

North 8th Street Planned Development

SENSITIVE LANDS NARRATIVE

Civil Engineer:

Lower Columbia Engineering, LLC
58640 McNulty Way
Saint Helens, OR 97051
Phone: (503) 366-0399
Engineer: Andrew Niemi
Email: andrew@lowercolumbiaengr.com
Contact: Chase Berg
Email: chase@lowercolumbiaengr.com

Client:

North 8th Street, LLC.
76220 Heath Road
Rainier, Oregon 97048
Contact: Shawn Clark
Phone: (312) 965-9637

RECEIVED
JAN 12 2022
CITY OF ST. HELENS

Project Type: Residential
Project Location: St. Helens, Oregon

January 2022

LCE #3146-01





Table of Contents

Project Narrative	3
A. Existing Site Conditions.....	3
B. Site Concept.....	3
C. Grading Plan	3
D. Landscape Plan	3
Steep Slopes	4
Drainageways.....	5
Logging Impacts	6



Project Narrative

A. Existing Site Conditions

The site is located on tax lot 700 of Columbia County tax map 05013300. The project site is located east of the intersection of N. Columbia River Highway 30 and Deer Island Road. The historic land use has been quarry related as much of the site is underlain by shallow basalt. Due to recent logging activity, the site is now clear of trees and includes grasses and native vegetation that has grown in place of the trees.

B. Site Concept

The proposed development will be a 66-lot planned development and will have no direct impacts to surrounding wetlands. A buffer of 75 feet has been included around the type 1 wetlands known as D-10 and D-11. These wetland buffers will have a limited encroachment from the proposed sewer line. The development will avoid adverse effects to the wetlands by using natural infiltration in storm water facilities to clean the runoff. All graded slopes will be replanted with native plants to assist in minimizing sediment runoff into the wetlands.

The project includes the creation of new wetlands, which shall be given a 25-foot buffer with minor encroachment from the necessary grading and a proposed foot path. The areas within the buffer of D-10 and D-11, which have been logged will be replanted to mitigate direct impacts to those wetlands. A total of six trees of 6" or greater DBH were logged within the buffer and will be replanted. A list of tree species and further details can be found in Schott and Associates report located in Attachment A.

C. Grading Plan

The proposed grading concept is to mimic pre-development conditions. The site will generally slope from south to north with an average slope of 2%. Outside of the proposed site development, the lot generally slopes from south to north, with slopes of 1% longitudinally and up to 60% along banks. The disturbed banks will be replanted with native vegetation to limit risk of erosion. A majority of this grading is taking place in the middle of the property and will not create any offsite impacts.

Cut and fill calculations result in 5,133 cubic yards cut and 90,083 cubic yards of fill. Lower Columbia Engineering came to this result by creating a proposed surface from Westlake Consultants topographic survey then taking the difference between it and the existing Westlake Consultants topographic surface in AutoCAD Civil 3D. The results were verified by hand calculations.

D. Landscape Plan

The proposed landscaping concept is to provide street trees at a spacing of 20 feet where practical along both North 8th Street and North 9th Street. This design will also utilize the existing wetlands and created wetlands. The created wetlands will be hydrologically connected to the stormwater system by discharge treated runoff to the surrounding area. The created wetlands will be featured along a walking path to the vegetated open space.

The open space will be surrounded by native trees and shrubs along its edges. The middle of the open space will feature grass that can be used recreationally by the North 8th Street Planned Development residents. This mix of functional space serves purpose both for community and habitat, allowing for a more cohesive land use.



The soils on site are Inceptisols. These soils are often organic matter and clay limited. While that limits plant production a majority of native plants and trees will establish on these soils. A UC Davis Soil Web Survey report is located in Attachment B.

The erosion and sediment control plan uses standard practices such as wattles, sediment fencing, and slope matting. The sediment fence and wattles will be implemented in areas that are susceptible to erosion to prevent any material from moving onto adjacent lands, roadways, or wetlands. The slope matting will be implemented on steep slopes during construction to limit risk of sediment movement. The plan post-construction will be to plant disturbed slopes in order to lower the risk of future erosion.

Chapter 17.44 SHMC, Sensitive Lands

[...]

Chapter 17.44.040 SHMC, Approval Standards

Steep Slopes

- A. *The extent and nature of the proposed landform alteration or development will not create site disturbances to an extent greater than that required for the use;*

Response: The extent of grading is limited to the proposed development. A slope of 2:1 was used to limit disturbance to natural areas where proposed elevations connect to existing grades. In areas where wetlands are directly impacted from this development, slopes greater than 2:1 were used, but are not in excess of 1:1.

- B. *The proposed landform alteration or development will not result in erosion, stream sedimentation, ground instability, or other adverse on-site and off-site effects or hazards to life or property;*

Response: The disturbed areas will be planted to limit risk of erosion. There is no stream on site however the significant wetlands D-10 and D-11 will not be impacted by landform alteration. The site is primarily located on shallow soils and bedrock. All fill materials will be verified by a licensed engineer. The proposed landform alteration will not have adverse effects or be hazardous to life on and off site. The development will follow all erosion and sediment control measures per the 1200C plans during construction. After construction all disturbed areas will be replanted.

- C. *The structures are appropriately sited and designed to ensure structural stability and proper drainage of foundation and crawl space areas for development with any of the following soil conditions: wet/high-water table; high shrink-swell capability; compressible/organic; and shallow depth-to-bedrock; and*

Response: All proposed structures have sufficient drainage away from the structures. The foundations and structural stability have not been completed as part of this phase; this will need to be designed by others.



- D. Where natural vegetation has been removed due to landform alteration or development, the areas not covered by structures or impervious surfaces will be replanted to prevent erosion in accordance with Chapter 17.72 SHMC.*

Response: The landscaping plan shows the proposed planting that will be placed on all disturbed areas.

