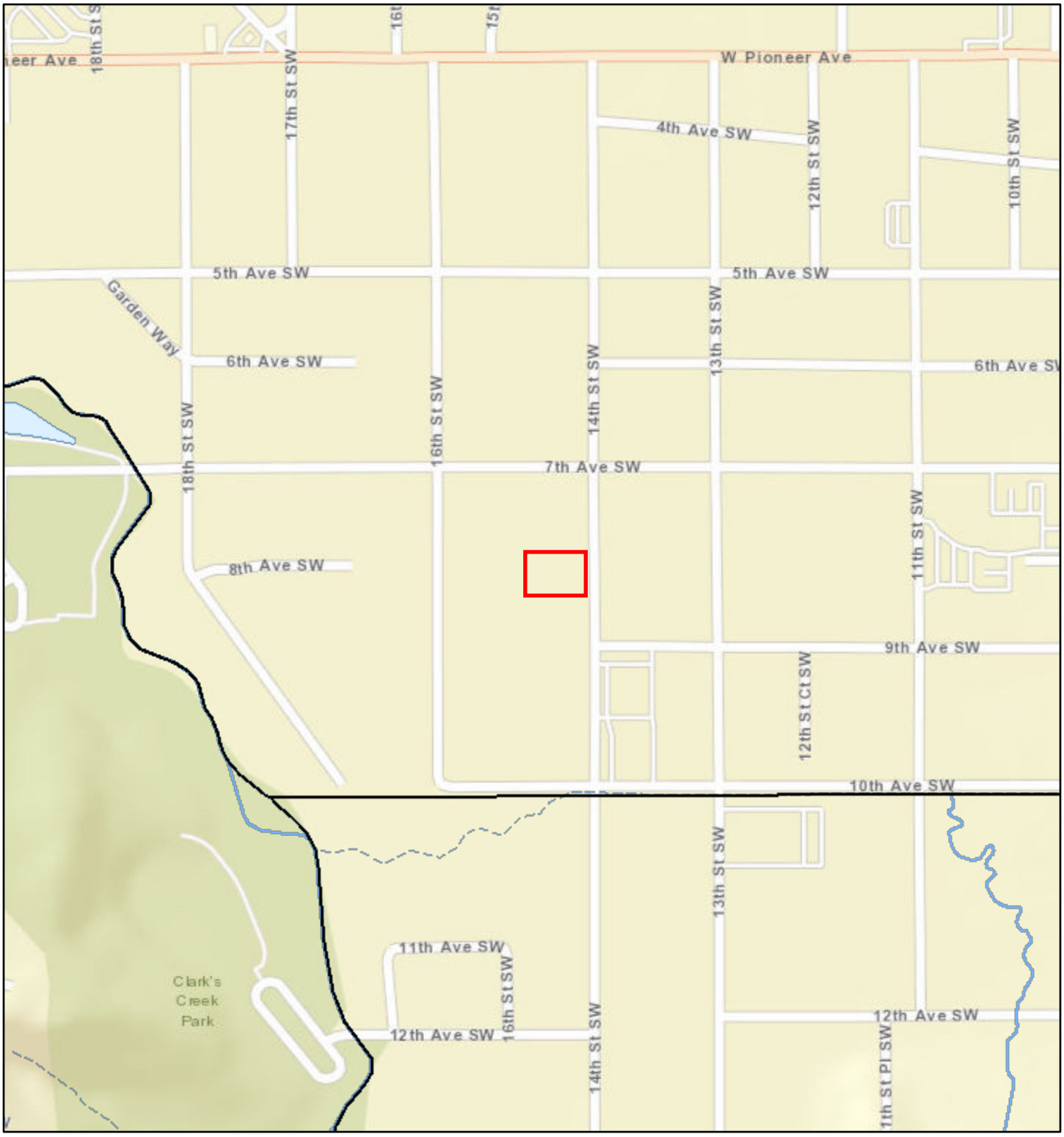
Figure 4 WDFW Salmonscape Mapping



October 27, 2021

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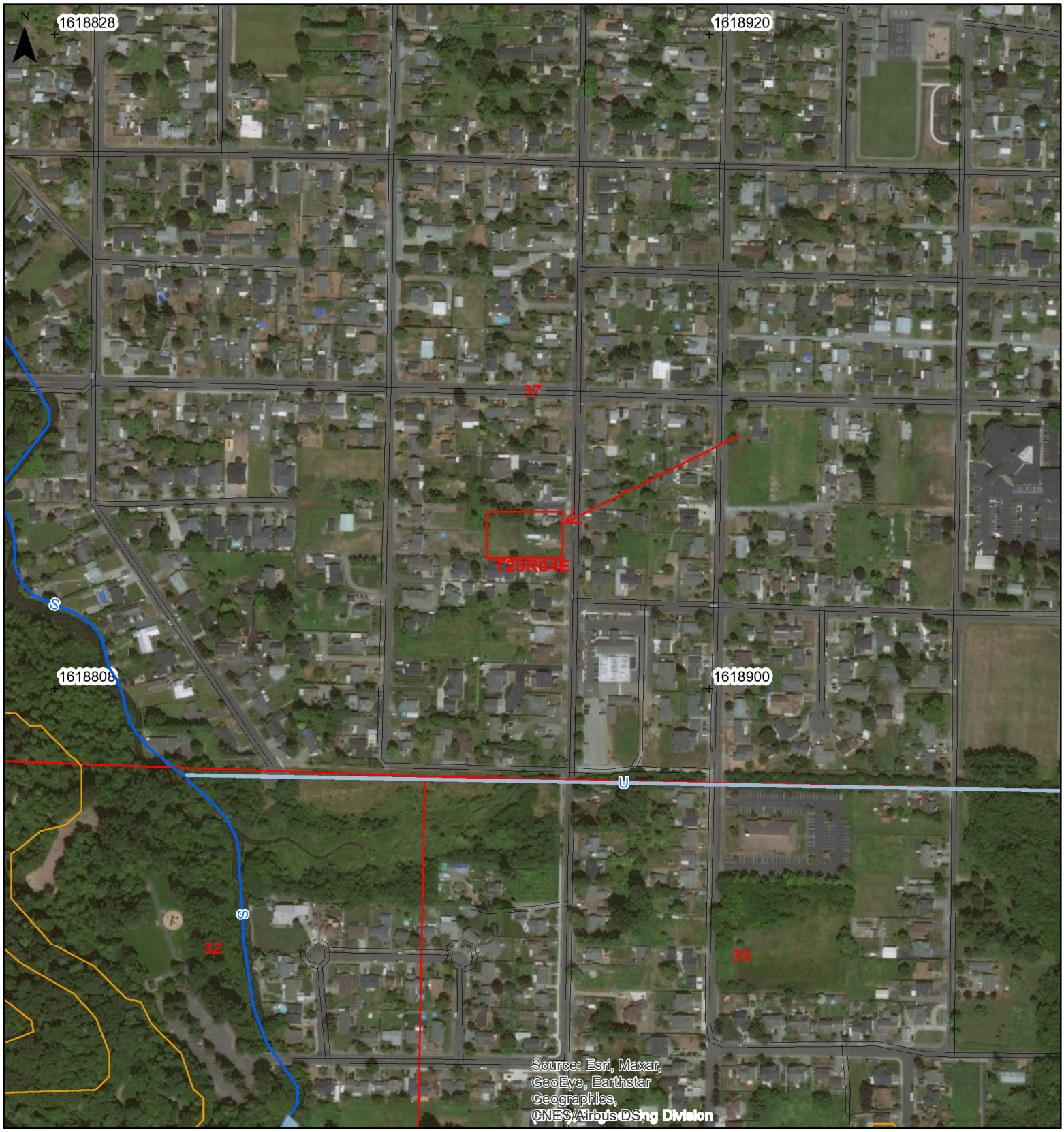
All SalmonScape Species

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, USGS/NHD, Dale Gombert (WDFW), WDFW

Figure 5 Forest Practices Water Type Map



Map Symbols

- New Stream
- Proposed Water Type
- Stream Removal
- Break between water types
- Start and End Point of Surveyed Reach
- Natural Fish Barrier
