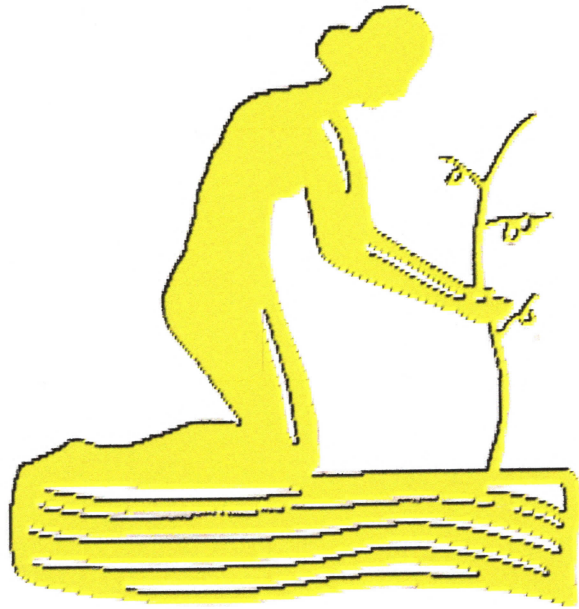


Wetland Delineation Report
for the
Victory Heights Preliminary Plat
located at 2929 W Thorpe Road
Spokane County, WA
December 23, 2022



Biology
Soil &
Water, Inc.

WETLAND DELINEATION REPORT

**for the
Victory Heights Preliminary Plat
located at 2929 W Thorpe Road
in a portion of the
SW1/4 of Section 25, the NE ¼ of Section 35, and the SE ¼ of Section 35
all in T25N, R42W, Spokane County, WA
December 23, 2022**

Tax Parcel Numbers 25253.0009, 25351.0004, 25354.0101, 25351.0602,
25354.0033, 25354.0031, 25354.0034, 25351.0005, 25253.0006, 25253.0008,
25351.0001, 25351.0601, 25351.0603, 25354.0032, 25354.0030, 25253.0005,
25351.0026, 25354.0029

Retained by

Whipple Consulting Engineers
Contact Person: Todd Whipple
21 South Pines Road
Spokane Valley, WA 99206
(509) 893-2617
(toddw@whipplece.com)

Investigated by

Biology Soil & Water, Inc.
Contact Person: Larry Dawes, Principal Biologist
3102 N. Girard Road
Spokane Valley, WA 99212-1529
Phone 509-327-2684
Email: bswinc@icehouse.net

WETLAND REPORT

1.0 INTRODUCTION

Whipple Consulting Engineers (WCE) retained Biology Soil and Water, Inc. (BSW) to investigate Critical Areas at the 177.27 acre Victory Heights Preliminary Plat project area located at 2929 W. Thorpe Road, Spokane WA. The site is located in a portion of the SW1/4 of Section 25, the NE ¼ of Section 35, and the SE ¼ of Section 35, all in T25N, R42W, in Spokane County WA (Figures 1-2). BSW investigated wetland hydrology at the site in March and April 2022 and completed the wetland delineation after the project was formally approved in early June. One wetland was identified and delineated in the NE corner of the property about 100 feet west of the railroad tracks that define the east boundary of the site (Figure 3). The wetland has a Category 3 rating, a total Function Score of 18 points, and a Habitat Function Score of 7 points, so the buffer width is 150-feet due to the proposed high intensity land use.

BSW identified and delineated a second wetland located about 120 feet east of the railroad tracks on adjacent property that is not part of this plat. The wetland is also a Category 3 rating with a total Function Score of 18 points and a Habitat Function Score of 8 points, so the buffer width is 200-feet due to the proposed high intensity land use. The proposed development is encumbered by the 200-foot buffer, so the wetland boundary was flagged by BSW and surveyed by WCE. The wetland boundary and 200-foot buffer were plotted on the site plan map (Figure 3). Both wetlands are identified on the National Wetland Inventory Map (Figure 4) as PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded). The wetlands are not streams and the DNR Water Type Map does not depict any streams on the subject property (Figure 5). Three other wetlands on adjacent property east of the railroad tracks are not included in this report because they are over 250 feet from the proposed plat and their buffers do not encroach on the proposed plat.

2.0 SITE DESCRIPTION

A basalt ridge bisects the property from south to north and drops about 180 feet in elevation from the from high south end of the property to the lower north end. The convex south half of the site is a basalt plateau with terraces on the west and north sides. The site is a Xeric, Ponderosa pine/snowberry/bunchgrass habitat type with well drained sandy soils over gravelly/cobbly subsoils. The two subject wetlands occur in concave depressions on a basalt terrace. The depressional wetlands are seasonal with small drainage basins and no outlet.

3.0 METHODS

The wetlands were delineated in strict accordance with the Washington State Wetlands Identification and Delineation Manual (Department of Ecology Publication #96-94, March 1997) and the U.S. Army Corps of Engineers 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). The routine determination procedures from these references were followed in the field investigation. These procedures require a positive indicator for the three lines of evidence used to make a wetland determination: hydrophytic vegetation (Appendix 1), hydric soils (Appendix 2), and hydrology (Appendix 3).

Figure 1
Victory Heights
Site Location Map

Legend

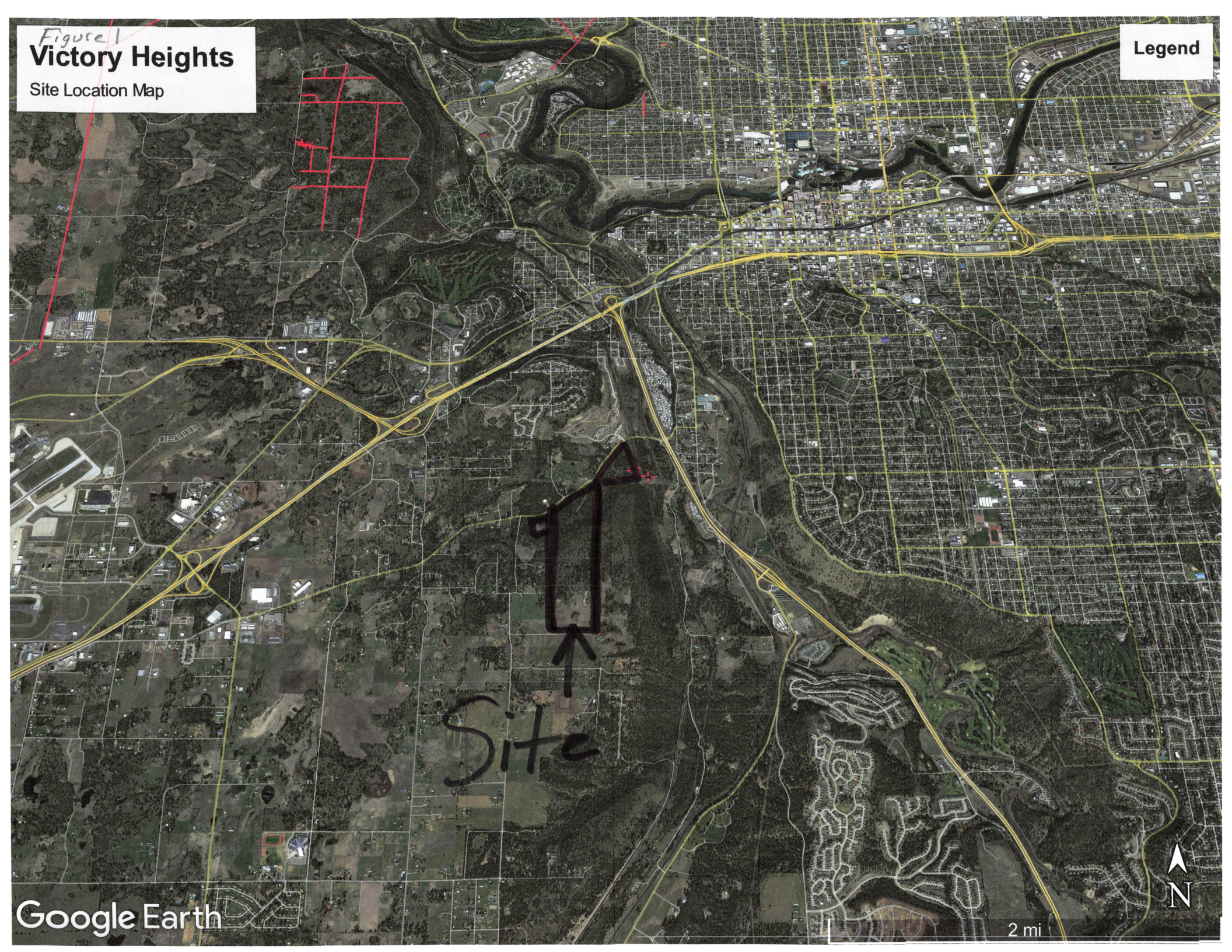
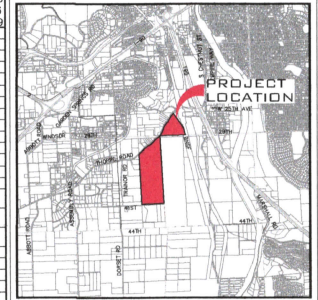