Drainageways

After further investigation, drainages 3 and 4 have been deemed to be drainageways. Both of these drainages receive over 5 cubic feet per second of flow during the 25-year event. The drainages flow into the Columbia River via sheet flow to a channel offsite, through a culvert below Madrona Court and into Dalton Lake before exiting into the Columbia River via Harrie Creek.

- A. The extent and nature of the proposed landform alteration or development will not create site disturbances to the extent greater than that required for the use;*

Response: The extent of grading is limited to the proposed development. A slope of 2:1 was used to limit disturbance to natural areas where proposed elevations connect to existing grade. In areas where wetlands are directly impacted from this development, slopes greater than 2:1 were used, but are not in excess of 1:1. Additional wetlands are designed to maintain existing drainage patterns.

- B. The proposed landform alteration or development will not result in erosion, stream sedimentation, ground instability, or other adverse on-site and off-site effects or hazards to life or property;*

Response: The disturbed areas will be planted to limit risk of erosion. There is no stream on site however the significant wetlands D-10 and D-11 will not be impacted by landform alteration. The site is primarily located on bedrock and all fill materials will be verified by a licensed engineer. The proposed landform alteration will not have adverse effects or be hazardous to life on and off site. The new vegetation will help to lower the risk of erosion, sedimentation, and ground instability.

- C. The water flow capacity of the drainageway is not decreased;*

Response: Drainage patterns and stormwater swales are designed to mimic existing conditions. Additionally, the pre vs post construction flow rates are designed to be similar in order to keep all existing wetlands healthy.

- D. Where natural vegetation has been removed due to landform alteration or development, the areas not covered by structures or impervious surfaces will be replanted to prevent erosion in accordance with Chapter 17.72 SHMC;*

Response: Sheets L-1: L-3 show a proposed planting plan to occur on all disturbed areas. Temporary and permanent vegetation will be incorporated.

- E. The drainageway will be replaced by a public facility of adequate size to accommodate maximum flow in accordance with the adopted 1999 Master Drainage Plan; and*



Response: Proposed drainage patters are designed to match existing conditions. Public stormwater facilities are designed to provide proper detention, treatment, and conveyance prior to entering the existing wetlands on-site.

F. The necessary U.S. Army Corps of Engineers and State of Oregon Land Board, Division of State Lands approvals shall be obtained.

Response: A JPA (Joint Permit Application) has been submitted and has been approved by DSL in the attached "Removal-Fill Permit Application 62981-RF". Additionally, the permit from the U.S. Army Corps of Engineers has also been issued.

Logging Impacts

The areas within the buffer of wetlands D-10 and D-11, which have been logged will be replanted to mitigate direct impacts to those wetlands. A total of six trees of 6" or greater DBH were logged within the buffer and will be replanted. A list of tree species and further details can be found in Schott and Associates Environmental Assessment located in Attachment A. Additional tree removal for the new sanitary line and pedestrian path can be seen on sheet L-1 and more information can be found within the Planned Development Narrative on pages 15-20.



Attachment A: Schott and Associates Environmental Assessment



SCHOTT & ASSOCIATES Ecologists & Wetlands Specialists

21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

July 26, 2019

Jacob Graichen, AICP, City Planner
City of St. Helens
265 Strand Street
St. Helens, OR 97051

Re: Environmental assessment for the proposed project site located at North 8th Street, St. Helens, OR

CC: Shawn Clark, North 8th Street, LLC
Kenneth Sandblast, Westlake Consulting, Inc

Dear Mr. Graichen,

Schott & Associates was contracted to conduct an environmental assessment on the 24.34-acre project site as required by the City of St. Helens Municipal Code (SHMC) Chapters 17.40 and 17.132 (and per phone and email discussion with you on May 2, 2019). Regulations of Chapter 17.40 applies to significant wetlands, riparian corridors and associated 'protection zones', or development setbacks, as designated by the City; Chapter 17.132 applies to tree removal requirements for project sites with 10 or more trees or trees over 24" diameter at breast height (dbh). According to the City, the project site contains significant wetlands and associated 75-foot-wide protection zones.

A mobile home development is proposed within the project site and permanent impacts to the protection zone, including tree removal are expected. This site was recently logged under the Oregon Forest Practices Act in preparation for the proposed development. This memorandum is intended only to document the existing condition of wetland protection zones and describe any potential encroachments which resulted from the logging of the site. The full environmental assessment report, which will present and evaluate proposed project impacts on City-regulated sensitive lands in detail as well as propose a mitigation plan and satisfy any further requirements of Sections 17.40.065 and 17.132.025 of the SHMC, is intended to be submitted to the City as part of the land use approval process.

Site Description

The project site encompasses tax lot 700 and portions of 1900, 4700, and 4800 located at North 8th Street in St. Helens, Columbia County, Oregon (T5N, R1W, Section 33). The site is vacant and much of it has been recently logged under the Oregon Forest Practices Act; several logging roads criss-cross the site. The unlogged portion of the site in the east includes the northern portion of a pond surrounded by mixed Oregon ash (*Fraxinus latifolia*), Oregon white oak (*Quercus garryana*), and Douglas fir (*Pseudotsuga menziesii*) forest; the unlogged portion in the north featured mixed oak and ash forest. The project site is zoned for moderate-density residential in the eastern portion and mobile home

residential in the western portion (City of St. Helens zoning designations R-7 and MHR; <http://webmap.co.columbia.or.us/geomoose2//>). St. Helens Local Wetland Inventory (LWI) identifies two wetlands occurring within the project site (Appendix B): D-10 and D-11. Both wetlands are designated Type I significant wetlands according to SHMC 17.40.15 and are protected by 75-foot-wide protection zones.