- Manmade Barrier
- End of Fish or Last Fish

Additional Information

Legal Description

S37 T20.0N R04.0E, S33 T20.0N R04.0E
S32 T20.0N R04.0E

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

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.

0 0.1 Miles

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Figure 6 City of Puyallup Mapping

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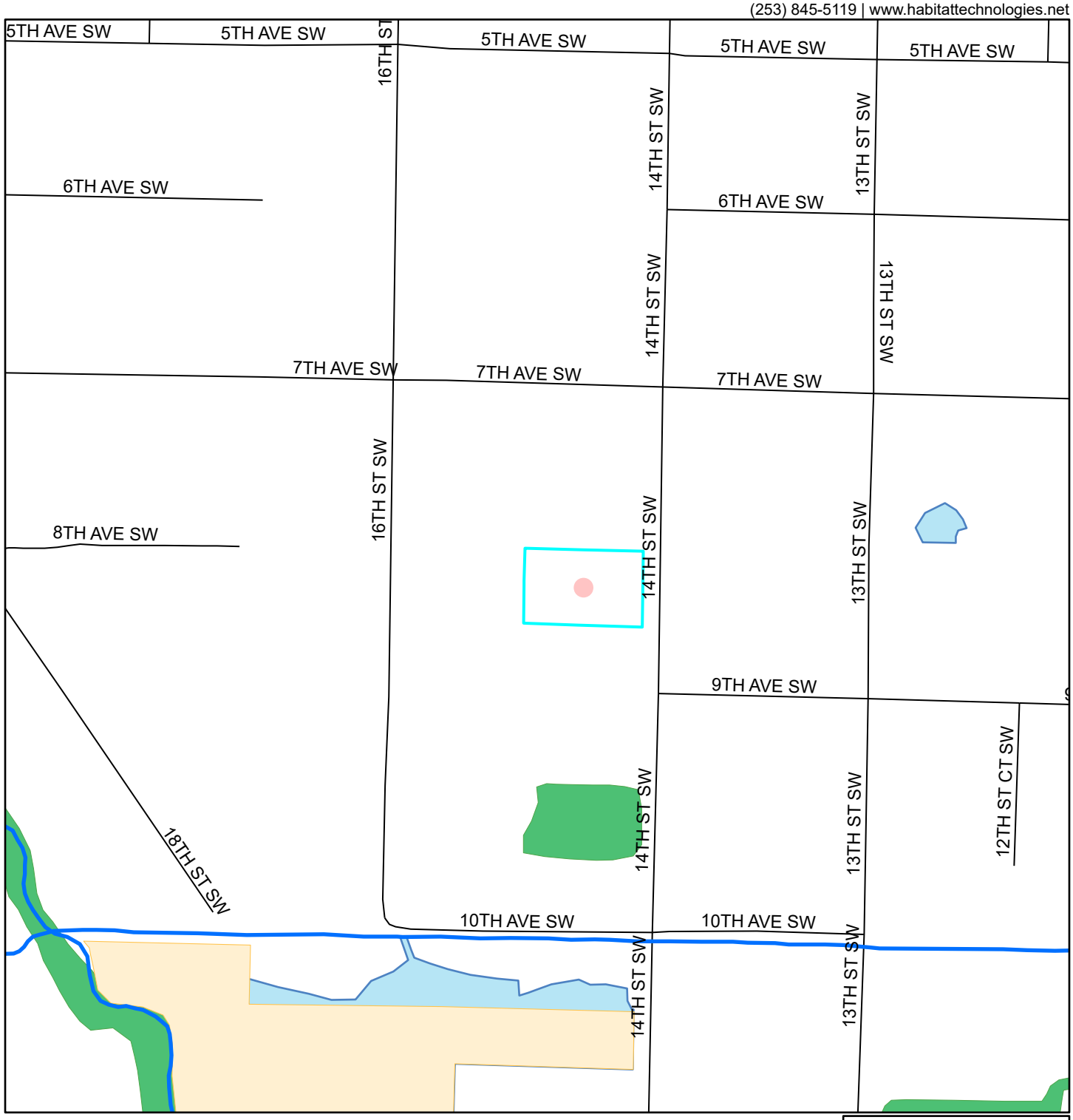
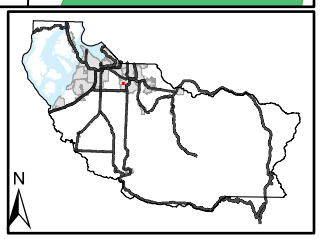