Figure 2

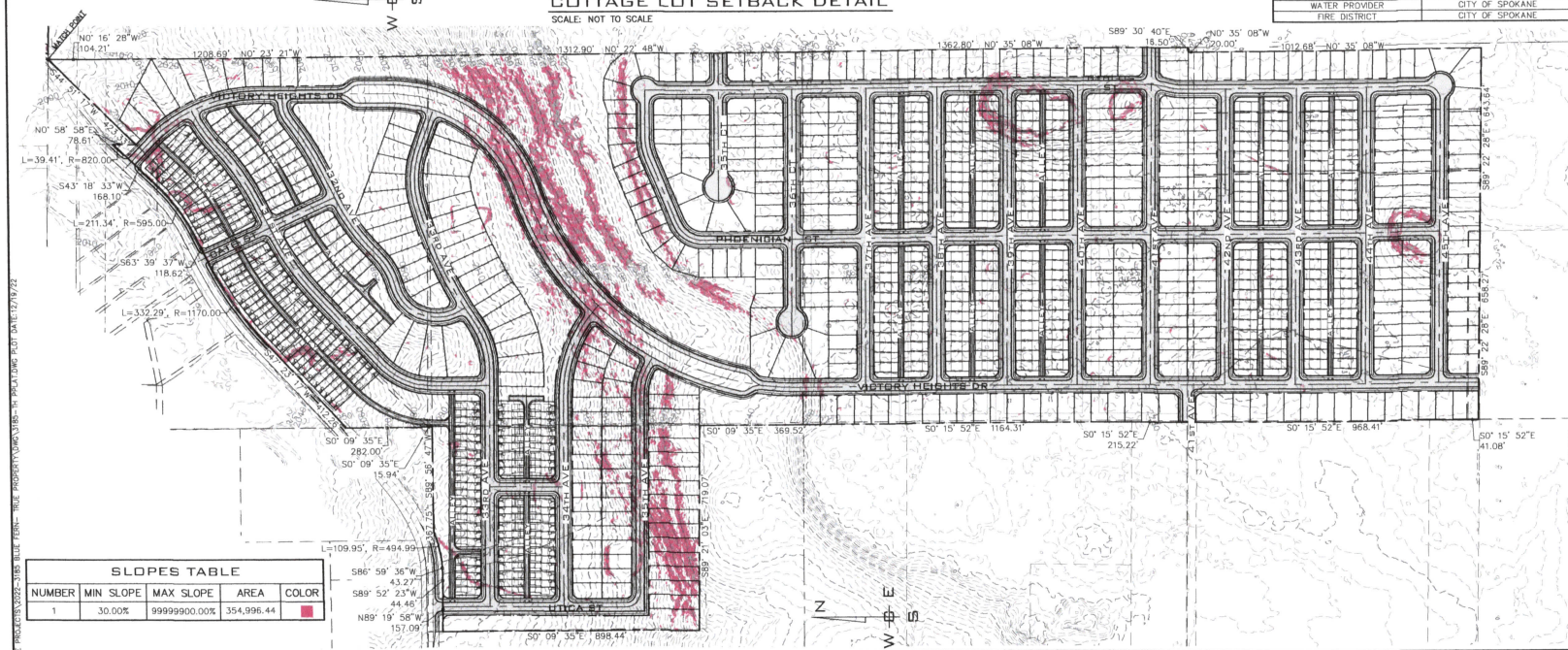
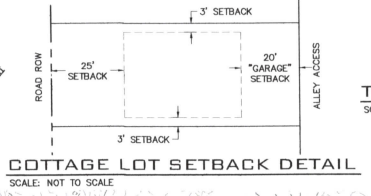
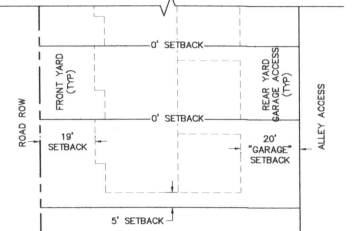
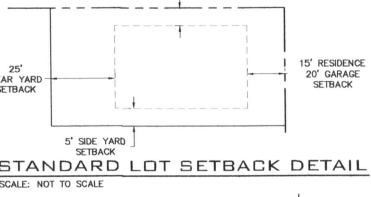
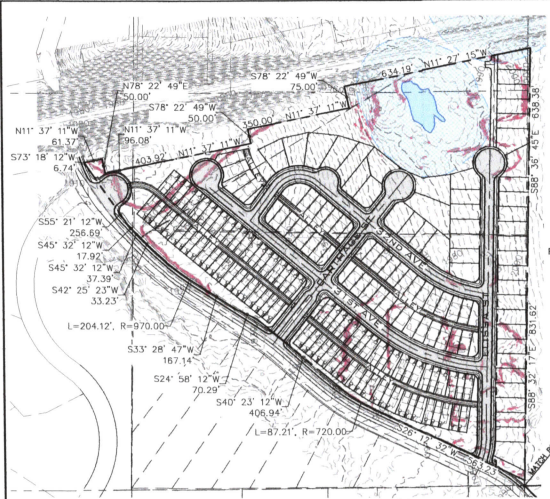
PRELIMINARY PLAT
VICTORY HEIGHTS
 LOCATED IN A PORTION OF THE
 SW 1/4, SEC. 35, T 25N, R 42 W, W.M.
 SE 1/4, SEC. 35, T 25N, R 42 W, W.M.
 SE 1/4, SEC. 35, T 25N, R 42 W, W.M.
 SPOKANE, WASHINGTON

SITE DATA		
PARCEL NUMBERS	25253.0009 25351.0004 25354.0101 25351.0002 25354.0033 25354.0031 25354.0034 25351.0005 25253.0006 25354.0028	25253.0008 25351.0001 25351.0601 25351.0603 25354.0032 25354.0030 25253.0005 25351.0029 25354.0029
ZONING	SF	RSF AC
PROJECT AREA	7,721,870.28	177.27
DENSITY MIN/MAX (u/gc)	4	10
GROSS ALLOWED DENSITY	709	1772
NUMBER OF LOTS	1003	
	>50	93
	50	230
	40	141
COMPACT (35')	317	
TOWNHOMES	220	
NUMBER OF OPEN SPACE TRACTS	93	
NUMBER OF ALLEY TRACTS	20	
NUMBER OF PRIVATE ROAD TRACTS	1	
AREA OF LOTS	4,165,803.96	95.63
AREA OF TRACTS	1,268,676.02	29.12
AREA OF ALLEY TRACTS	214,875.32	4.93
AREA OF PRIVATE ROAD TRACTS	6,884.79	0.15
AREA OF ROW	2,066,030.19	47.43
MIN LOT AREA	2,177.02	0.05
MAX LOT AREA	20,415.39	0.47
ROAD PAVEMENT AREA	1,043,403.41	23.95
CURB AND SIDEWALK AREA	451,603.76	10.37
ALLEY PAVEMENT AREA	130,960.56	3.01
SEWER PROVIDER	CITY OF SPOKANE	
WATER PROVIDER	CITY OF SPOKANE	
FIRE DISTRICT	CITY OF SPOKANE	



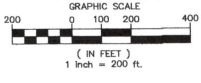
VICINITY MAP

LOT/PHASE	
PHASE I	116
PHASE II	34
PHASE III	119
PHASE IV	195
PHASE V	236
PHASE VI	83
PHASE VII	103
PHASE VIII	97
TOTAL	1003



SLOPES TABLE

NUMBER	MIN SLOPE	MAX SLOPE	AREA	COLOR
1	30.00%	99999900.00%	354,996.44	Red



NO.	DATE	BY	REVISIONS

SCALE:	PROJ #:	22-3185
HORIZONTAL:	DATE:	12/12/22
VERTICAL:	DRAWN:	SLG
	REVIEWED:	TRW

IWCE
 WHIPPLE CONSULTING ENGINEERS
 21 SOUTH PINES ROAD
 SPOKANE VALLEY, WA 99206
 PH: 509-893-2617 FAX: 509-893-0217

TRUE PROPERTY
 PRELIMINARY PLAT COVER
 2929 W THORPE RD
 SPOKANE, WA



SHEET	PP1
JOB NUMBER	22-3185

SHEET INDEX

PP1	COVER SHEET	PP8	PHASE V
PP2	PHASING PLAN	PP9	PHASE V
PP3	PHASE I	PP10	PHASE VI
PP4	PHASE II	PP11	PHASE VII
PP5	PHASE III	PP12	PHASE VIII
PP6	PHASE IV	PP13	UTILITY SCHEMATIC
PP7	PHASE IV	PP14	ROAD GRADES - 8X

- NOTES
- PRIVATE ALLEYS TO BE LOCATED ON A TRACT (SEE DATA TABLE).
 - TOWNHOUSE AND COTTAGE LOTS ARE PRIVATE ALLEY LOADED FROM THE REAR OF THE LOT, AND FRONT ON PUBLIC ROAD RIGHTS OF WAY.

ENGINEER
 WHIPPLE CONSULTING ENGINEERS
 21 SOUTH PINES
 SPOKANE VALLEY, WA 99206
 PHONE: 893-2617
 CONTACT: TODD WHIPPLE, P.E.

SURVEYOR
 WHIPPLE CONSULTING ENGINEERS 21
 SOUTH PINES
 SPOKANE VALLEY, WA 99206
 PHONE: 893-2617
 CONTACT: BRETT A. GRIFFITH, P.L.S.

OWNER
 STEPHEN TRUE
 PO BOX 649
 SPOKANE, WA 99210

NAVD - 88

Figure 3

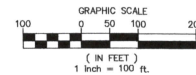
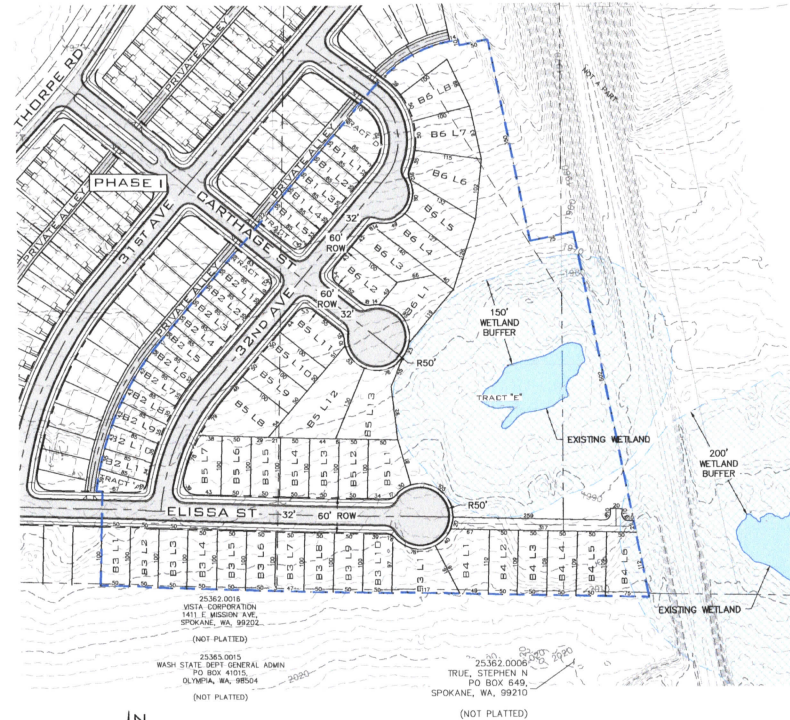
SW, SEC.25, T.25N., R.42E., W.M.
 NE, SEC.35, T.25N., R.42E., W.M.
 SE, SEC.35, T.25N., R.42E., W.M.