Schott and Associates conducted wetland delineation on the project site in January 2019 (#WD2019-0281; pending review by the Oregon Department of State Lands). Four wetlands, one pond, two drainages, and one ditch were identified within the site (shown in the attached Figure 1), not all of which may be jurisdictional. The pond was found to correspond with Wetlands D-10 and D-11 as shown in the City LWI map; Wetland 2 was found to correspond with the northern portion of D-11. No hydrological connection was found between the pond (southern portion of D-11) and Wetland 2 (northern portion of D-11) during delineation fieldwork. Jacob Graichen confirmed that the pond and Wetland 2 would be subject to City sensitive lands regulation, designated as Type I wetlands, and that Wetlands 1, 3, and 4 were not subject to sensitive land regulation provided they were not hydrologically connected to the pond (Appendix C; J. Graichen, personal communication, May 3, 2019).

Methods

S&A conducted wetland delineation in February 2019 according to methods described in the *1987 Manual* and the *Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* to determine boundaries of wetlands subject to state and federal jurisdiction. Onsite streams or ditches were delineated via the ordinary high-water mark (OHWM) as indicated by top of bank, wrack or scour lines, change in vegetation communities, or gage elevation where applicable.

Protection zones were assessed in May 2019. 75-foot protection zones, which apply to the pond and Wetland 2, were measured in the field, perpendicular to the delineated edge of the resource at multiple locations along the boundary. Vegetation community composition and structure were also assessed at these locations. The protection zones were inspected for evidence of tree removal. Trees removed within the protection zones that were estimated to be 6" or greater in dbh, as evidenced by evaluation of remaining stumps, were recorded with GPS, measured, and identified to species level as practicable. Onsite topography was mapped using 2-foot contours derived from National Elevation Data (NED) sourced from the U.S. Geological Survey (USGS 2013).

Representative ground level photographs were also collected to document site conditions and are included as Appendix A.

Wetland and protection zone boundary, sample plot, removed trees, and photo point locations were recorded with a handheld Trimble GPS unit capable of sub-meter accuracy following differential correction with Pathfinder Office desktop software. These data were converted to ESRI shapefile and mapped using ArcMap 10.6 desktop software. The extent of protection zones not physically measured were extrapolated using topography and ArcMap 10.6 buffer functions.

Results

Wetlands and Waters

Four wetlands, one pond, two drainages, and one ditch were identified within the study site: wetland area totaled 1.43 acres (62,262 ft.²), pond area totaled 1.41 acres (61,530 ft.²), drainage corridor area totaled 0.04 acre (1,538 ft.²), and ditch area totaled 90 ft.² (Figure 1).

Wetland 1: Wetland 1 was located in the north-central portion of the site and covered 0.41 acre. It consisted of a large topographical depression that was filled with one or more feet of water at the time of fieldwork. The banks of the depression were generally steep and rocky, particularly on the northwest side where the bank was formed by the fill slope of the existing mobile home development to the northwest. The wetland was sustained by Drainage 1, which routed stormwater runoff from the mobile home development via 2 stormwater pipes into the wetland, along with precipitation perched above the rocky substrate and impounded by the local topography. While the wetland was completely inundated and mostly unvegetated during dormant season fieldwork, it was assumed that the area draws down to some extent and vegetates during the growing season. It was assessed as a depressional closed, nonpermanent HGM class with a Cowardin classification of seasonally flooded, palustrine emergent (PEMC).

Vegetation within the wetland generally occurred as a thin fringe along the banks of the depression and included Oregon ash trees with an understory of spiraea (*Spiraea douglasii*; FACW), Nootka rose (*Rosa nutkana*; FAC), and reed canarygrass (*Phalaris arundinacea*; FACW). Much of the area surrounding the wetland was logged, though a narrow buffer of oak/bigleaf maple forest was present.

Wetland 1 was not identified by either the 1999 LWI or the 2018 NWI and does not have a surface connection to other wetlands or waters aside from the stormwater drainage. It is the investigator's estimation that the wetland was artificially created by the impoundment of stormwater runoff issued over time from adjacent development. This wetland is not regarded as significant according to the City and is not subject to Chapter 17.40 of the SHMC (Appendix C).

Wetland 2: Wetland 2 was located in the northeastern portion of the site, occupying 0.57 acres and extending offsite to the northeast. The wetland was contained within a very deep and steep ridge-swale feature and was bordered by nearly sheer, forested slopes underlain by rock on the east and west. It was a depressional feature similar to Wetland 1, containing one or more feet of surface water and featuring vegetation mainly along the banks. The vegetation community was the same as Wetland 1 with the exception of the presence of occasional slough sedge (*Carex obnupta*; OBL) stands occurring within the inundated area. No inlet or outlet was identified, and it was assumed that wetland hydrology was sustained by the perching of impounded precipitation and runoff above a restrictive rock layer. The wetland was assessed as a depressional closed nonpermanent HGM class with a Cowardin class of PEMC.

Wetland 2 is encompassed by Wetland D-11 in the St. Helens LWI and is listed as a Type I significant wetland in Section 17.44.015 of the SHMC. It is assumed a 75-foot-wide protection zone applies to this wetland as measured from the delineated edge.

Wetland 3: Wetland 3 was another depressional feature contained within a broad swale located in the south-central portion of the site and covering 0.17 acres. It featured one or more feet of surface water and was bound by moderately steep, rocky slopes; the wetland and the surrounding area had been completely logged. While there was no natural inlet or outlet present, a logging road running across the north end of the wetland had partially breached the depression and water was observed flowing across the road and further northeast, downslope. Wetland hydrology was assumed a function of the existing restrictive rocky substrate perching impounded surface runoff along with precipitation; a culvert outfall was observed offsite to the west, upslope from the wetland, which is assumed the primary hydrology source. However, there was no water flowing from the culvert at the time of the site visit, and there was no defined channel below the culvert. The wetland was assessed as a depressional closed nonpermanent HGM class with a Cowardin class of PEMC. The wetland was well vegetated throughout and featured spiraea, reed canarygrass, and slough sedge, with a fringe of Oregon ash saplings.