Legend

- Streams - Puyallup
- Roads
- Wetlands - Puyallup
  - Field-verified Delineated
  - Field-verified
  - Unverified
  - Unverified
  - Unverified
  - Buffer
  - Mitigation Site



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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Date: 10/27/2021 10:10 AM

Figure 6A Flood Plain Mapping

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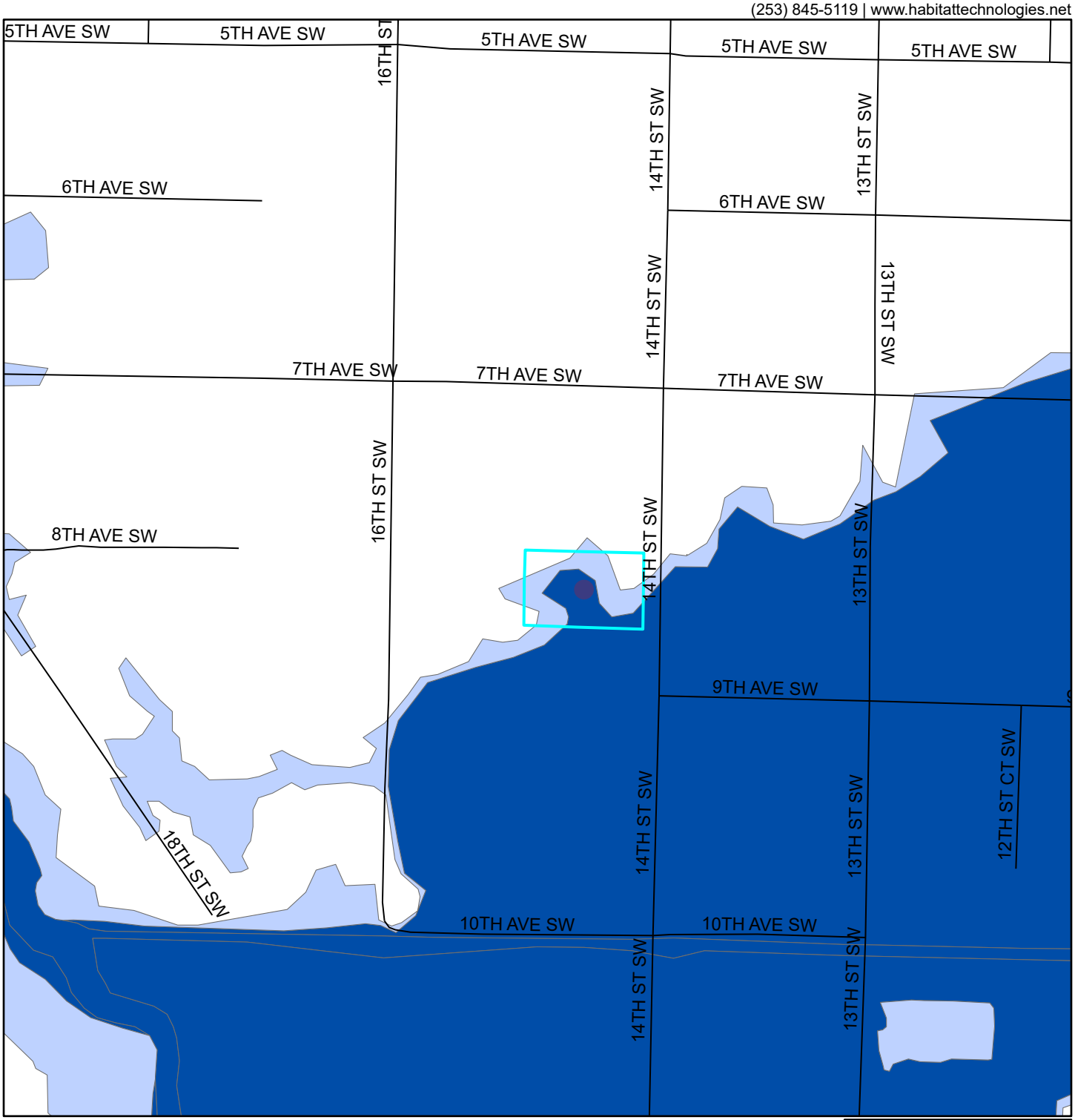