PARCEL TABLE				
Parcel #	PHASE	LOT AND BLOCK	Area	Perimeter
1	PHII	B1 L1	2974.91	239.923
2	PHII	B1 L2	2975.00	240.000
3	PHII	B1 L3	2975.00	240.000
4	PHII	B1 L4	2975.00	240.000
5	PHII	B1 L5	2974.97	239.940
6	PHII	B2 L1	2975.00	240.000
7	PHII	B2 L2	2975.00	240.000
8	PHII	B2 L3	2975.00	240.000
9	PHII	B2 L4	2975.00	240.000
10	PHII	B2 L5	3125.14	243.605
11	PHII	B2 L6	3117.29	243.421
12	PHII	B2 L7	3283.03	247.248
13	PHII	B2 L8	3299.07	247.625
14	PHII	B2 L9	3280.01	247.177
15	PHII	B2 L10	3302.59	247.708
16	PHII	B2 L11	2978.07	240.321
17	PHII	B3 L1	5000.00	300.000
18	PHII	B3 L2	5000.00	300.000
19	PHII	B3 L3	5000.00	300.000
20	PHII	B3 L4	5000.00	300.000
21	PHII	B3 L5	5000.00	300.000
22	PHII	B3 L6	5000.00	300.000
23	PHII	B3 L7	4998.54	299.938
24	PHII	B3 L8	4995.29	299.812
25	PHII	B3 L9	4992.05	299.682
26	PHII	B3 L10	4978.54	297.104
27	PHII	B3 L11	7564.62	386.706
28	PHII	B4 L1	7914.56	356.359
29	PHII	B4 L2	5474.79	318.991
30	PHII	B4 L3	5471.54	318.862
31	PHII	B4 L4	5468.29	318.732
32	PHII	B4 L5	5465.05	318.602
33	PHII	B4 L6	6828.78	346.309
34	PHII	B5 L1	6072.73	312.635
35	PHII	B5 L2	5004.74	300.190
36	PHII	B5 L3	5003.86	300.154
37	PHII	B5 L4	5002.97	300.119
38	PHII	B5 L5	5002.09	300.084
39	PHII	B5 L6	5001.20	300.048
40	PHII	B5 L7	5498.22	298.505

PARCEL TABLE				
Parcel #	PHASE	LOT AND BLOCK	Area	Perimeter
41	PHII	B5 L8	8986.15	395.511
42	PHII	B5 L9	5002.22	300.133
43	PHII	B5 L10	5002.22	300.133
44	PHII	B5 L11	6290.00	311.754
45	PHII	B5 L12	11875.95	502.165
46	PHII	B5 L13	9245.40	459.306
47	PHII	B6 L1	6802.22	369.447
48	PHII	B6 L2	6242.11	310.051
49	PHII	B6 L3	6038.16	356.475
50	PHII	B6 L4	7454.43	424.113
51	PHII	B6 L5	7420.59	392.112
52	PHII	B6 L6	9012.90	399.426
53	PHII	B6 L7	7363.90	357.838
54	PHII	B6 L8	6712.82	338.775

OPEN SPACE TRACT TABLE				
Parcel #	PHASE	TRACT	Area	Perimeter
1	PHII	TRACT A	2320.17	220.500
2	PHII	TRACT B	2456.38	220.448
3	PHII	TRACT C	1650.95	202.391
4	PHII	TRACT D	4612.40	272.420
5	PHII	TRACT E	174724.34	2501.597



NO.	DATE	BY	REVISIONS

SCALE:	PROJ #: 22-3185	DATE: 12/12/22	<input type="checkbox"/> CIVIL
HORIZONTAL:	DRAWN: SLS	<input checked="" type="checkbox"/> PLANNING	<input type="checkbox"/> SURVEYING
VERTICAL:	REVIEWED: TRW	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> TRAFFIC
N/A			<input type="checkbox"/> OTHER

IWCE
 WHIPPLE CONSULTING ENGINEERS
 315 W. PINE ROAD
 SPOKANE VALLEY, WA 99006
 PH: 509-660-2617 FAX: 509-908-6057

TRUE PROPERTY
PHASE II
2929 W THORPE RD
SPOKANE, WA



SHEET
PP4
 JOB NUMBER
22-3185

I:\WORK\2022\IWC\PROJECTS\2222-3185\BLUE PRINTS\PP4\PP4.DWG DATE: 12/12/22

NAVD - 88





Figure 4
Wetlands






U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov

December 22, 2022

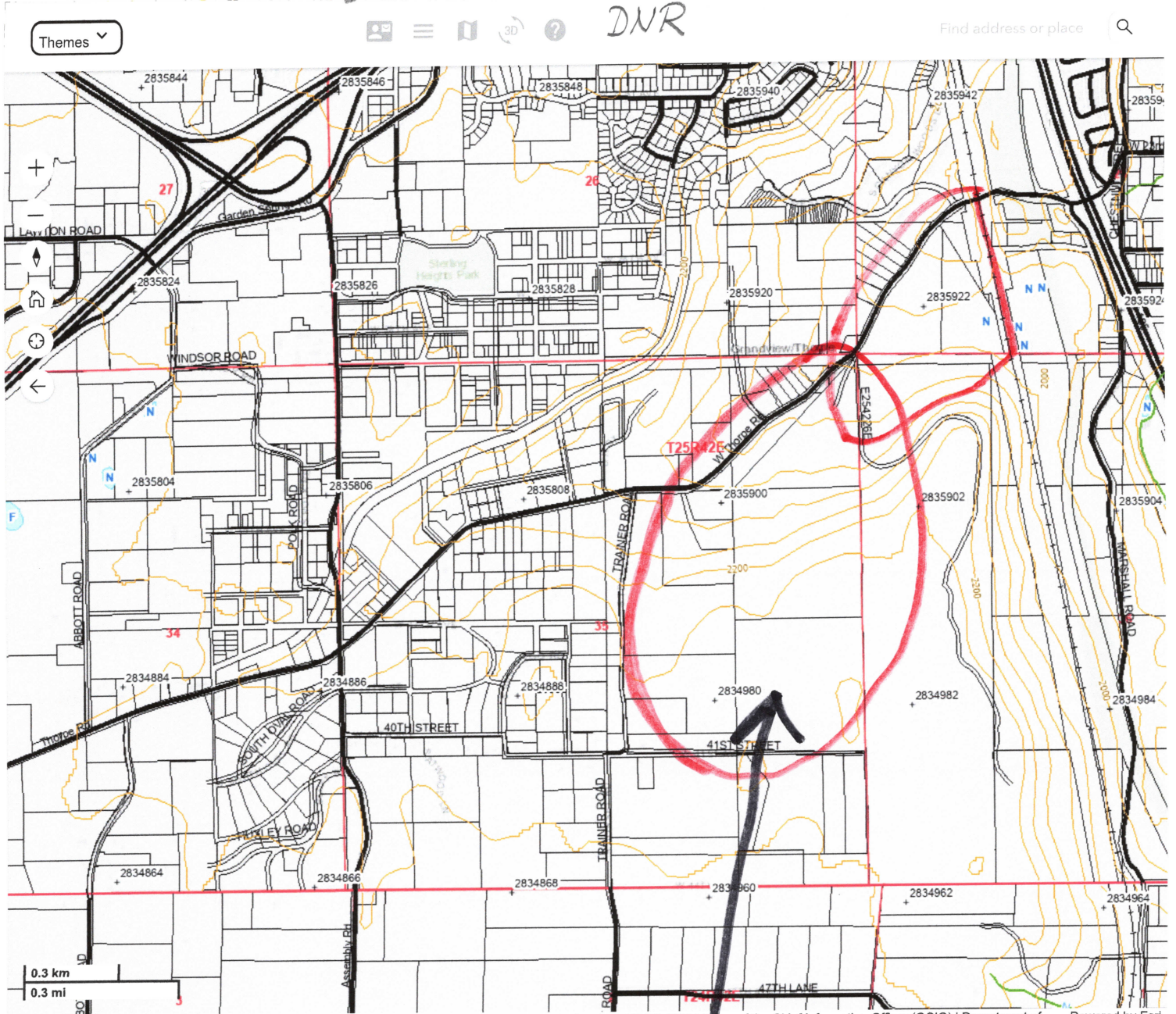
Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond

-  Lake
-  Other
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Area of Interest

Print Map

3.1 VEGETATION

The investigator performed vegetation plot sampling along the moisture gradient to ensure that all vegetative communities were represented and to help identify the wetland border. When possible, each plant was identified to species using the taxonomic keys in *Flora of The Pacific Northwest* (Hitchcock and Cronquist, 1994). All members of each vegetative community were recorded on a numbered field data sheet. Field sheets are included as Appendix #4 of this report.