Wetland 3 was not identified by either the 1999 LWI or the 2018 NWI and does not have a surface water connection to other waters or wetlands. It is the investigator's estimation that the wetland was artificially created by the impoundment of stormwater runoff issued over time from adjacent development. This wetland is not regarded as significant according to the City and is not subject to Chapter 17.40 of the SHMC (Appendix C).

Wetland 4: Wetland 4 was also a depressional feature contained in a broad swale located in the southeastern portion of the site, covering 0.28 acres. It featured one or more feet of surface water and was bound by a steep, rocky ridge to the east, and gentler slopes to the south and west. The north end was partially blocked by what appeared to be an old debris dam, which had been partially breached, possibly due to the recent logging activity, and was leaking surface water north-northeast, supporting wetland formation and eventually the channel of Drainage 2. Wetland hydrology was assumed sustained by the impoundment of perched precipitation and runoff. The wetland was assessed as a depressional outflow HGM class with a Cowardin class of PEMC. The wetland was vegetated primarily along the banks of the depression and included a narrow fringe of Oregon ash, spiraea, reed canarygrass, and slough sedge.

Wetland 4 was not identified by either the 1999 LWI or the 2018 NWI and does not have a surface water connection to other waters or wetlands. It is located near Pond 1 but separated by a steep embankment and abandoned road grade that is currently vegetated by upland oak forest. Wetland 4 drains north-northeast, parallel to the pond. There was no indication of any hydrological connection between Wetland 4 and the pond. Based on this assertion, the wetland is not regarded as significant according to the City and is not subject to Chapter 17.40 of the SHMC (Appendix C)

Pond 1: Pond 1 was located at the southeastern section of the site and extended offsite to the south; 1.41 acres occurred within the study site boundaries. The pond was several feet deep and bound by steep, rocky forested ridges to the east and west. It featured a narrow fringe of wetland vegetation below the OHWM including Oregon ash, spiraea, Nootka rose, slough sedge, and reed canarygrass. What appeared to be a remnant earthen and riprap levee nearly bisected the pond east-west. The levee

had apparently been breached at its north end at some point, creating a narrow channel connecting the eastern and western portions of the pond. At the time of fieldwork, a beaver dam was located over this breach, though surface water was still allowed to flow east through it. It is unknown if the pond is a natural feature or has been artificially impounded. It did appear in aerial photos as old as 1936. The pond was assessed as a depressional closed permanent HGM class and with a Cowardin class of permanently flooded, palustrine rock bottom (PRBH).

Pond 1 corresponds with Wetland D-10 and the southern portion of Wetland D-11 in the St. Helens LWI which are listed as Type I significant wetlands in Section 17.44.015 of the SHMC. A 75-foot-wide protection zone applies to the pond as measured from the delineated edge.

Drainage 1: Drainage 1 originated from stormwater runoff discharged from the mobile home development along the northwestern boundary of the site. Water flowed east through a 3-5-foot-wide, mostly defined channel into Wetland 1 and covered 0.02 acre (793 ft.²). Several inches of flowing surface water was present at the time of fieldwork, though the drainage is likely dry during the summer months.

Drainage 1 was not identified by either the 1999 LWI or the 2018 NWI and does not have a surface water connection to other significant waters or wetlands. It is the investigator's estimation that drainage is artificially created, does not appear to have relatively permanent waters, and does not support fish habitat. This drainage is not regarded as significant according to the City and is not subject to Chapter 17.40 of the SHMC (Appendix C).

Drainage 2: Drainage 2 originated from Wetland 4, fed by a leaking debris dam, and flowed north. The channel was approximately 2-5 feet wide, covering 0.02 acre (745 ft.²), and featured a few inches of flowing surface water at the time of fieldwork. The drainage appeared to be newly formed, featuring a defined channel for approximately 200 feet before it continued as sheet flow through upland forest, ending in a small, shallow depression in the vicinity of sample plot 12. The drainage may have formed due to disturbance from the recent logging activity. It is assumed that this drainage is dry in the summer months.

Drainage 1 was not identified by either the 1999 LWI or the 2018 NWI and does not have a surface water connection to other significant waters or wetlands. It is the investigator's estimation that drainage is artificially created, does not appear to have relatively permanent waters, and does not support fish habitat. This drainage is not regarded as significant according to the City and is not subject to Chapter 17.40 of the SHMC (Appendix C).

Ditch 1: A segment of ditch located in the northernmost corner of the study site occupying 90 ft.², this ditch featured no surface water and was lined with rock. The ditch was apparently excavated from upland, surrounding by Douglas fir forest to the south, and residential development to the north. It drains the adjacent development northwest offsite through a culvert under Madrona Court. The ditch was vegetated by reed canarygrass and Himalayan blackberry. Sample plot excavation was precluded by the presence of the rock.

Ditch 1 was not identified by either the 1999 LWI or the 2018 NWI and does not have a surface water connection to other significant waters or wetlands. It is the investigator's estimation that the ditch is artificially created, does not appear to have relatively permanent waters, and does not support fish habitat. This ditch is not regarded as significant according to the City and is not subject to Chapter 17.40 of the SHMC (Appendix C).

Protection Zones

The 75-foot wide protection zones associated with the wetlands/water resources subject to Chapter 17.40 of the SHMC are shown in the attached Figure 2. Photographs of the protection zones are included in Appendix A.