Legend

Roads

Regulated Floodplain 2017 - New

1% Annual Chance Flood

1% Annual Chance Flood

1% Annual Chance Flood

1% Annual Chance Flood

X BEHIND LEVEE

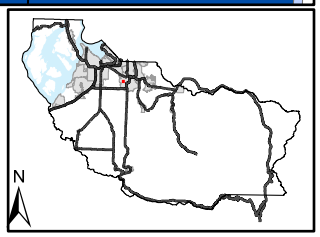
0.2 PCT

X (SHADED)

Coastal High Hazard Areas

Coastal High Hazard Areas

See King County FIRM



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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Date: 10/27/2021 10:12 AM

Figure 7 Soils Mapping

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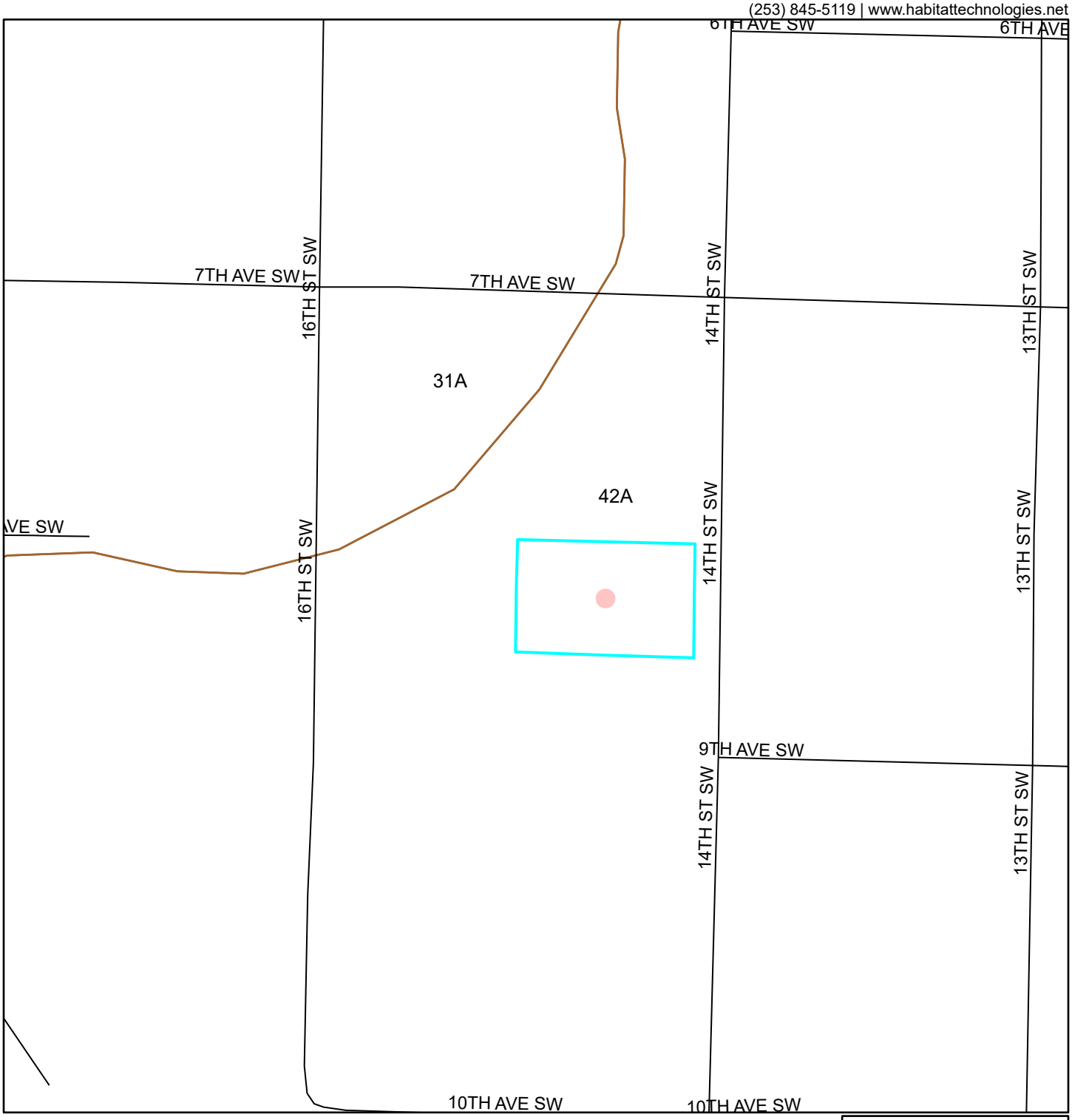

