

August 2, 2019

Alex Maxim
3836 Greenbrier Lane
Mercer Island, WA 98040
(206) 766-0090
sagemaxim@gmail.com

Re: Wetland and Stream Reconnaissance – Parcel #2655500253

The Watershed Company Reference Number: 190725

Dear Alex,

A wetland and stream reconnaissance study was conducted on August 1, 2019 for a parcel located on 3836 Greenbrier Lane on Mercer Island (parcel number 2655500253), by ecologist Sam Payne. Both the reconnaissance field sketch and data forms are enclosed with this letter. In summary, no stream was identified on the subject property but a narrow wetland is located within the center of the ravine.

Existing Conditions

The property is developed with a single family home and associated site improvements such as access, utilities, etc. The landscaped area within the developed property includes lawns and assemblages of ornamental trees, shrubs, and groundcovers. The eastern half of the parcel slopes down to a ravine. Vegetation within the ravine is characterized by primarily non-wetland species including big-leaf maple (*Acer macrophyllum*), western red cedar (*Thuja plicata*), deodar cedar (*Cedrus deodara*), red alder (*Alnus rubra*), cherry laurel (*Prunus laurocerasus*), beaked hazelnut (*Corylus cornuta*), snowberry (*Symphoricarpos albus*), and English ivy (*Hedera helix*).

Streams

The study area was evaluated for watercourses based on the presence or absence of an ordinary high water mark (OHWM) as defined by the Revised Code of Washington (RCW) 90.58.030 and the Washington Administrative Code (WAC) 220-660-030. Accordingly, the presence of an OHWM is determined by examining the bed and bank physical characteristics and vegetation, using guidance references including *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson 2016) and *A Guide to Ordinate High Water Mark (OHWM)*

Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States (Mersel 2016).

The City of Mercer Island maps an unnamed perennial watercourse (Watercourse A) originating on the neighboring property to the south and traversing through the center of the ravine to the northeast toward Lake Washington (Figure 1). However, our investigation found no defined channels, bed and bank characteristics, scour, sorted sediments, drainage patterns or other OHWM indicators that would indicate the presence of a jurisdictional stream/watercourse. The area is characterized by a dense layer of English ivy and other herbaceous vegetation with an established duff layer. Under stream forming conditions in headwater areas, ephemeral or seasonal flows would scour and remove duff layers and form drainage patterns or small channels and rills.

Although there is no stream on the subject parcel, the presence of Stream A downgradient was confirmed. Downslope areas are primarily located on private property, therefore, our study of downgradient areas was limited to public road crossings. At the Southeast 36th Street crossing, Stream A is mapped flowing through a ditch on the Bright Horizons property. No streamflow was observed in this location during the site visit, however, it is unclear if the observed ditch is a continuation of Stream A or a stormwater feature of the development. Further downgradient, Stream A was observed at Southeast 33rd Street. At this location we observed stream channel steady stream flow, likely a perennial watercourse.

Wetlands

The study area was evaluated for wetlands using methodology from the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (U.S. Army Corps of Engineers 2010). Under this methodology, the presence or absence of wetlands is determined on the basis of an examination of vegetation, soils and hydrology. These parameters were sampled at several locations within the subject property. Wetlands were classified using the Department of Ecology's 2014 rating system (Hruby 2014).

Characterization of climatic conditions for precipitation in the Wetland Determination Data Forms were determined using the WETS table methodology (USDA, NRCS 2015). The "Seattle Tacoma International Airport" station from 1981-2010 was used as a source for precipitation data (<http://agacis.rcc-acis.org/>). The WETS table methodology uses climate data from the three months prior to the site visit month to determine if normal conditions are present in the study area region. The station was determined to have normal precipitation during the site visit based on three months prior.

Two wetland data points were collected confirming the presence of a small slope wetland in the center of the ravine (*see enclosed Wetland Determination Data Forms*). The feature determined to be wetland is a very narrow strip in the center of the ravine landform that contains a high groundwater table and soil saturation within the 12 inches of the soil surface was observed during the site visit. Wetland conditions are marginal, but evident within the narrow area described above. Vegetation is primarily composed of invasive English ivy (*Hedera helix*), although, lady fern (*Athyrium filix-femina*) and giant horsetail (*Equisetum telmateia*) also compose significant portions of the plant community in small localized sections. Other patches of vegetation include snowberry (*Symphoricarpos albus*), a non-wetland plant in patches of the ravine center. Soil pit data confirms saturated soils in Data Point (DP) 2 during site investigations occurring the seasonal dry period. Saturation was observed in isolated pockets of DP-2 throughout the soil profile. Soils were very moist but not saturated other sampled soil pits. Soils also showed strongly with hydric indicators, including a depleted matrix starting at around 8 inches below ground surface. Due to the variable and patchy nature of the plant communities, the wetland may be smaller than depicted in the reconnaissance sketch or split in to multiple units.