Pond 1/D-10; D-11

The 75-foot protection zone surrounding Pond 1/D-10; D-11 within the project area consisted of moderately steep to very steep ravine sideslopes featuring three different second-growth forest communities. The community within the southwestern portion consisted of a canopy of Oregon oak and bigleaf maple interspersed with Douglas-fir, with a brushy understory dominated by Himalayan blackberry, Oregon grape, snowberry, English ivy, and false solomon's seal (*Maianthemum racemosum*), and scattered dense thickets of salmonberry (*Rubus spectabilis*). The community within the northwestern portion consisted of a canopy of primarily Oregon oak with some bigleaf maple and Oregon ash, and an understory dominated by poison oak (*Toxicodendron diversilobum*), Oregon grape, oceanspray (*Holodiscus discolor*), snowberry, and grasses such as brome (*Bromus* spp.), sweet vernalgrass (*Anthoxanthum odoratum*), and orchardgrass (*Dactylis glomerata*). The community within the eastern portion consisted of Douglas-fir-bigleaf maple forest with an understory composed largely of western swordfern (*Polystichum munitum*), Oregon grape, and salal (*Gaultheria shallon*). Topographical slopes in the southwestern and northwestern portions of the protection zone range from 10-20%, while slopes in the eastern portion range from 20-40%.

Encroachments

Minor encroachments from site logging were noted along the southwest margin of the protection zone of Pond 1, including the removal of a cluster of five trees (one double-stemmed), defined by Chapter 17.132 of the SHMC as woody species 6" or greater in dbh, along with some shrub removal. Trees over 6" in dbh that were removed are listed in Table 1 below. Figure 2 shows the tree removal locations and Appendix A, photo point 1 shows the encroachment area.

Wetland 2/D-11

The 75-foot protection zone surrounding Wetland 2/D-11 within the project area consisted generally of very steep ravine sideslopes featuring two different second-growth forest communities. The community within the eastern and western portions consisted of an Oregon oak and bigleaf maple canopy with an understory dominated by western oak fern (*Gymnocarpium dryopteris*) and snowberry along with poison oak, Oregon grape, and clustered rose (*Rosa pisocarpa*). The community within the northern portion featured Oregon ash with a brushy understory of hazelnut (*Corylus cornuta*), Himalayan blackberry, and snowberry, and a sparse herb layer composed of stinging nettle (*Urtica dioica*), herb-Robert (*Geranium robertianum*), and jewelweed (*Impatiens capensis*). In this area, the

protection zone extended approximately 25 feet into the residential yard associated with the home on tax lot 4700. Topographical slopes of the protection zone ranged from 25-45%.

Encroachments

Minor encroachments from site logging were noted along the southwest margin of the protection zone of Wetland 2, including the removal of one tree 6" or greater in dbh (listed in Table 1 below) along with some shrub removal. Figure 2 shows the tree removal locations and Appendix A, photo point 4 shows the encroachment area.

Table 1. Trees removed 6" or greater in dbh

Species	Approx. DBH (inches)	Protection Zone
Douglas-fir	12	Pond 1
Douglas-fir	20	Pond 1
Douglas-fir	10	Pond 1
Douglas-fir	18	Pond 1
Bigleaf maple (double-stemmed)	20 & 12	Pond 1
Oregon white oak	6	Wetland 2

D-10

D-11

Conclusion

In conclusion, the proposed project site contains two water resources subject to regulation under Chapter 17.40 of the SHMC. Six trees 6" or greater in dbh were removed from the protection zones of the regulated water sources during logging of the site under the Oregon Forest Practices Act. The encroachments into the protection zones must be mitigated for to the satisfaction of City ordinance. Tree removal is also subject to the requirements of Chapter 17.132. While existing encroachments are below the threshold of 10 or more trees or trees over 24" dbh, further tree removal may be necessary to complete construction of the project.