Legend

- Roads
- Soils
- Priority Habitat and Species

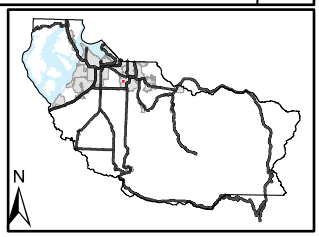

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Figure 8 Action Area

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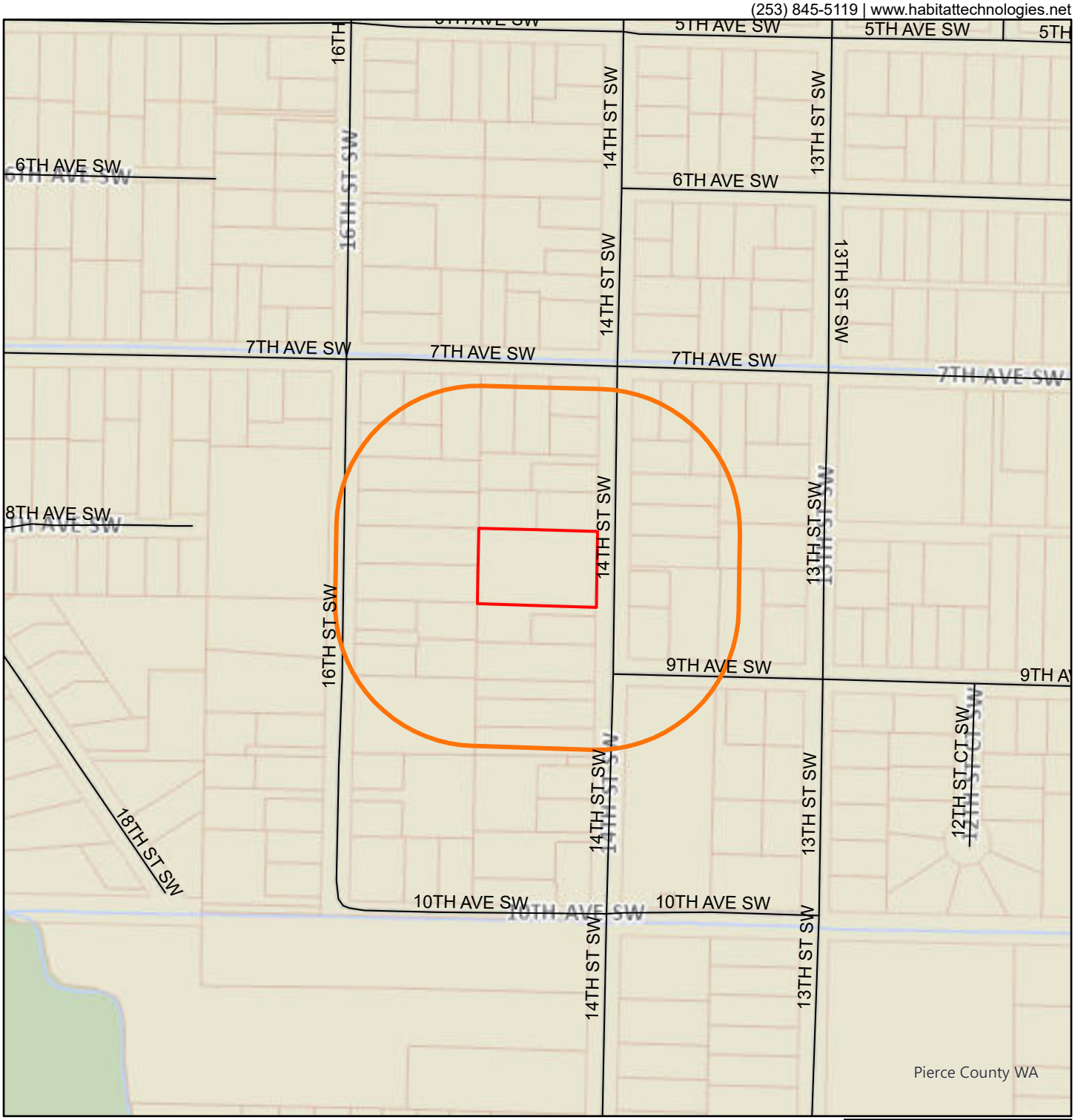
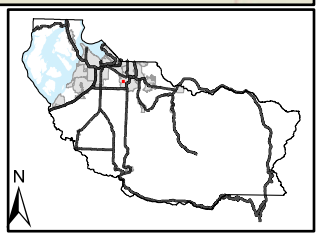


Legend

- Action Area
- Select_Tax Parcels
- Roads



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The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Date: 10/27/2021 10:22 AM

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PHOTOS

View northeasterly from the southwestern corner. The existing homesite shown in this photo will be retained in the first of the newly created parcels.

View easterly from the southwestern corner of the project site. The proposed new homesite would likely be located in the eastern portion of the new parcel.

View westerly from the eastern boundary of the project site at the likely location for the new single family homesite.