The relative percentage of cover of each vegetative species was recorded on the field sheet to quantify dominant plant species using the Dominance test worksheet. It was not necessary to utilize the Prevalence Index or Morphological Adaptations Worksheets to characterize the tree, shrub, herbaceous and woody vine vegetative communities within any plot. The indicator status (Appendix 1) of each plant species was recorded and a wetland determination for the vegetation criteria was made on the data sheet. The vegetative plots numbers coincide with test hole locations.

3.2 HYDRIC SOILS

Test holes were excavated to an average depth of 18 inches. Soils were characterized with the help of Muncel Soil Color Charts (Kollmorgen, 1992). The soils were examined in the upper part of the soil profile for hydric soil indicators (Appendix 2) including hydrogen sulfide gas, rizospheres, gleyed soil, aquic moisture regime, chroma of 1 accompanied by a depleted soil matrix, or characteristics of redox depressions or sandy redox soils. Soils with some of these characteristics were found on the site. Two representative test hole data sheets are included in this report to show the line of evidence used to make a wetland determination based on the soils, hydrology, and vegetative criteria and contrast the wetland and upland landscape positions.

3.3 HYDROLOGY

BSW was notified of a future project at the subject property in March and was given permission to trespass for preliminary site reconnaissance. BSW visited the site on 16 March to observe hydrology and again on 4 April 2022 to explore test holes when hydrology could be directly observed in the wetland. On June 2 BSW was notified that the project was going to proceed and instructed to proceed with a delineation. BSW delineated the wetland edge on 16 June 2022 based on the vegetation and hydrology evidence collected in April.

Professional interpretation of the effects of hydrology (Appendix 3) on site soil chemistry and vegetative communities and the topography or elevational contours of the landscape relative to the water table were relevant in the field investigation. A site must be "inundated or saturated at least 5% (consecutive days) of the growing season in most years" or "saturated for >12.5% of the growing season" to satisfy the criteria for wetland hydrology.

4.0 DATA SUMMARY

4.1 VEGETATION

Common Name	Indicator Status	Scientific Name
Upland Herbs:		
yarrow	FACU	<i>Achillea millefolium</i>
balsamroot	NI	<i>Balsamorhiza sagitata</i>
Oregon grape	NI	<i>Berberis repens</i>
bessya	NI	<i>Bessya rubra</i>
brodiaea	NI	<i>Brodiaea douglasii</i>
common harebell	FACU+	<i>Campanula rotundifolia</i>
bachelor's button	NI	<i>Centaurea cyanus</i>
spotted knapweed	NI	<i>Centaurea maculosa</i>
chickweed	FACU	<i>Cerastium nutans</i>
bull Thistle	FACU	<i>Cersium vulgar</i>
clematis	FACU	<i>Clematis columbiana</i>
morning glory	NI	<i>Convolvulus arvensis</i>
teasel	NI	<i>Dipsacus sylvestris</i>
epilobium	NI	<i>Epilobium watsonii</i>
stork's bill	NI	<i>Erodium circuitarium</i>
northern buckwheat	NI	<i>Eriogonium compositum</i>
yellow bell	NI	<i>Fritillaria pudica</i>
bedstraw (cleavers)	FACU	<i>Galium aparine</i>
toadflax	FAC+	<i>Geocaulon lividum</i>
sticky geranium	FAC+	<i>Geranium viscosissimum</i>
cudweed	FAC+	<i>Gnaphalium palustre</i>
prickly lettuce	FACU	<i>Lactuca serriola</i>
dalmatian toadflax *	NI	<i>Linaria dalmatica</i>
lomatium	NI	<i>Lomatium triternatum</i>
lupine	NI	<i>Lupinus sericeus</i>
cheeseweed	NI	<i>Malva neglecta</i>
sweetclover	FACU	<i>Melilotis officinalis</i>
common plantain	FACU+	<i>Plantago major</i>
English plantain	FAC	<i>Plantago lanceolata</i>
buttercup	FAC-	<i>Ranunculus uncinatus</i>
curley dock	FAC+	<i>Rumex crispus</i>
butterweed	NI	<i>Senecio serra</i>
tumble mustard	FACU-	<i>Sisymbrium altissimum</i>
common dandelion	FACU	<i>Taraxacum officinale</i>
penny-cress	NI	<i>Thlapsi arvense</i>
clover	--	<i>Trifolium sp.</i>
yellow salsify	NI	<i>Tragopogon dubius</i>
mullein	NI	<i>Verbascum thapsus</i>
common vetch	UPL	<i>Vicia sativa</i>
vetch	NI	<i>Vicia cracea</i>

Wetland Herbs

Common Name	Indicator Status	Scientific Name
spike rush	OBL	<i>Elocharis palustris</i>
toadrush	FACW+	<i>Juncus bufonius</i>
juncus	FACW	<i>Juncus balticus</i>
mint	FACW	<i>Mentha piperita</i>
montia	FACW	<i>Montia linearis</i>
needle-leaf navarretia	FACW	<i>Navarretia intertexta</i>
canary grass	FACW	<i>Phalaris arundinacea</i>
Scouler's popcornflower	FACW	<i>Plagiobothrys scouleri</i>
Fowl bluegrass	FAC	<i>Poa palustris</i>
cinquefoil	FAC	<i>Potentilla gracilis</i>
curly dock	FACW	<i>Rumex crispus</i>
scirpus	OBL	<i>Scirpus acutus</i>
cattail	FACW	<i>Typha latifolia</i>

Grasses:

Common Name	Indicator Status	Scientific Name
quack grass	FAC-	<i>Agropyron repens</i>
bluebunch wheatgrass	UPL	<i>Agropyron spicatum</i>
meadow foxtail	FACW	<i>Alopecurus pratensis</i>
brome-grass	NI	<i>Bromus inermis</i>
pinegrass	NI	<i>Calamagrostis purpurascens</i>
oatgrass	FACU-	<i>Danthonia californicus</i>
Idaho fescue	NI	<i>Fescuta idahoensis</i>
prarie junegrass	NI	<i>Koeleria cristata</i>
canary grass	FACW	<i>Phalaris arundinacea</i>
bluegrass	FAC	<i>Poa pratensis</i>
bulbous bluegrass	NI	<i>Poa bulbosa</i>

Shrubs:

Common Name	Indicator Status	Scientific Name
kinnikinnik	FACU-	<i>Arctostaphylos uva-ursi</i>
serviceberry	FACU	<i>Amelanchier alnifolia</i>
tall Oregon grape	NI	<i>Berberis aquifolium</i>
creeping Oregon grape	NI	<i>Berberis repens</i>
mock orange	NI	<i>Philadelphus lewisii</i>
chokecherry	FACU	<i>Prunus virginiana</i>
golden current	FAC+	<i>Ribes aureum</i>
Nootka rose	FAC	<i>Rosa nutkana</i>
wild rose	FACU	<i>Rosa woodsii</i>
snowberry	FACU	<i>Symphoricarpos albus</i>

Trees:

ponderosa pine	FACU	<i>Pinus ponderosa</i>
----------------	------	------------------------

FAC+ = More frequently found in wetlands

FAC- = Less frequently found in wetlands

4.2 SOILS (Figure 6. USDA-SCS Soil Survey Map)

The NRCS Web Soil Survey (Figure 6) was used as a reference for the soils information at the site. Soils mapped and named by NRCS at the wetland location are:

3020 – Marble loamy sand, 0-8 percent slopes

The 3020 Marble soils are described by the Web Soil Survey as well drained sandy glaciofluvial deposits consisting of one to two feet of loamy sand over 60-70 inches of sand.

The wetland test hole A Horizons were 0-6 inches of 10YR4/2 silt loam and 10YR5/6 small, common, distinct mottles with the mottles growing larger with increased depth in the B Horizon.

4.3 Hydrology

BSW visited the site on 16 March to observe hydrology and again on 4 April 2022 to explore test holes when hydrology could be directly observed in the wetland. The investigator relied on directly observed hydrology, the elevational contours along the wetland edge, and vegetation indicators that clearly define the wetland boundary.

4.4: Rationale for the Wetland Boundary Determination

Wetland #1 Adjacent Upland Characteristics

The woody vegetation canopy in the upland is dominated by Ponderosa pine/snowberry habitat with serviceberry also well represented. The upland herbaceous canopy along the wetland boundary consists of native bunchgrasses, *Poa bulbosa*, yarrow, balsamroot, pennycress, and dense patches of vetch and sweetclover. The wetland occurs in a basalt depression with no outlet, so the high water level is consistent around the wetland edge and there is an abrupt, well defined transition from upland to wetland vegetation around the entire wetland perimeter.

In upland test holes investigated adjacent to the wetland edge, the A Horizon was 10YR4/2 silt loam or sandy loam in the top 8 inches. The 10YR3/2 B Horizon soils were sandy loam or platy silt loam with a minor clay component between 8 and 16 inches deep with faint mottles throughout. Soils on the upland side of the wetland boundary were borderline hydric, but the vegetation was distinctly upland along the well-defined wetland edge.

Wetland #1 Wetland Characteristics

The wetland landscape position is dominated by dense spikerush (OBL *Elocharis palustris*), quackgrass (FAC- *Agropyron repens*), and curley dock (FAC+ *Rumex crispus*). At the documented wetland test hole, the vegetation was 80% toadrush (FACW+ *Juncus bufonius*), 20% needle-leaf navarretia (FACW *Navarretia intertexta*), fowl bluegrass (FAC *Poa palustris*), and quackgrass (FAC- *Agropyron repens*). The wetland occurs in a basalt depression with no outlet, so the high water level is consistent and well defined around the entire wetland perimeter.

In wetland test holes investigated adjacent to the wetland edge, the A Horizon was 10YR4/2 silt loam with some small distinct mottles in the top 6 inches. The 10YR4/2 B Horizon silt loam had large, common, distinct 10YR5/6 mottles between 6 and 18 inches.