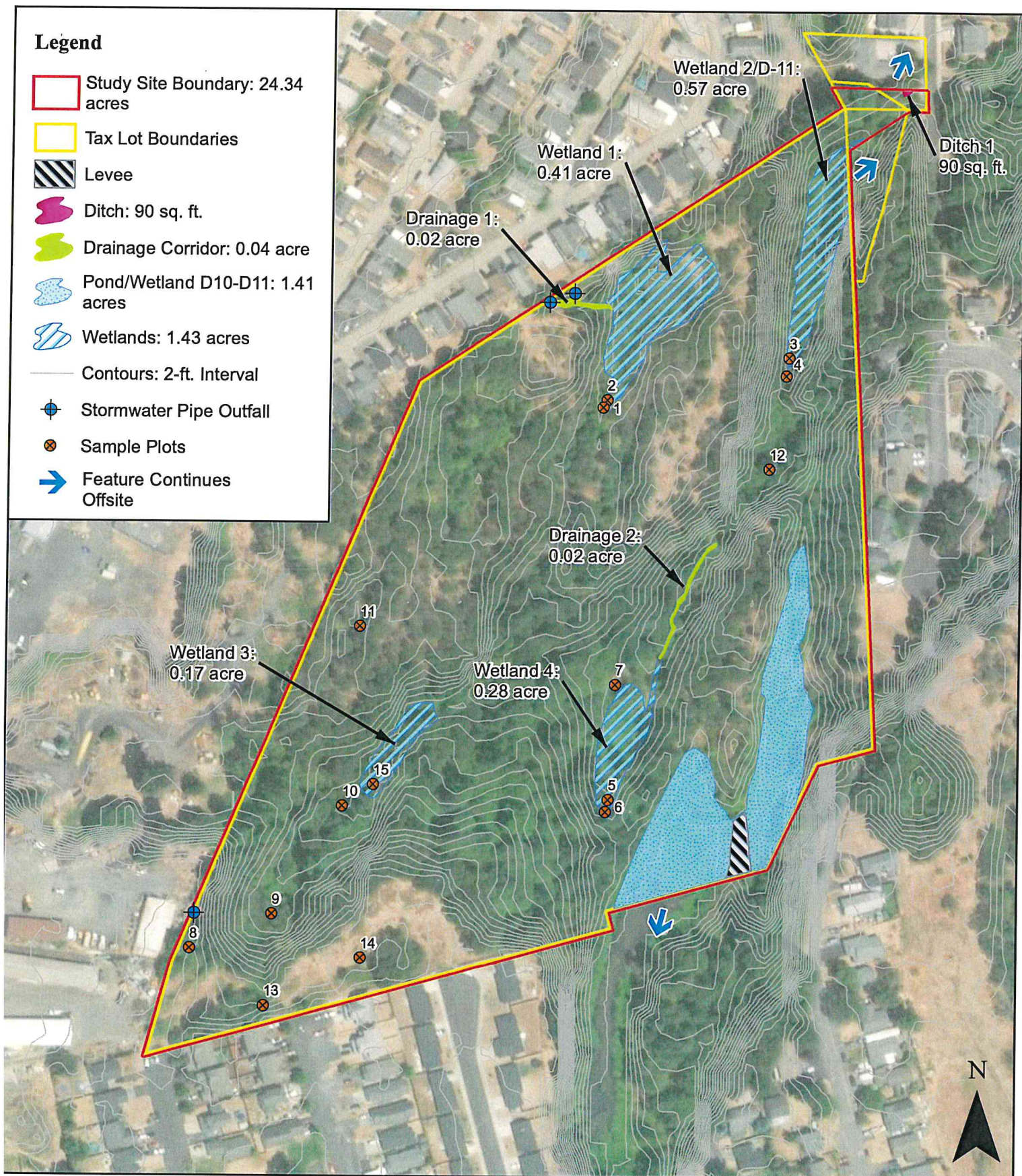
A full environmental assessment report will be prepared according to Chapter 17.40, including detailed analysis of project impacts to sensitive lands, a compensatory mitigation plan, and a tree plan according to Chapter 17.132 as necessary. Materials will be submitted to the City as part of the upcoming land use approval process.

Please let me know if you have any questions regarding the site assessment methods or results. I look forward to your input and appreciate any guidance you may have on the City environmental assessment process.

Sincerely,

Kim Biafora, Wetland Ecologist & GIS Analyst
kim@schottandassociates.com

Attachments: Figure 1: Preliminary Wetland Delineation Map
Figure 2: Significant Wetlands, Protection Zones, and Tree Removal
Appendix A: Site Photographs
Appendix B: City of St. Helens Local Wetland Inventory
Appendix C: Email Correspondence with Jacob Graichen, City Planner