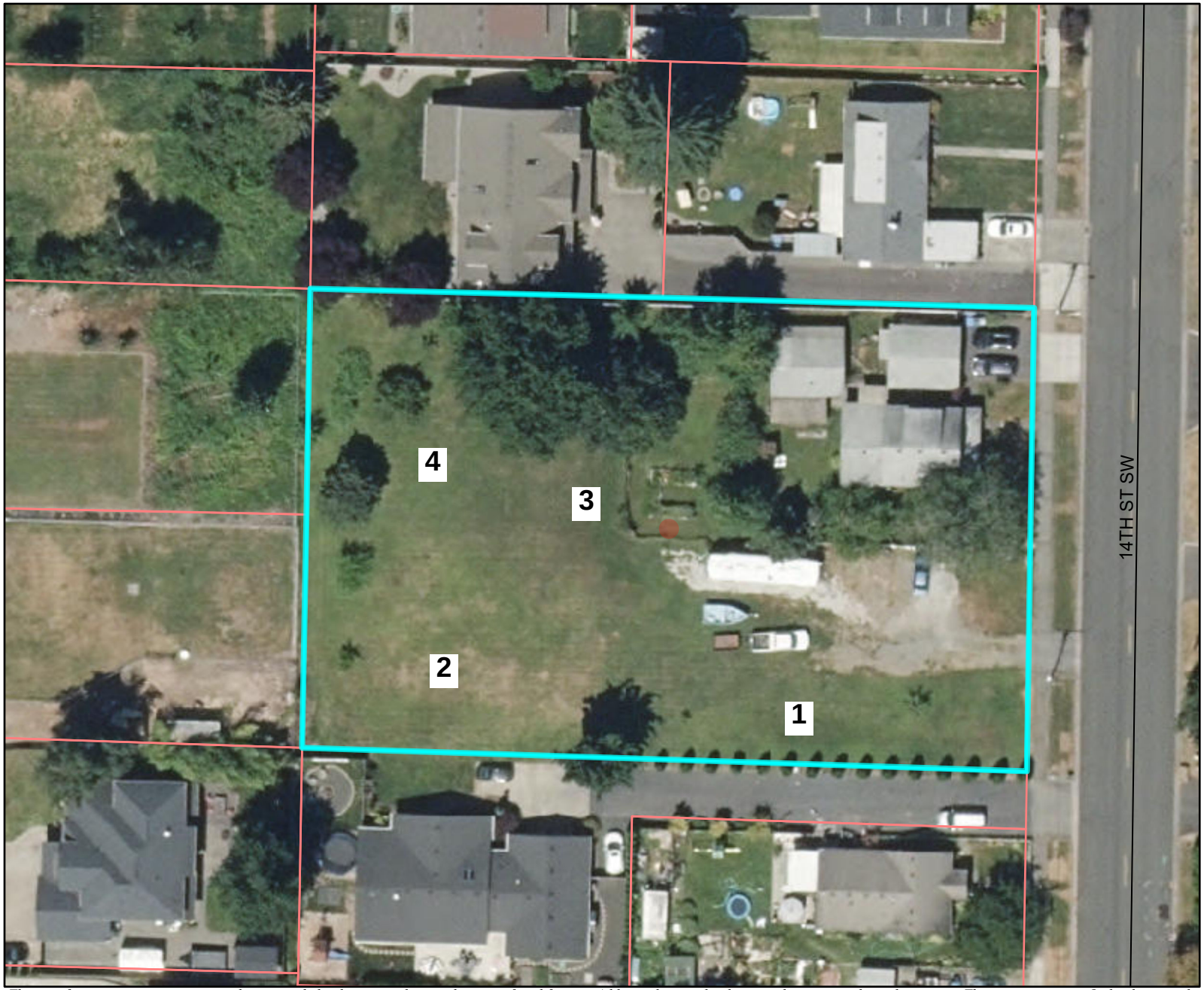
Typical hydrology, soil, and plant community monitoring plot – spring 2022.

View northward across the western portion of the project site. Spring 2022

APPENDIX A – WETLAND DETERMINATION FORMS

FIELD DATA WORKSHEETS

Monitoring Plot Locations



Legend

Roads

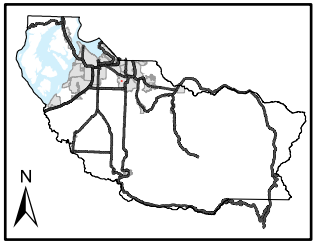
Tax Parcels

Base Parcel

Condominium

Other

County - 2020 Ortho



0 10 20 40

Feet

1:600

Habitat Technologies

P.O.Box 1088

Puyallup, WA 98371

(253) 845-5119

www.habitattechnologies.net

Date: 6/15/2022 11:04 AM

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

Project/Site: Parcel 5505300831 City/County: City of Puyallup Sampling Date: SEP 21/MAY 22

Applicant/Owner: _____ State: WA. Sampling Point: SP1

Investigator(s): Habitat Technologies Section, Township, Range: S28 T20N R04E

Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): none Slope (%): flat

Subregion (LRR): A Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Sultan silt loam NWI classification: mod well drained

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

Remarks: Area of well manage lawn with a well mixture of grasses and herbs. Hydrology monitoring shows area to drain moderately well following seasonal rainfall events in the spring of 2022.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15ft radius)			
1. Agristis tenuis			FAC
2. Poa spp.			FAC
3. Taraxacum officinale			FACU
4. Hypochaeris lanatum			FACU
5. Ranunculus repens			FACW
6. Festuca spp.			FAC
7. Ranunculus acris			FAC
8. Plantago major			FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks: Well managed lawn with a mix of grasses and herbs mostly FAC and a few FACW and FACU. No really dominant species

SOIL

Sampling Point: SP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/2	100					Sitly loam	dense grass roots
11-24	10YR 4/3	99	10YR 4/6	<1	d	m	silty loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks: NO prominent field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):

Water Table Present? Yes ☐ No ☐ Depth (inches):

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

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology monitoring during period of seasonal rainfall events between mid-April 2022 and end of May 2022 shows site drains moderately well following rainfall events

Remarks: NO prominent field indicators of wetland hydrology free water below -14 inches mid-April to end of May 2022

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

Project/Site: Parcel 5505300831 City/County: City of Puyallup Sampling Date: SEP 21/MAY 22

Applicant/Owner: _____ State: WA. Sampling Point: SP2

Investigator(s): Habitat Technologies Section, Township, Range: S28 T20N R04E

Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): none Slope (%): flat

Subregion (LRR): A Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Sultan silt loam NWI classification: mod well drained