Figure 6 Soil Map—Spokane County, Washington

Wetlands



Wetland #2

The woody vegetation canopy in the upland is dominated by Ponderosa pine/snowberry habitat with serviceberry also well represented. The upland herbaceous canopy along the wetland boundary consists of native bunchgrasses, butterweed, knapweed, sweetclover, dense vetch, bulbous bluegrass, and lettuce.

The wetland vegetative canopy is 70% *Scirpus acutus* (OBL) and 30% cattails (FACW *Typha latifolia*). The hydrologic investigation occurred early in the growing season when hydrology could be directly observed. Temporary flags were hung to identify the wetland edge for surveyors, but no test holes were explored on this property because it is not part of the plat. However, in this instance no soils information was necessary since all three positive indicators are required to define a wetland edge and the line between upland and wetland vegetation was used to establish the boundary. The wetland occurs in a basalt depression with no outlet, so the high water level is consistent and well defined around the entire wetland perimeter causing an abrupt, well defined contrast between the upland and wetland vegetative communities.

5.0 WETLAND DESCRIPTIONS, CATEGORIES AND BUFFERS

The investigator relied on field evidence in the form of directly observed hydrology, the topography or elevational contours of the landscape relative to the water table, soils with hydric indicators; drainage patterns; and professional interpretation of the effects of hydrology on site soil chemistry and vegetative communities (Appendix 4).

The Wetland Rating Category was determined using the *Washington State Wetlands Rating System for Eastern Washington* (Appendix 5, DOE, 2004), the Wetlands in Washington State Volume 1 and 2 (2005) the Arid West Regional Supplement, Version 2 (2010) and the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (1987). The wetland was characterized using the Department of Ecology (DOE) Eastern Washington wetland rating forms and the USACE Wetland Determination Data Form for the Arid West Region was used to assess vegetation, soil, and hydrologic conditions.

Wetland Number	Wetland Category	Land Use Intensity	Function Score	Habitat Score	Buffer Width
1	3	high	18	7	150 feet
2	3	high	18	8	200 feet

*Wetland category based on numerical score.

6.0: LIMITATIONS

Within the limitations of scope, schedule, and budget, BSW services have been executed in accordance with best available science and generally accepted professional practices for the conditions at the time the work was performed. This report is not intended to represent a legal opinion. Specifically, there is no positive or negative recommendation towards the purchase, sale, lease, or construction on the subject property. No warrant, expressed or implied, is made.



12-23-2022

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APPENDIX 1

HYDROPHYTIC VEGETATION

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Free oxygen must be available to the roots of many plants during the growing season. When soils are completely water-saturated, anaerobic or low oxygen conditions exist where microbial respiration products like chemically reduced forms of iron, manganese, and sulfur ions abound in concentrations that are lethal to many plant species. Hydrophytes have adaptations for coping with these conditions while other species have varying degrees of tolerance. The dynamic nature of wetland hydrology and differences among species in recruitment requirements along the moisture gradient also contribute to differences in species distribution in the wetland.

Definition of indicator status: One of the categories (e.g. OBL) that describes the estimated probability of a plant species occurring in wetlands.

INDICATOR CATEGORIES (Reed, 1988 and 1993)

Obligate Wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions.

Facultative Wetland (FACW). Usually occur in wetlands (estimated probably 67%-99%), but occasionally found in non-wetlands.

Facultative (FAC). Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).

Facultative Upland (FACU). Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1-33%).

Obligate Upland (UPL). Occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the National List.

APPENDIX 2

HYDRIC SOILS

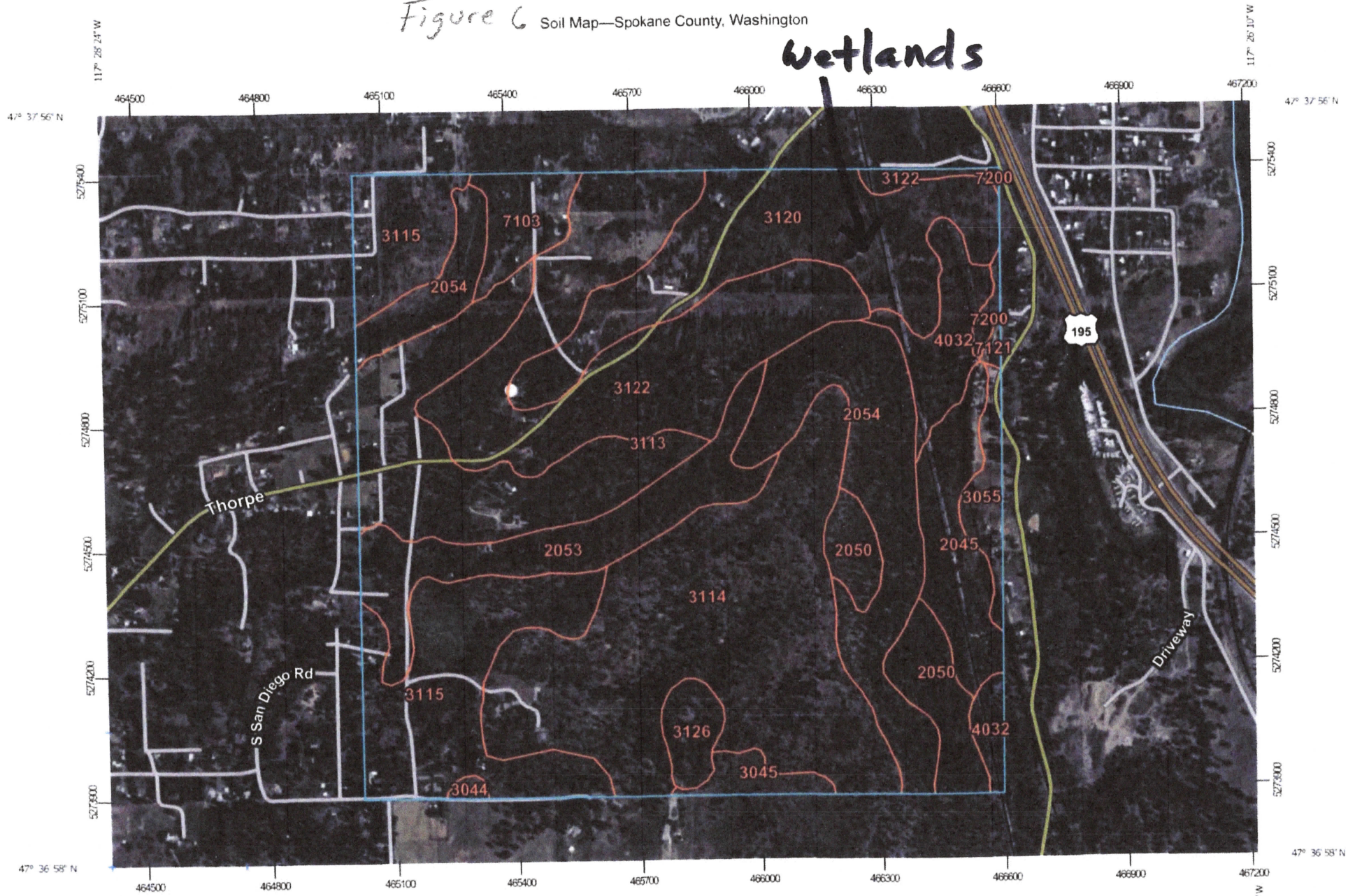
"A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils that occur in areas having positive indicators of hydrophytic vegetation and wetland hydrology are wetland soils.

Mineral hydric soils are those periodically saturated for sufficient duration to produce chemical and physical properties associated with a reducing environment. They are usually gray and/or mottled immediately below the surface horizon or they have thick, dark-colored surface layers overlying gray or mottled subsurface horizons. Mineral soils will either be gleyed or will have contrasting mottles and/or low chroma matrix" (USDA, 1997).

- a) "All Histosols except Folists; or
- b) Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - 1) Somewhat poorly drained with a water table equal to 0.0 ft. during the growing season, or
 - 2) Poorly drained or very poorly drained and have either:
 - a) A water table equal to 0.0 feet during the growing season if textures are coarse sand, or fine sand in all layers within 20 inches, or for other soils
 - b) A water table that is at less than or equal to 0.5 feet from the surface during the growing season if permeability is equal to or greater than 6.0 inches per hour in all layers within 20 inches, or
 - c) The water table is at less than or equal to 1.0 feet from the surface during the growing season if permeability is less than 6.0 inches per hour in any layer within 20 inches, or
- c) Soils that are frequently ponded for long or very long duration during the growing season; or
- d) Soils that are frequently flooded for long duration or very long duration during the growing season."

Figure 6 Soil Map—Spokane County, Washington

Wetlands




Map Scale: 1:12,800 if printed on A landscape (11" x 8.5") sheet.