Wetland A is estimated as Category III with a habitat score of 5 points, although formal wetland rating forms and figures were not included within the scope of this study. Wetland ratings are not considered final until formalized in a wetland delineation and approved by the City of Mercer Island.

Local Regulations

Mercer Island recently approved a critical area ordinance update that has not been incorporated into online code viewers at the time of writing. The final approved code is available through a PDF on the City's website and was reviewed for this report (Chapter 19.07 –Environment; AB 5580 Exhibit 1A).

Under the revised code, Category III wetland with a habitat score of 5 points require a standard buffer of 60 feet. Additionally, a 10-foot structure set back extends beyond the wetland buffer.

The City of Mercer Island provides allowances for buffer averaging and buffer reduction of up to 25 percent that can be utilized if the buffer encumbers the proposed development area. Under a buffer modification scenario, a 60-foot wetland buffer could be reduced to a maximum of 45 feet. Opportunity for reduction through enhancement appear to be present on the site, but averaging is unlikely to be feasible. Much of the vegetated habitat within the wetland buffer has been degraded by invasive species and could benefit from the establishment of dense native vegetation.

Disclaimer

Please note: The information contained in this letter is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s), are based upon information available to us at the time the study was conducted. All work was completed in good faith, within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, State and Federal regulatory authorities. No warranty, expressed or implied, is made.

Should you have any questions or concerns regarding our findings, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Sam Payne". The signature is written in a cursive, flowing style.

Sam Payne
Ecologist

References

- Anderson, P.S. et al. 2016. Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. (Publication #16-06-029). Olympia, WA: Shorelands and Environmental Assistance Program, Washington Department of Ecology.
- Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
- Mersel, M.K. and Lichvar, R.W. 2014. A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States. ERDC/CRREL TR-14-13.
- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). ed. J. S. Wakely, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. National Engineering Handbook, Part 650 Engineering Field Handbook, Chapter 19 Hydrology Tools for Wetland Identification and Analysis. ed. R. A. Weber. 210-VI-NEH, Amend. 75. Washington, DC.

Figures and Site Photos



Figure 1. Screenshot of Mercer Island GIS Portal watercourse layer. Subject parcel outlined in purple.

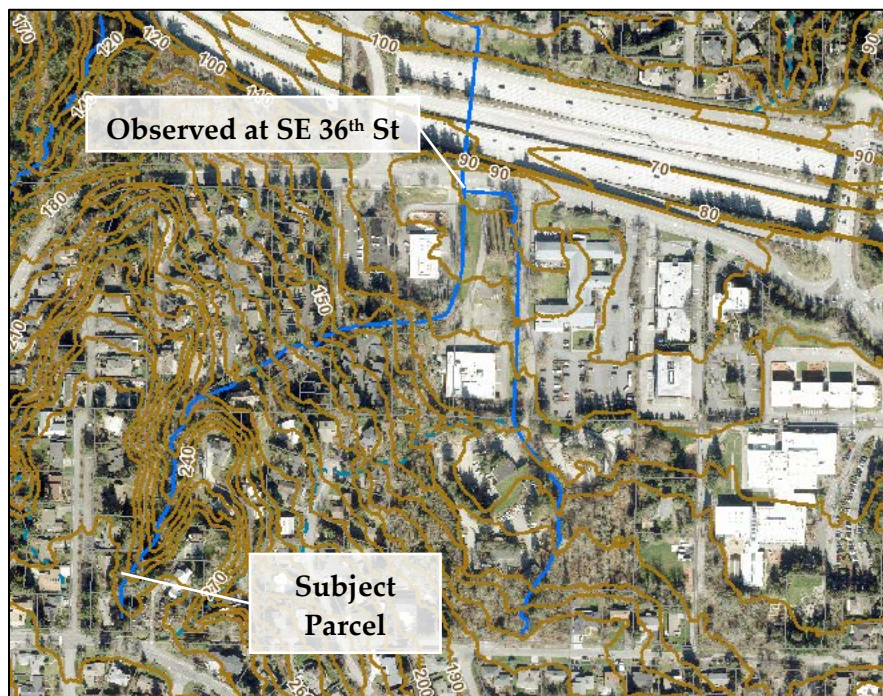


Figure 2. Screenshot of Mercer Island GIS Portal watercourse layer south of I-90.