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

Remarks: Area of well manage lawn with a well mixture of grasses and herbs. Hydrology monitoring shows area to drain moderately well following seasonal rainfall events in the spring of 2022.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15ft radius)			
1. Agristis tenuis			FAC
2. Poa spp.			FAC
3. Taraxacum officinale			FACU
4. Hypochaeris lanatum			FACU
5. Ranunculus repens			FACW
6. Festuca spp.			FAC
7. Ranunculus acris			FAC
8. Plantago major			FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks: Well managed lawn with a mix of grasses and herbs mostly FAC and a few FACW and FACU. No really dominant species

SOIL

Sampling Point: SP2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	100					Sitly loam	dense grass roots
9-19	10YR 4/3	99	10YR 4/6	<1	d	m	silty loam	
19-24	10YR 4/3	95	10YR 4/6	5	d	m	silty loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks: NO prominent field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):

Water Table Present? Yes ☐ No ☐ Depth (inches):

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

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology monitoring during period of seasonal rainfall events between mid-April 2022 and end of May 2022 shows site drains moderately well following rainfall events

Remarks: NO prominent field indicators of wetland hydrology free water below -12 inches mid-April to end of May 2022

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

Project/Site: Parcel 5505300831 City/County: City of Puyallup Sampling Date: SEP 21/MAY 22

Applicant/Owner: _____ State: WA. Sampling Point: SP3

Investigator(s): Habitat Technologies Section, Township, Range: S28 T20N R04E

Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): none Slope (%): flat

Subregion (LRR): A Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Sultan silt loam NWI classification: mod well drained

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

Remarks: Area of well manage lawn with a well mixture of grasses and herbs. Hydrology monitoring shows area to drain moderately well following seasonal rainfall events in the spring of 2022. Very shallow depressional area with shallow surface water during heavy seasonal rainfall that then drains moderately well between storm events.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15ft radius)			
1. Agristis tenuis	25%	yes	FAC
2. Poa spp.			FAC
3. Taraxacum officinale	trace		FACU
4. Hypochaeris lanatum	trace		FACU
5. Ranunculus repens	60%	yes	FACW
6. Festuca spp.			FAC
7. Ranunculus acris	10%	yes	FAC
8. Plantago major	trace		FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks: Well managed lawn with a mix of grasses and herbs mostly FAC and FACW. limited dominant species

SOIL

Sampling Point: SP3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Sitly loam	dense grass roots
4-24	10YR 4/2	95	10YR 4/6	5	d	m	silty loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks: prominent field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology monitoring during period of seasonal rainfall events between mid-April 2022 and end of May 2022. Area of shallow surface ponding during seasonal rainfall events but site drains moderately well following rainfall events. NO PROMINENT FIELD INDICATORS OF WETLAND HYDROLOGY

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

Project/Site: Parcel 5505300831 City/County: City of Puyallup Sampling Date: SEP 21/MAY 22

Applicant/Owner: _____ State: WA. Sampling Point: SP4

Investigator(s): Habitat Technologies Section, Township, Range: S28 T20N R04E

Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): none Slope (%): flat

Subregion (LRR): A Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Sultan silt loam NWI classification: mod well drained

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

Remarks: Area of well manage lawn with a well mixture of grasses and herbs. Hydrology monitoring shows area to drain moderately well following seasonal rainfall events in the spring of 2022.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15ft radius)			
1. Agristis tenuis			FAC
2. Poa spp.			FAC
3. Taraxacum officinale			FACU
4. Hypochaeris lanatum			FACU
5. Ranunculus repens			FACW
6. Festuca spp.			FAC
7. Ranunculus acris			FAC
8. Plantago major			FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15ft radius)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks: Well managed lawn with a mix of grasses and herbs mostly FAC and a few FACW and FACU. No really dominant species

SOIL

Sampling Point: SP4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	100					Sitly loam	dense grass roots
5-13	10YR 4/3	99	10YR 4/6	<1	d	m	silty loam	
13-24	10YR 4/2	95	10YR 4/6	5	d	m	silty loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks: NO prominent field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