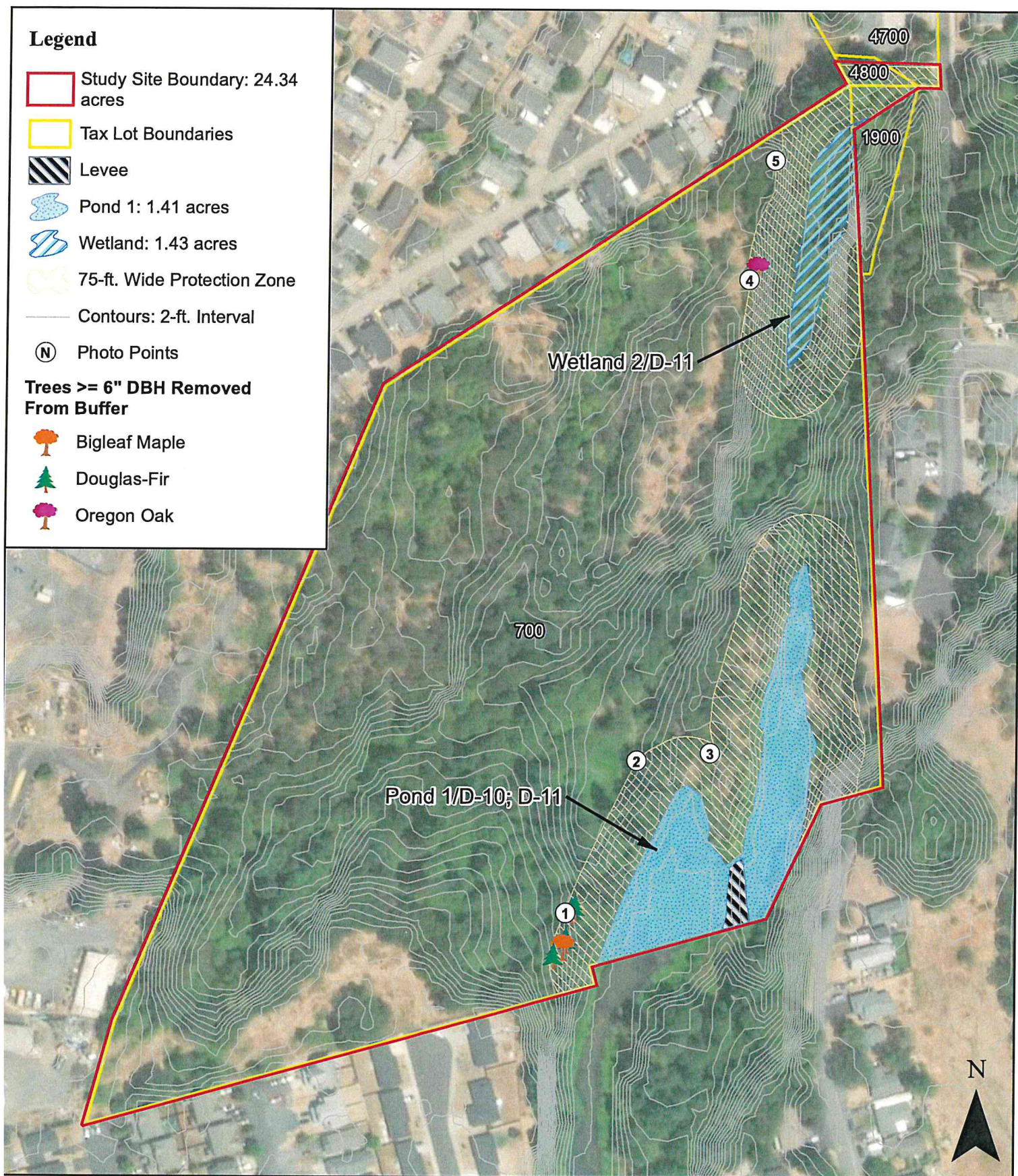


Date: 7/26/2019

Data Source: ESRI, 2019; Columbia County
GIS Dept., 2018; USGS, NED, 2013

Figure 1. Preliminary Wetland
Delineation Map

St. Helens Project Site: S&A # 2668



Date: 7/26/2019

Data Source: ESRI, 2019; Columbia County
SIS Dept., 2018; USGS, NED, 2013

Figure 2. Significant Wetlands, Protection Zones and Tree Removal

St. Helens Project Site: S&A # 2668



Photo Point 1. From boundary of the southwest portion of the protection zone of Pond 1 looking northeast at encroachment area.



Photo Point 1. From boundary of the southwest portion of the protection zone of Pond 1 looking southeast at mixed coniferous-deciduous forest of intact protection zone.



Photo Point 1. From boundary of the southwest portion of the protection zone of Pond 1 looking south at mixed coniferous-deciduous forest of intact protection zone.



Photo Point 1. From boundary of the southwest portion of the protection zone of Pond 1 looking northwest at logged area beyond protection zone.



Photo Point 2. From boundary of the west-central portion of the protection zone of Pond 1 looking northeast at mixed coniferous-deciduous forest of intact protection zone.



Photo Point 2. From boundary of the west-central portion of the protection zone of Pond 1 looking southeast at mixed coniferous-deciduous forest of intact protection zone.



Photo Point 2. From boundary of the west-central portion of the protection zone of Pond 1 looking south at mixed coniferous-deciduous forest of intact protection zone.



Photo Point 2. From boundary of the west-central portion of the protection zone of Pond 1 looking northwest beyond the protection zone.



Photo Point 3. From the Oregon oak forest community of the protection zone of Pond 1 looking east.



Photo Point 3. From the Oregon oak forest community of the protection zone of Pond 1 looking south



Photo Point 3. From the Oregon oak forest community of the protection zone of Pond 1 looking north.



Photo Point 3. From the Oregon oak forest community of the protection zone of Pond 1 looking west



Photo Point 4. From the boundary of the western portion of the protection zone of Wetland 2 looking south along boundary and encroachment area.



Photo Point 4. From the boundary of the western portion of the protection zone of Wetland 2 looking east at mixed Oregon oak forest of the intact protection zone.



Photo Point 4. From the boundary of the western portion of the protection zone of Wetland 2 looking north along boundary and encroachment area.



Photo Point 5. From the boundary of the western portion of the protection zone of Wetland 2 looking north at mixed Oregon oak forest of intact protection zone.



Photo Point 5. From the boundary of the western portion of the protection zone of Wetland 2 looking south at mixed Oregon oak forest of intact protection zone.



Photo Point 5. From the boundary of the western portion of the protection zone of Wetland 2 looking east at Oregon ash forest of intact protection zone and Wetland 2.



Photo Point 5. From the boundary of the western portion of the protection zone of Wetland 2 looking west at mixed Oregon oak forest beyond protection zone.

St. Helens Local Wetland Inventory Map

City of St. Helens
City Hall
255 Strand St.
St. Helens, OR 97051

Information shown on this map is of a generalized nature. In all cases, actual field conditions determine wetland boundaries. There may be unmapped wetlands subject to regulation.

Current LWI Mapping
Completed 11/11/97

Consultants:



PALSA, L.L.C.
Environmental
Science & Policy

18

Sheet No.
L7813.101
Project No.

LEGEND



WU Wetland Boundary



AW Welland/Upland Mosaic



OD Off-Site Determination



(4) Artificial Wetland



(4) Wetland Code



0° 50' 100'



200'