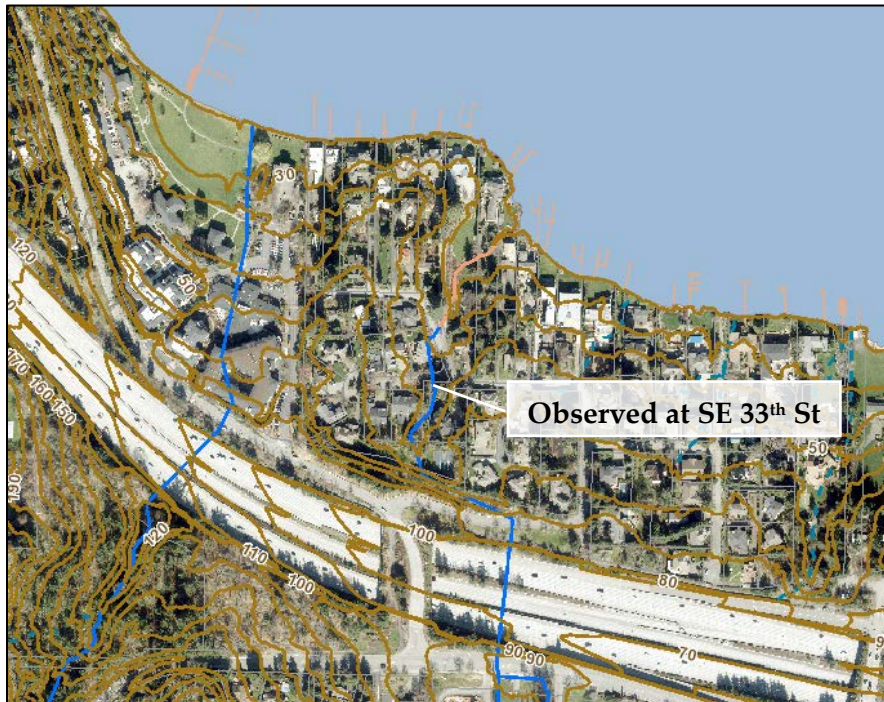


Figure 3. Screenshot of Mercer Island GIS Portal watercourse layer north of I-90.



Figure 4. Photograph of ravine on the site, looking downhill.



Figure 5. Photograph of ravine on the site, looking downhill.



Figure 6. Photograph of Stream A taken from SE 33rd Street.



Figure 7. Photograph of soil profile from DP-1.



Figure 8. Photograph of DP-1 soil pit.

Wetland and Stream Reconnaissance Sketch

Site Address: 3836 Green Brier Lane
Parcel Number: 2655500253
Site Visit Date: August 1, 2019

Prepared for: Alex Maxim
TWC Ref. No.: 190725



Note: Field sketch only. Features depicted are approximate and not to scale. Data points are marked with yellow- and black-striped flags.