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

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

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

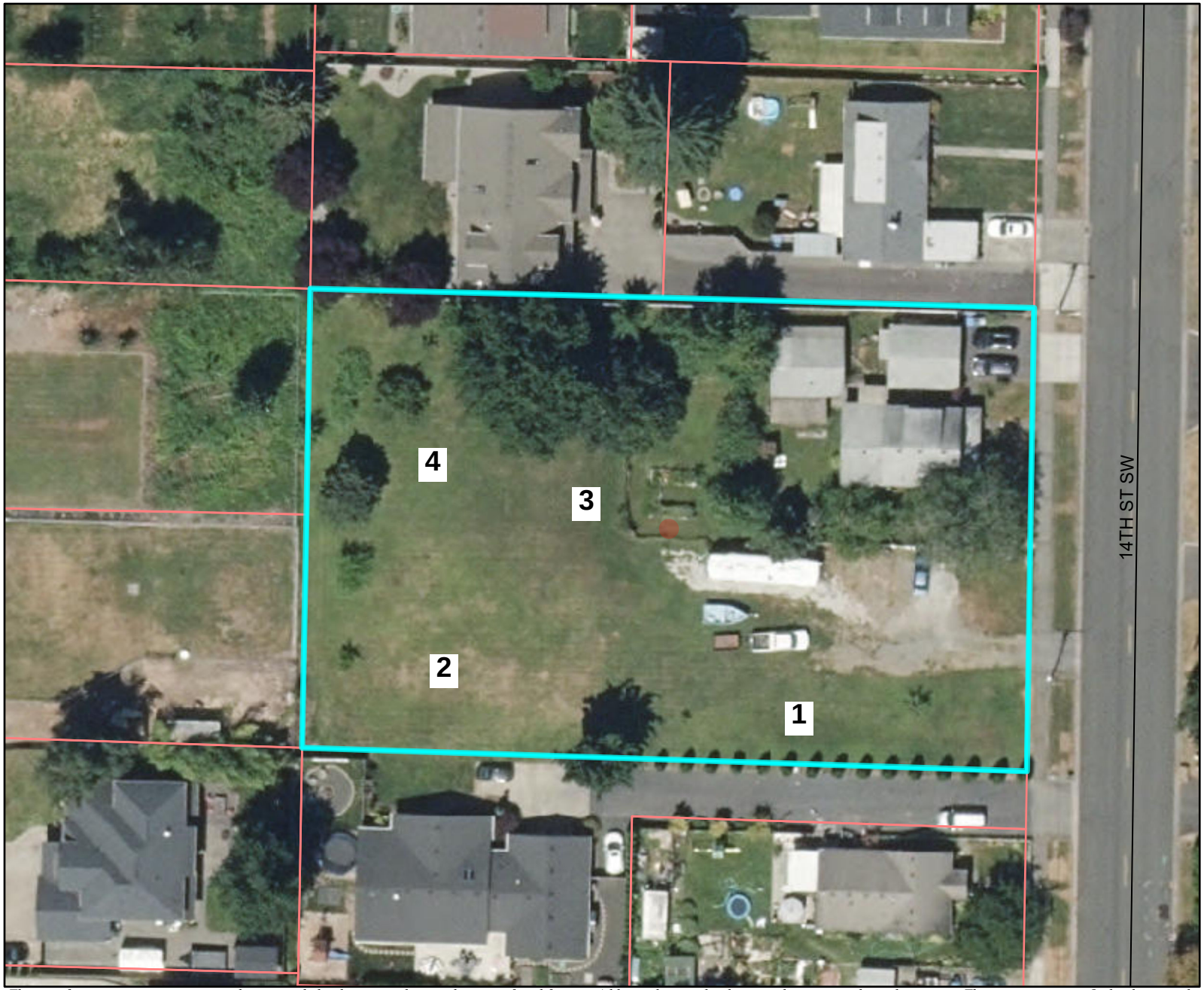
Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology monitoring during period of seasonal rainfall events between mid-April 2022 and end of May 2022 shows site drains moderately well following rainfall events

Remarks: NO prominent field indicators of wetland hydrology free water below -11 inches mid-April to end of May 2022

APPENDIX B – HYDROLOGY MONITORING DATA

Monitoring Plot Locations



Legend

Roads

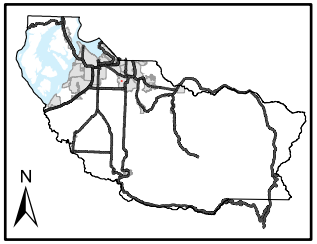
Tax Parcels

Base Parcel

Condominium

Other

County - 2020 Ortho



0 10 20 40

Feet

1:600

Habitat Technologies

P.O.Box 1088

Puyallup, WA 98371

(253) 845-5119

www.habitattechnologies.net

Date: 6/15/2022 11:04 AM

2022 Hydrology Monitoring Program – Open Hole

DATE	# 1	# 2	# 3	# 4
15 APR 22	Free -16” Sat -8”	Free -15” Sat -8”	Free -8” Sat surface	Free -11” Sat surface
19 APR 22	Sat -14”	Free -20” Sat -13”	Free -14” Sat -10”	Free -14” Sat -10”
22 APR 22	Free -14” Sat -8”	Free -12” Sat -6”	Free -6” Sat surface	Free -9” Sat -3”
25 APR 25	Free -21” Sat -14”	Free -20” Sat -14”	Free -15” Sat -9”	Free -15” Sat -10”
28 ARP 25	Free -15” Sat -10”	Free -14” Sat -10”	Free -8” Sat -4”	Free -10” Sat -4”
2 MAY 22	Free -22” Sat -14”	Free -21” Sat -15”	Free -15” Sat -10”	Free -17” Sat -12”
5 MAY 22	Free -20” Sat -15”	Free -20” Sat -14”	Free -16” Sat -12”	Free -16” Sat -13
10 MAY 22	Free -21” Sat -16”	Free -20” Sat -15”	Free -15” Sat -11”	Free -17” Sat -13”
13 MAY 22	Free -19” Sat -14”	Free -17” Sat -12”	Free -11” Sat -5”	Free -12” Sat -5”
17 MAY 22	Free none Sat -18”	Free none Sat -17”	Free -15” Sat -12”	Free -16” Sat -12”
20 MAY 22	Free -17” Sat -13”	Free -17” Sat -14”	Free -12” Sat -8”	Free -14” Sat -9”
23 MAY 22	Free none Sat -24”	Free none Sat -22”	Free -19” Sat -16”	Free -18” Sat 16”
26 MAY 22	Free -22” Sat -19”	Free -22” Sat -18”	Free -16” Sat -13”	Free -17” Sat -13”
31 MAY 22	Free none Sat -22”	Free none Sat -22”	Free none Sat -18”	Free none Sat -17”

* as measured in inches from soil surface