MATCHLINE SEE SHEET 18



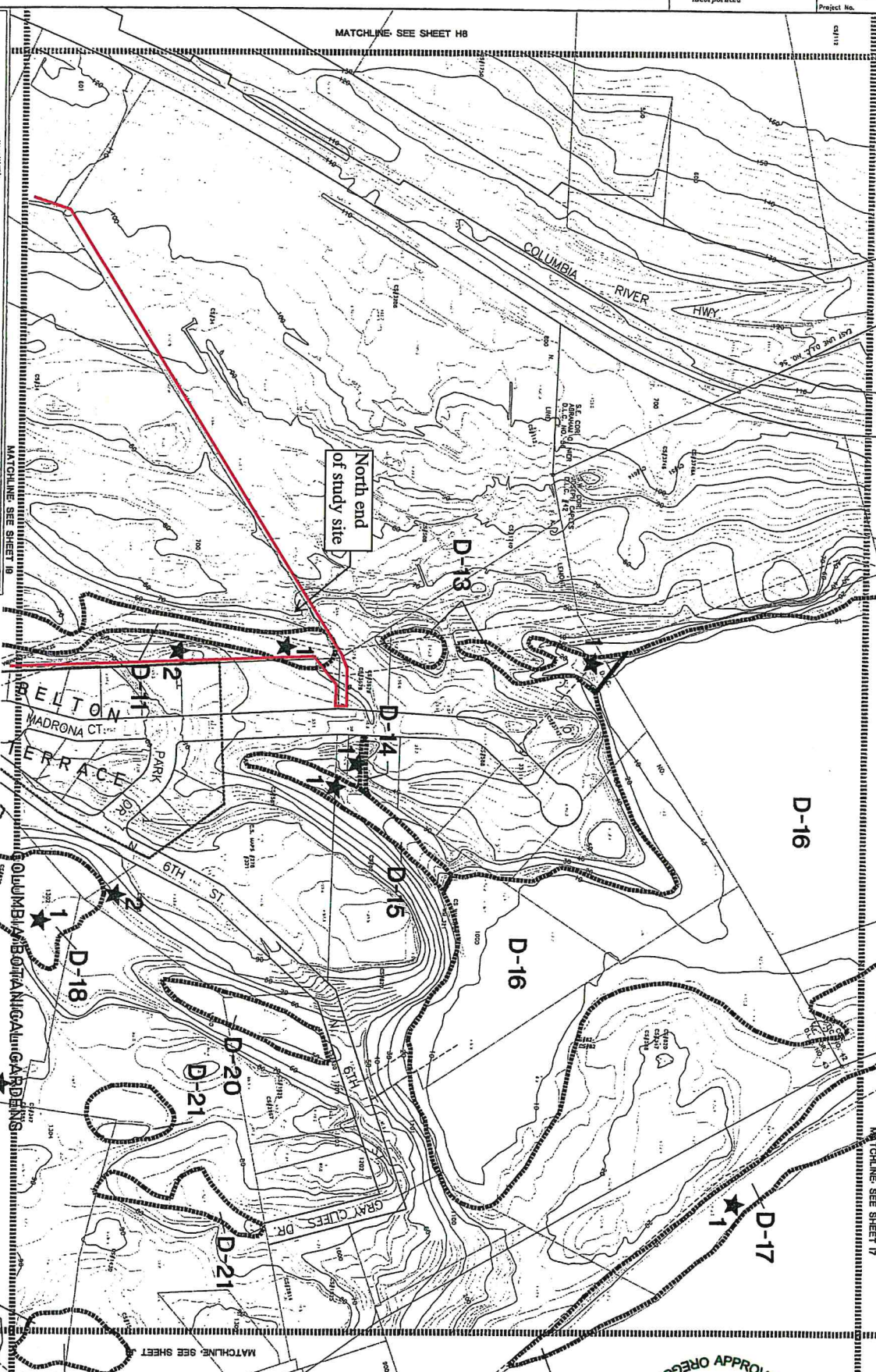
MATCHLINE SEE SHEET 17



MATCHLINE SEE SHEET 16



MATCHLINE SEE SHEET 15



Sheet No.	
	L7813.L01
Project No.	



From: [Jacob Graichen](#)
To: [Kim Biafora](#)
Subject: RE: St Helens Preliminary WL maps
Date: Friday, May 3, 2019 8:36:42 AM
Attachments: [image001.png](#)

Kim,

Ponds and Wetland 2 – Type I per City, 75' upland buffer applies; City sensitive land rules apply

Wetlands 1 and 3 – not significant to City; City sensitive land rules don't apply; have fun with OR DSL and Army Corps

Wetland 4 – assuming it is not directly associated with the ponds, same as # 1 and #3. If it is, same as #2

Jacob Graichen, AICP, City Planner
City of St. Helens

From: Kim Biafora <kim@schottandassociates.com>
Sent: Thursday, May 02, 2019 4:40 PM
To: Jacob Graichen <jacob@ci.st-helens.or.us>
Subject: RE: St Helens Preliminary WL maps

Thank you Jacob.

My other concern is about the buffer width that may be associated with wetlands 1, 3, and 4 as I delineated them. Can you give me a sense of how wetlands are classified into each type?

Regards,

Kim Biafora, Wetland Ecologist & GIS Analyst
21018 NW Hwy 99E
P.O. Box 589
Aurora, OR 97002
(503) 678-6007
www.schottandassociates.com



From: Jacob Graichen [<mailto:jacob@ci.st-helens.or.us>]
Sent: Thursday, May 2, 2019 4:29 PM
To: Kim Biafora
Subject: RE: St Helens Preliminary WL maps

Kim,

THANK YOU FOR THE PRELIM MAPS. THE PONDS WOULD BE WETLANDS D-10 AND D-11. LOOKING AT SOME DATA AND BASED ON YOUR COMMENTS THAT WETLAND 2 AS IDENTIFIED ON THE MAP IS HYDRAULICALLY CONNECTED TO ONE OF THE PONDS, I BELIEVE THAT WETLAND 2 IS ALSO D-11.

WHICH MEANS IS A TYPE I WITH THE 75' UPLAND PROTECTION BUFFER. THUS, TREE REMOVAL AND OTHER DISTURBANCE WITHIN THAT BUFFER MATTERS.

FYI

Jacob Graichen, AICP, City Planner
City of St. Helens

From: Kim Biafora <kim@schottandassociates.com>

Sent: Thursday, May 02, 2019 2:30 PM

To: Jacob Graichen <jacob@ci.st-helens.or.us>

Subject: St Helens Preliminary WL maps

Kim Biafora, Wetland Ecologist & GIS Analyst
21018 NW Hwy 99E
P.O. Box 589
Aurora, OR 97002
(503) 678-6007
www.schottandassociates.com



Attachment B: Soil Web Survey Results