Project/Site: Parcel #2655500253 City/County: Mercer Island / King Sampling date: 8/1/2019
 Applicant/Owner: Alex Maxim State: WA Sampling Point: DP-1
 Investigator(s): Sam Payne Section, Township, Range: S07, T24N, R05E
 Landform (hillslope, terrace, etc): hillslope Local relief (concave, convex, none): concave Slope (%): 20%
 Subregion (LRR): A Lat: - Long: - Datum: -
 Soil Map Unit Name: Kitsap silt loam 15 to 30 percent slopes NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Wetland determination based on soils since vegetation is problematic and wetland observed during a period when lacking indicators of wetland hydrology.	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 5-m diameter)				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
1. <u><i>Alnus rubra</i> (rooted out)</u>	25	-	FAC	Total Number of Dominant Species Across all Strata: <u>1</u> (B)
2. <u><i>Acer macrophyllum</i> (rooted out)</u>	15	-	FACU	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A/B)
3. <u><i>Prunus emarginata</i> (rooted out)</u>	20	-	FACU	
4. _____				
	<u>60</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: 3-m diameter)				Prevalence Index worksheet:
1. <u><i>Prunus laurocerasus</i></u>	40	Y	NL	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
	<u>40</u>	= Total Cover		UPL species _____ x 5 = _____
<u>Herb Stratum</u> (Plot size: 1-m diameter)				Column Totals: (A) _____ (B) _____
1. <u><i>Hedera helix</i></u>	100	Y	FACU	Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>100</u>	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: 3-m diameter)				Hydrophytic Vegetation Indicators:
1. _____				<input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation
2. _____				<input type="checkbox"/> 2 – Dominance Test is > 50%
				<input type="checkbox"/> 3 – Prevalence Index is ≤ 3.0 ¹
				<input type="checkbox"/> 4 – Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> 5 – Wetland Non-Vascular Plants ¹
				<input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
% Bare Ground in Herb Stratum: <u>0</u>				
Remarks: All plants are either invasive species (<i>Hedera helix</i>), have no indicator, or are rooted outside of the wetland feature. Most of the <i>Hedera helix</i> is a vine forming groundcover that may be rooted outside of the wetland. Wetland determination made on a basis of hydric soils and wetland hydrology due to problematic vegetation.				

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8	10YR 2/1	100					Silty clay loam	
8-24	2.5Y 4/2	85	10YR 3/6	15	C	M	Sandy clay loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Loc: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2cm Muck (A10)				
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)				
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)				
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)				
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)							
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)							
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)							
Restrictive Layer (if present):					Hydric soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Type: _____								
Depth (inches): _____								
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required: check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Other (explain in remarks)	<input type="checkbox"/> Frost-Heave Hummocks	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (in): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (in): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (in): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Soils very moist but not saturated during the month of August in a dry summer climate. Geomorphic position selected due to location in ravine at stream headwaters. Hydrology observed during a dry period when hydrology indicators are not evident. Hydrology determination based on presence of hydric soils and high soil moisture content during a dry period when non-wetland areas are typically very dry.			

Project/Site: Parcel #2655500253 City/County: Mercer Island / King Sampling date: 8/1/2019
 Applicant/Owner: Alex Maxim State: WA Sampling Point: DP-2
 Investigator(s): Sam Payne Section, Township, Range: S07, T24N, R05E
 Landform (hillslope, terrace, etc): hillslope Local relief (concave, convex, none): concave Slope (%): 20%
 Subregion (LRR): A Lat: - Long: - Datum: -
 Soil Map Unit Name: Kitsap silt loam 15 to 30 percent slopes NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 5-m diameter)				
1. <u><i>Alnus rubra</i></u>	30	Y	FAC	Dominance Test worksheet: Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>67</u> (A/B)
2. _____				
3. _____				
4. _____				
<u>30</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 3-m diameter)				
1. _____				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)
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: 1-m diameter)				
1. <u><i>Hedera helix</i></u>	90	Y	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 – Dominance Test is > 50% <input type="checkbox"/> 3 – Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 – Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 – Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Athyrium filix-femina</i></u>	35	Y	FAC	
3. <u><i>Equisetum telmateia</i></u>	10	N	FACW	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>135</u> = Total Cover				
Woody Vine Stratum (Plot size: 3-m diameter)				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum: 0				
Remarks:				

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color	(moist) %	Color (moist)	%				
0-9	10YR 2/1	100					Sandy clay loam	
9-20	2.5Y 4/2	75	10YR 3/6	25	C	M	Sandy clay loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Loc: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)		<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 2cm Muck (A10)				
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (TF2)				
<input type="checkbox"/> Black Histic (A3)		<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)				
<input type="checkbox"/> Hydrogen Sulfide (A4)		<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Other (Explain in Remarks)				
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)		<input checked="" type="checkbox"/> Depleted Matrix (F3)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.				
<input type="checkbox"/> Thick Dark Surface (A12)		<input type="checkbox"/> Redox Dark Surface (F6)						
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Depleted Dark Surface (F7)						
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Redox Depressions (F8)						
Restrictive Layer (if present):						Hydric soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Type: _____								
Depth (inches): _____								
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required: check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface water (A1)	<input type="checkbox"/> Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Other (explain in remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Frost-Heave Hummocks
<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (in): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (in): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (in): <u>9"</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Soils very moist throughout. Isolated pockets of soil saturation begin at 9 inches below ground surface.			