0 150 300 600 900 Meters
0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points


Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow


 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Spokane County, Washington

Survey Area Data: Version 13, Aug 23, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 12, 2020—Aug 14, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2045	Marble-Speigle complex, mass wasted, 8 to 30 percent slopes	22.9	3.9%
2050	Speigle cobbly ashy loam, 15 to 30 percent slopes	20.7	3.5%
2053	Speigle-Rock outcrop complex, 15 to 30 percent slopes	35.6	6.0%
2054	Speigle-Rubble land-Rock outcrop complex, 30 to 90 percent slopes	62.0	10.5%
3044	Cheney ashy silt loam, 0 to 8 percent slopes	1.1	0.2%
3045	Rockly-Deno complex, 0 to 15 percent slopes	5.9	1.0%
3055	Clayton-Hagen complex, 8 to 25 percent slopes	8.4	1.4%
3113	Stutter-Springdale complex, 3 to 15 percent slopes	53.4	9.0%
3114	Rockly-Fourmound complex, 0 to 15 percent slopes	120.8	20.4%
3115	Northstar-Rock outcrop complex, 3 to 15 percent slopes	68.8	11.6%
3120	Marble loamy sand, 0 to 8 percent slopes	62.8	10.6%
3122	Marble loamy sand, 15 to 30 percent slopes	85.6	14.5%
3126	Rock outcrop-Northstar complex, 15 to 30 percent slopes	7.6	1.3%
4032	Lakespring ashy loam, 8 to 25 percent slopes	19.8	3.4%
7103	Xerolls silt loam, warm, mass wasted, 8 to 25 percent slopes	12.1	2.0%
7121	Urban land-Marble, disturbed complex, 3 to 8 percent slopes	0.9	0.2%
7200	Rock outcrop-Rubble land complex, cliffs, 0 to 90 percent slopes	2.3	0.4%
Totals for Area of Interest		590.6	100.0%

Spokane County, Washington

3120—Marble loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wgf
Elevation: 1,530 to 2,500 feet
Mean annual precipitation: 15 to 22 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 100 to 130 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Marble and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Marble

Setting

Landform: Outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
A - 1 to 4 inches: loamy sand
E - 4 to 8 inches: loamy sand
E and Bt₁ - 8 to 27 inches: sand
E and Bt₂ - 27 to 53 inches: sand
C - 53 to 60 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F043AY509WA - Warm, Xeric, Sandy, Outwash Terraces and Plains (Ponderosa Pine/Dry Grass) Pinus

ponderosa / Pseudoroegneria spicata , Pinus ponderosa /
Festuca idahoensis
Other vegetative classification: ponderosa pine/Idaho fescue
(CN140)
Hydric soil rating: No

Minor Components

Hagen

Percent of map unit: 10 percent
Landform: Outwash terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F043AY502WA - Warm Mesic Xeric Loamy
Foothills, Terraces, mixed ash surface (Ponderosa Pine/Shrub)
Pinus Ponderosa /Symphoricarpos albus, Pinus Ponderosa /
Physocarpus malvaceus
Other vegetative classification: ponderosa pine/common snowberry
(CN170)
Hydric soil rating: No

Hardesty

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Landform position (three-dimensional): Tread
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F043AY501WA - Warm Mesic Xeric Loamy
Foothills, Terraces, High Water Table (Ponderosa Pine/Shrub)
Pinus Ponderosa /Symphoricarpos albus, Pinus Ponderosa /
Physocarpus malvaceus
Other vegetative classification: ponderosa pine/ninebark (CN190)
Hydric soil rating: No

Marblespring

Percent of map unit: 5 percent
Landform: Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F043AY509WA - Warm, Xeric, Sandy, Outwash
Terraces and Plains (Ponderosa Pine/Dry Grass) Pinus
ponderosa / Pseudoroegneria spicata , Pinus ponderosa /
Festuca idahoensis
Other vegetative classification: ponderosa pine/bluebunch
wheatgrass (CN130)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Spokane County, Washington
Survey Area Data: Version 14, Sep 8, 2022

APPENDIX 3

HYDROLOGY

A site must be "inundated or saturated at least 5% (consecutive days) of the growing season in most years" or "saturated for >12.5% of the growing season" in order to satisfy the criteria for wetland hydrology. Growing season is defined as "the average (5 out of 10 years) number of consecutive days that the air temperature is at least 28 F" (Corp of Engineers, 1987).

The growing season has begun in spring, and is still in progress, when soil temperature measured at the 12-in. (30-cm) depth is 41 degrees F (5 degrees C) or higher. A one-time temperature measurement during a single site visit is sufficient, but is not required unless growing season information is necessary to evaluate particular wetland hydrology indicators. However, if long-term hydrologic monitoring is planned, then soil temperature should also be monitored to ensure that it remains continuously at or above 41 degrees F during the monitoring period. Soil temperature can be measured directly in the field by inserting a soil thermometer into the wall of a freshly dug soil pit. If the timing of the growing season based on vegetation growth and development and/or soil temperature is unknown and on-site data collection is not practical, such as when analyzing previously recorded stream-gauge or monitoring-well data, then growing season dates may be approximated by the median dates (i.e., 5 years in 10, or 50 percent probability) of 28 degrees F (-2.2 degrees C) air temperatures in spring and fall, based on long-term records gathered at National Weather Service meteorological stations (U.S. Army Corps of Engineers 2005). These dates are reported in WETS tables available from the NRCS National Water and Climate Center for the nearest appropriate weather station (<http://www.wcc.nrcs.usda.gov/climate/wetlands.html>).

APPENDIX 4

WETLAND DETERMINATION DATA FORMS – Arid West Region

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

Project/Site: Victory Heights City/County: Spokane Sampling Date: 4/6/2022
Applicant/Owner: Steven True State: WA Sampling Point: 1
Investigator(s): Larry Dawes Section, Township, Range: Sec 35, T25N, R42W
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1-2
Subregion (LRR): B Lat: 47° 37.76' N Long: 117° 26.935' W Datum:
Soil Map Unit Name: 3020 Marble Silm 0-89a NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No
Are Vegetation, Soil, or Hydrology significantly disturbed? NO Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally problematic? NO

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

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X
Is the Sampled Area within a Wetland? Yes No X

VEGETATION - Use scientific names of plants.

Table with columns for Tree Stratum, Sapling/Shrub Stratum, Herb Stratum, Woody Vine Stratum, % Bare Ground in Herb Stratum, and Dominance Test worksheet. Includes species names like Pseudotsuga amabilis, Melilotis officinalis, Achillea millefolium, and Potentilla gracilis.

SOIL

Sampling Point: _____

Table for soil profile description with columns: Depth (inches), Matrix Color (moist) %, Redox Features Color (moist) %, Type, Loc, Texture, Remarks. Includes handwritten entries for depths 0-8 and 8-16 inches.

Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) and Restrictive Layer (if present). Includes various soil indicators like Histosol, Sandy Redox, etc.

HYDROLOGY

Wetland Hydrology Indicators section with Primary and Secondary Indicators lists. Includes checkboxes for Surface Water, High Water Table, Saturation, etc.

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

Project/Site: Victory Heights City/County: Spokane Sampling Date: 4/6/2022
 Applicant/Owner: Steven True State: WA Sampling Point: 2
 Investigator(s): Larry Dawe S Section, Township, Range: S25, T25N R42W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 1-2
 Subregion (LRR): B Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Marble Silt loam 0-8% (3020) NWI classification: PEMIC
 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? NO Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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 _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>NA</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>100</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>NA</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				
Herb Stratum (Plot size: <u>10'x10'</u>)				
1. <u>Juncus bulbosus</u>	<u>80</u>	<u>Y</u>	<u>FACW+</u>	
2. <u>Navarrelia intertexta</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Agropyron repens</u>	<u>20</u>	<u>Y</u>	<u>FAC-</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____ = Total Cover				
Remarks:				

SOIL

Sampling Point: _____

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)	%				
0-6	10YR 4/2		10YR 5/6		mottles	SCD		SiLm
6-16"	10YR 4/2		10YR 5/6		mottle	LCD	throughout	SiLm saturated

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

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

___ Histosol (A1)	___ Sandy Redox (S5)	___ 2 cm Muck (A10)
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ Rod Paron Material (TF2)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1) (except MLRA 1)	___ Very Shallow Dark Surface (TF12)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Other (Explain in Remarks)
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	

³Indicators 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

___ Surface Water (A1)	___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
___ High Water Table (A2)	___ Salt Crust (B11)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Saturation Visible on Aerial Imagery (C9)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Geomorphic Position (D2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Shallow Aquitard (D3)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ FAC-Neutral Test (D5)
___ Iron Deposits (B5)	___ Stunted or Stressed Plants (D1) (LRR A)	___ Raised Ant Mounds (D6) (LRR A)
___ Surface Soil Cracks (B6)	___ Other (Explain in Remarks)	___ Frost-Heave Hummocks (D7)
___ Inundation Visible on Aerial Imagery (B7)		
___ Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present?	Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>10"</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>6"</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX 5
WETLAND RATING FORMS

Wetland name or number 1

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Victory Heights Date of site visit: 3/14/2022
 Rated by Larry Dawes Trained by Ecology? Yes No Date of training 2002
 HGM Class used for rating Depressional Wetland has multiple HGM classes? Y N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY 3 (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

*Alternative 3
 150' buffer
 (7pt Habitat Score)
 High Impact Land
 Use*

- Category I – Total score = 22-27
- Category II – Total score = 19-21
- Category III – Total score = 16-18
- Category IV – Total score = 9-15

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
- 8 = H,H,M
- 7 = H,H,L
- 7 = H,M,M
- 6 = H,M,L
- 6 = M,M,M
- 5 = H,L,L
- 5 = M,M,L
- 4 = M,L,L
- 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	(H) M L	(H) M L	H M (L)	
Landscape Potential	H M (L)	H M (L)	(H) M L	
Value	H (M) L	H M (L)	(H) M L	TOTAL
Score Based on Ratings	6	5	7	18

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II III
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u>		
Wetland has no surface water outlet	points = 5	5
Wetland has an intermittently flowing outlet	points = 3	
Wetland has a highly constricted permanently flowing outlet	points = 3	
Wetland has a permanently flowing, unconstricted, surface outlet	points = 1	
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)</u>		
YES = 3 NO = 0		0
D 1.3. <u>Characteristics of persistent vegetation</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes)		
Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area	points = 5	5
Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area	points = 3	
Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area	points = 1	
Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area	points = 0	
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u>		
<i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i>		
Area seasonally ponded is $> \frac{1}{2}$ total area of wetland	points = 3	3
Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland	points = 1	
Area seasonally ponded is $< \frac{1}{4}$ total area of wetland	points = 0	
Total for D 1		Add the points in the boxes above 13

Rating of Site Potential If score is: 12- 16 = H ___ 6- 11 = M ___ 0- 5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source _____	Yes = 1 No = 0	0
Total for D 2		Add the points in the boxes above 0

Rating of Landscape Potential If score is: ___ 3 or 4 = H ___ 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?	Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?	Yes = 2 No = 0	0
Total for D 3		Add the points in the boxes above 1

Rating of Value If score is: ___ 2-4 = H 1 = M ___ 0 = L Record the rating on the first page

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland has no surface water outlet points = 8 Wetland has an intermittently flowing outlet points = 4 Wetland has a highly constricted permanently flowing outlet points = 4 Wetland has a permanently flowing unconfined surface outlet points = 0 <i>(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")</i>		8
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry). Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding points = 8 Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding points = 6 The wetland is a headwater wetland points = 4 Seasonal ponding: 1 ft - < 2 ft <u>points = 4</u> Seasonal ponding: 6 in - < 1 ft points = 2 Seasonal ponding: < 6 in or wetland has only saturated soils points = 0		4
Total for D 4		Add the points in the boxes above 12

Rating of Site Potential If score is: 12-16 = H ___ 6-11 = M ___ 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	0
Total for D 5		Add the points in the boxes above 0

Rating of Landscape Potential If score is: ___ 3 = H ___ 1 or 2 = M 0 = L


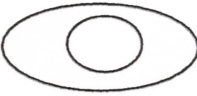

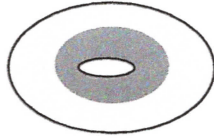
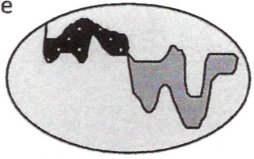
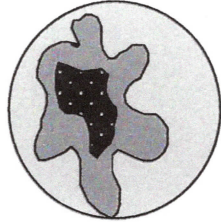
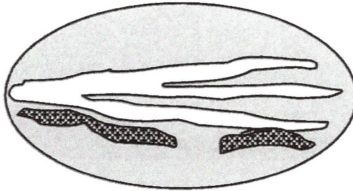
Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. <u>The wetland is in a landscape that has flooding problems.</u> Choose the description that best matches conditions around the wetland being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND Flooding occurs in sub-basin that is immediately down-gradient of wetland points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0 There are no problems with flooding downstream of the wetland <u>points = 0</u>		
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?		Yes = 2 No = 0
Total for D 6		Add the points in the boxes above 0

Rating of Value If score is: ___ 2-4 = H ___ 1 = M 0 = L

Record the rating on the first page

Wetland name or number _____

These questions apply to wetlands of all HGM classes.		(only 1 score per box)
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat		
H 1.0. Does the wetland have the potential to provide habitat for many species?		
H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i> <input type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover <input type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover <input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) <input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)		4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0 <div style="text-align: right; font-size: 2em;">1</div>
H 1.2. Is one of the vegetation types Aquatic Bed?		Yes = 1 No = 0 <div style="text-align: right; font-size: 2em;">0</div>
H 1.3. <u>Surface water</u>		
H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i> Yes = 3 points & go to H 1.4 No = go to H 1.3.2 H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i> Yes = 3 No = 0		<div style="font-size: 2em;">0</div>
H 1.4. <u>Richness of plant species</u>		
Count the number of plant species in the wetland that cover at least 10 ft ² . <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i> # of species _____		Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0 <div style="text-align: right; font-size: 2em;">2</div>
H 1.5. <u>Interspersion of habitats</u>		
Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none. <i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i>		Figure__
 None = 0 points	 Low = 1 point	  Moderate = 2 points
All three diagrams in this row are High = 3 points		<div style="font-size: 2em;">2</div>
		 Riparian braided channels with 2 classes

Wetland name or number _____

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>	
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)	1
Total for H 1	Add the points in the boxes above 6

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?	
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate: % undisturbed habitat</i> <u>25</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>25</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon <u>points = 2</u> 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate: % undisturbed habitat</i> <u>30</u> + [(% moderate and low intensity land uses)/2] <u>10</u> = <u>40</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches <u>points = 2</u> Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (-2) Does not meet criterion above points = 0	
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0	
Total for H 2	Add the points in the boxes above 4

Rating of Landscape Potential If score is: 4-9 = H 1-3 = M < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input checked="" type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0	

Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number _____

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	1
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	1
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	2
Map of the contributing basin	D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4,5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	6
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	7

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

Figure 1

D1.1, D4.1 No outlet

D1.3 Persistent ungrazed 100%

D1.4 Seasonally ponded $> \frac{1}{2}$ Seasonally ponded but covered with emergent spike rush

H1.1 Emergent vegetation layers

H1.5 Dispersion of Habitat types (low)

H1.2 No aquatic plants

H1.3 No open water (spike rush cover)

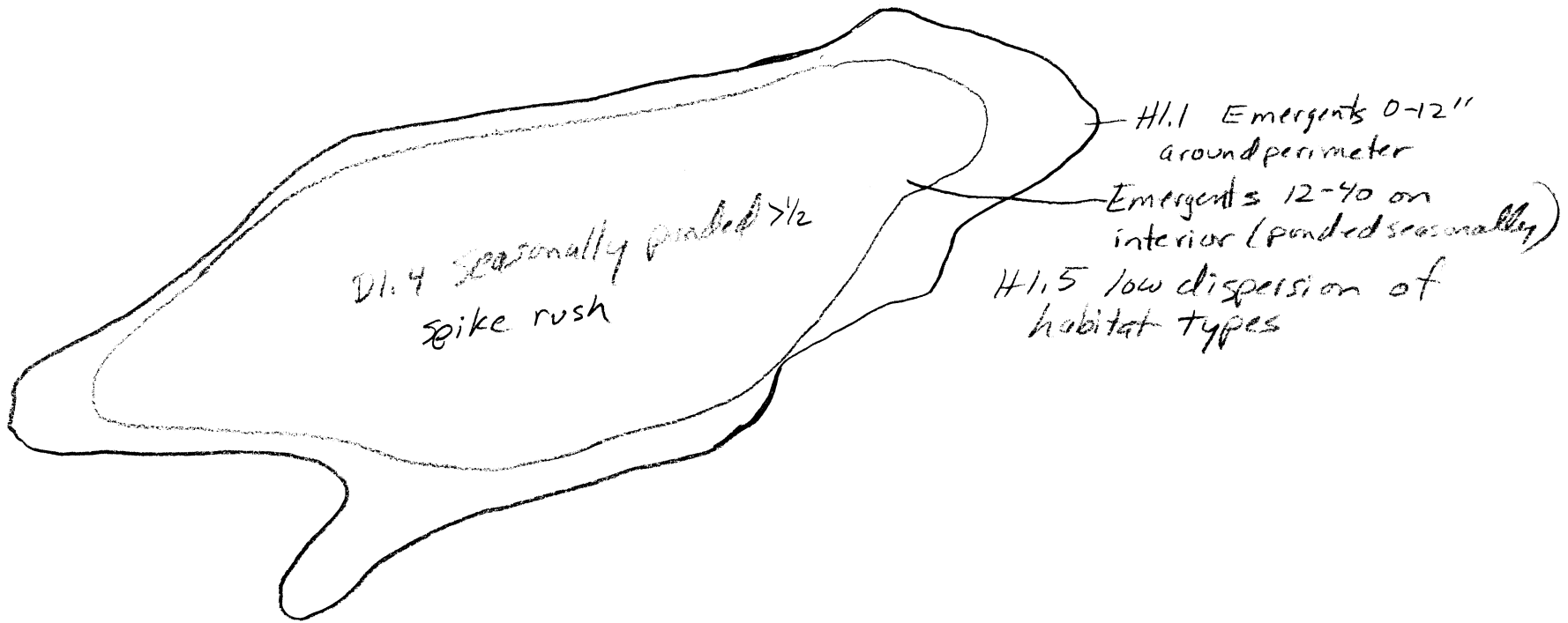


Figure 2
Wetland #1
D2.1 - No Stormwater
D2.2 - No pollutants
drain to wetland

Legend



Google Earth

Image Landsat / Copernicus



100 ft

Wetland #1 Drainage Basin

topoView

+

-

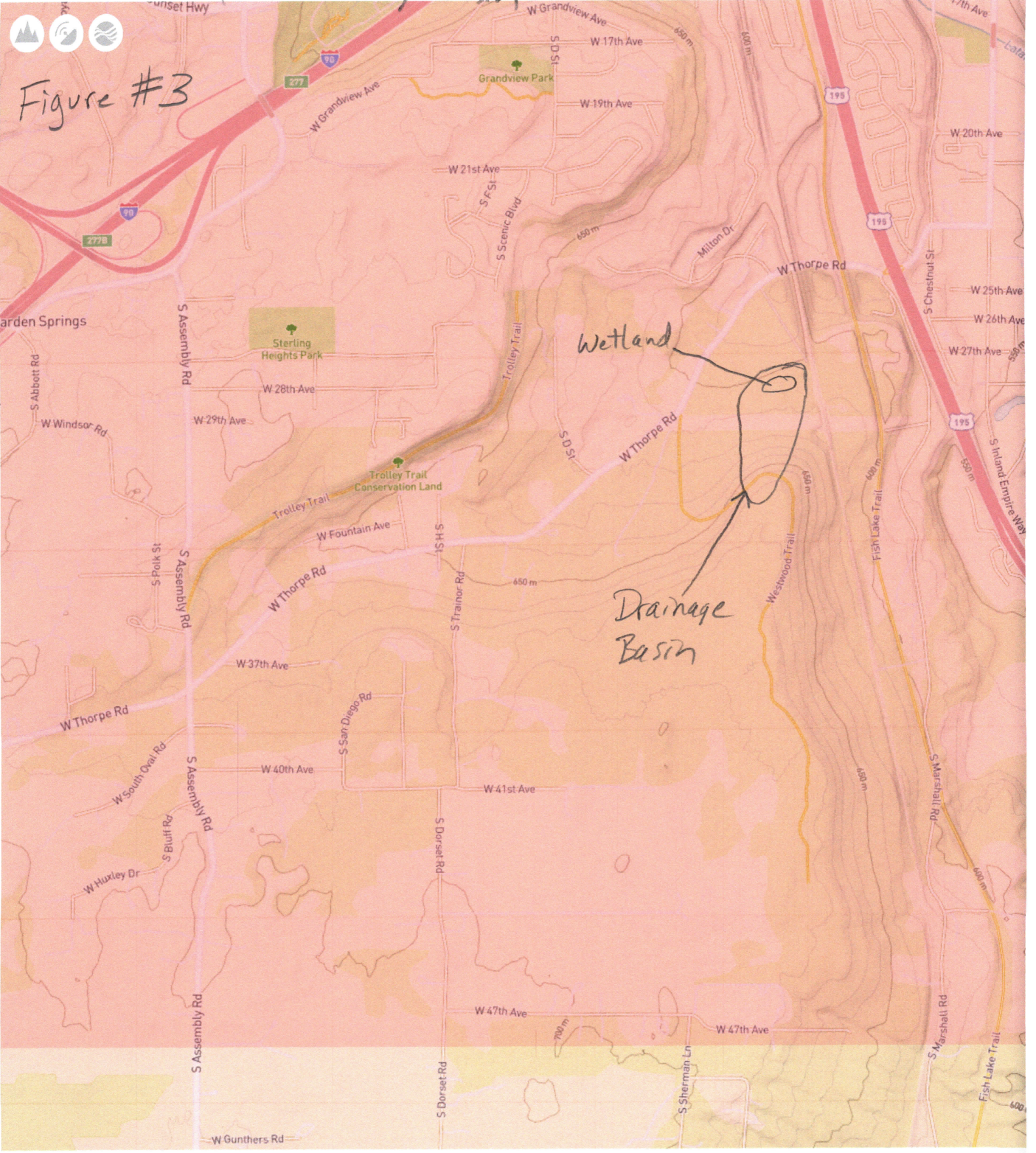
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Figure #3



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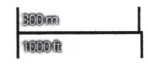


Figure 4
Habitat Accessible

Accessible & Undisturbed Habitat
Moderate - 0% 25%

Legend

 Westwood Natural Area

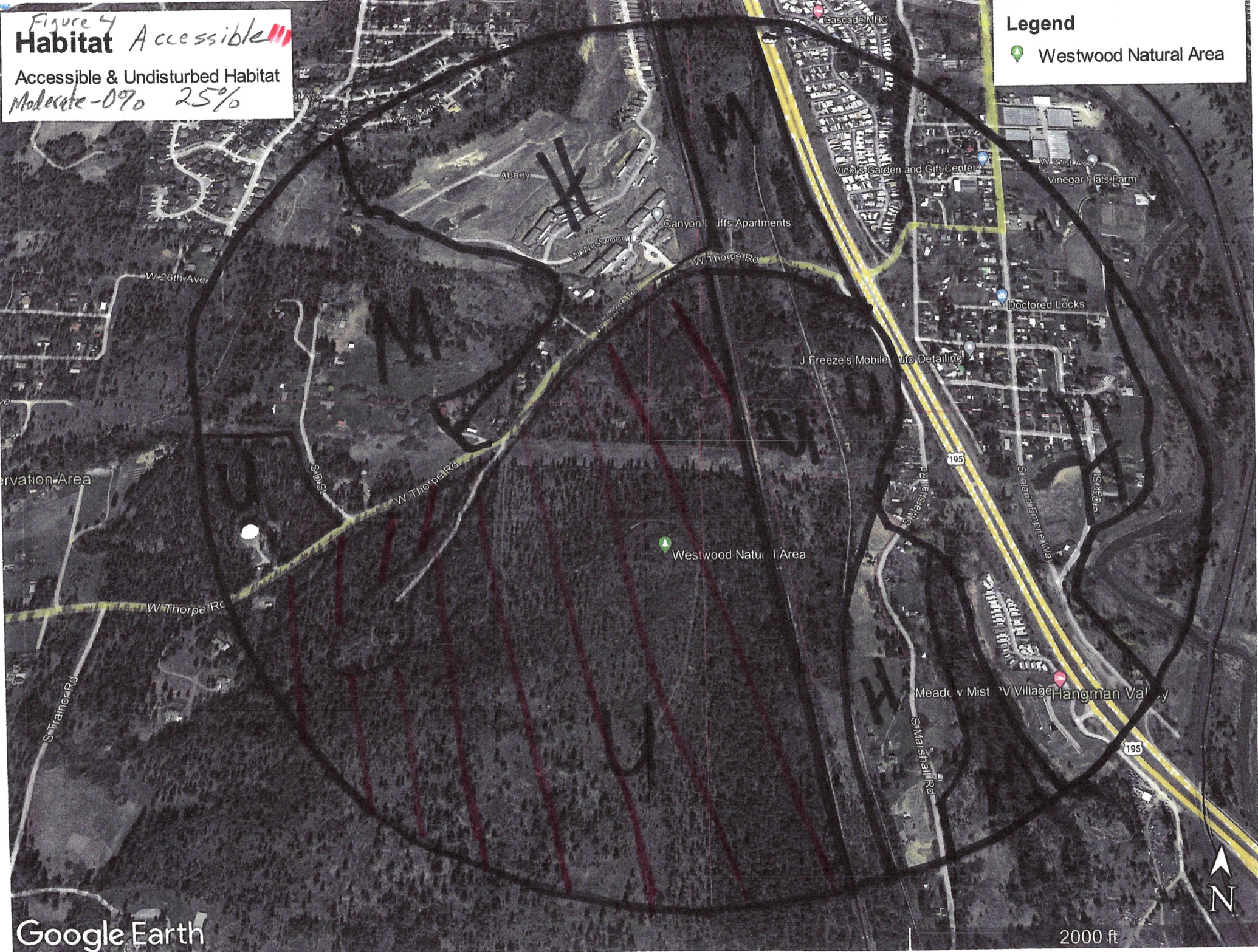


Figure 5
Habitat Undisturbed
Accessible & Undisturbed Habitat
Moderate 20/2=10% + 30%

Legend

- Westwood Natural Area

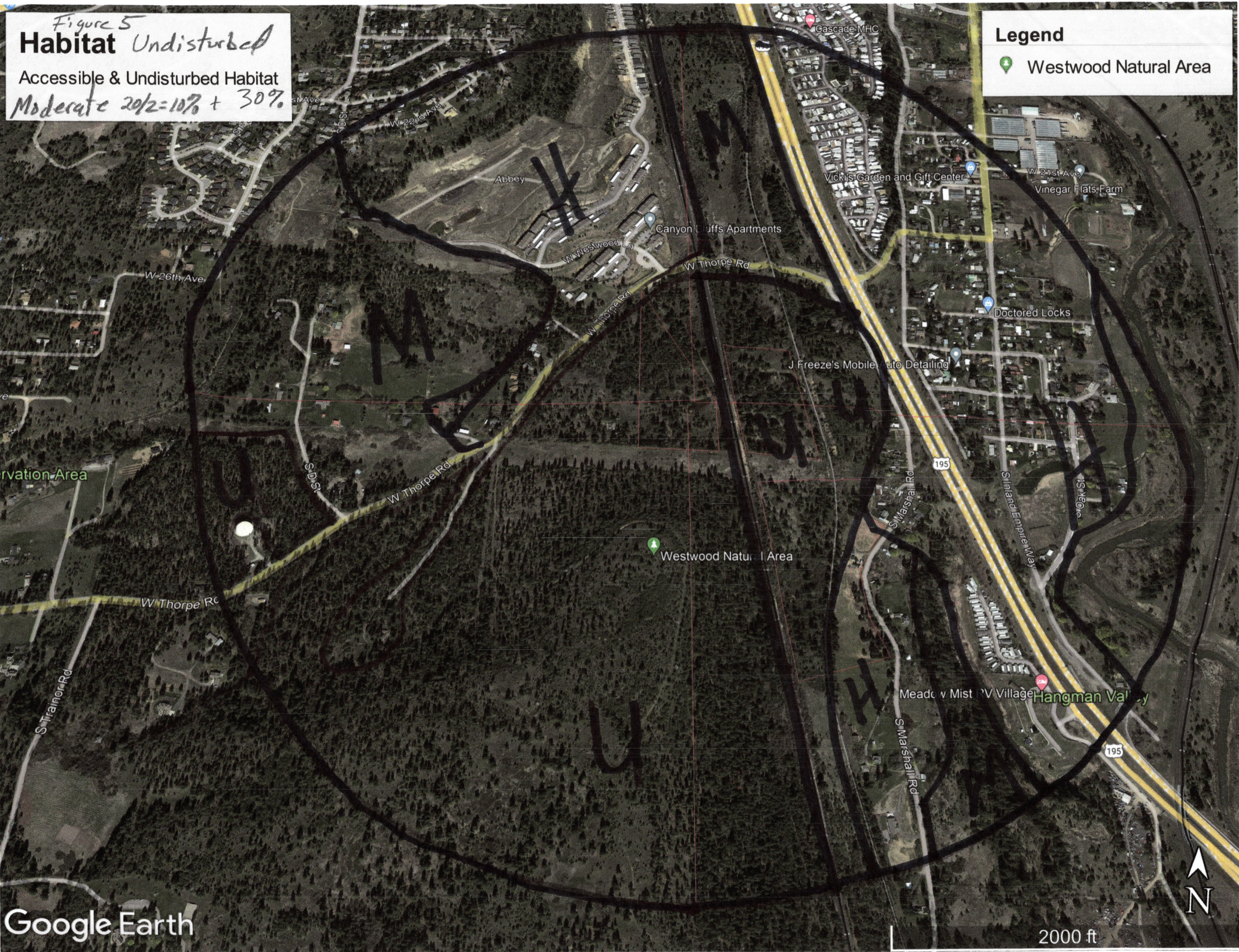
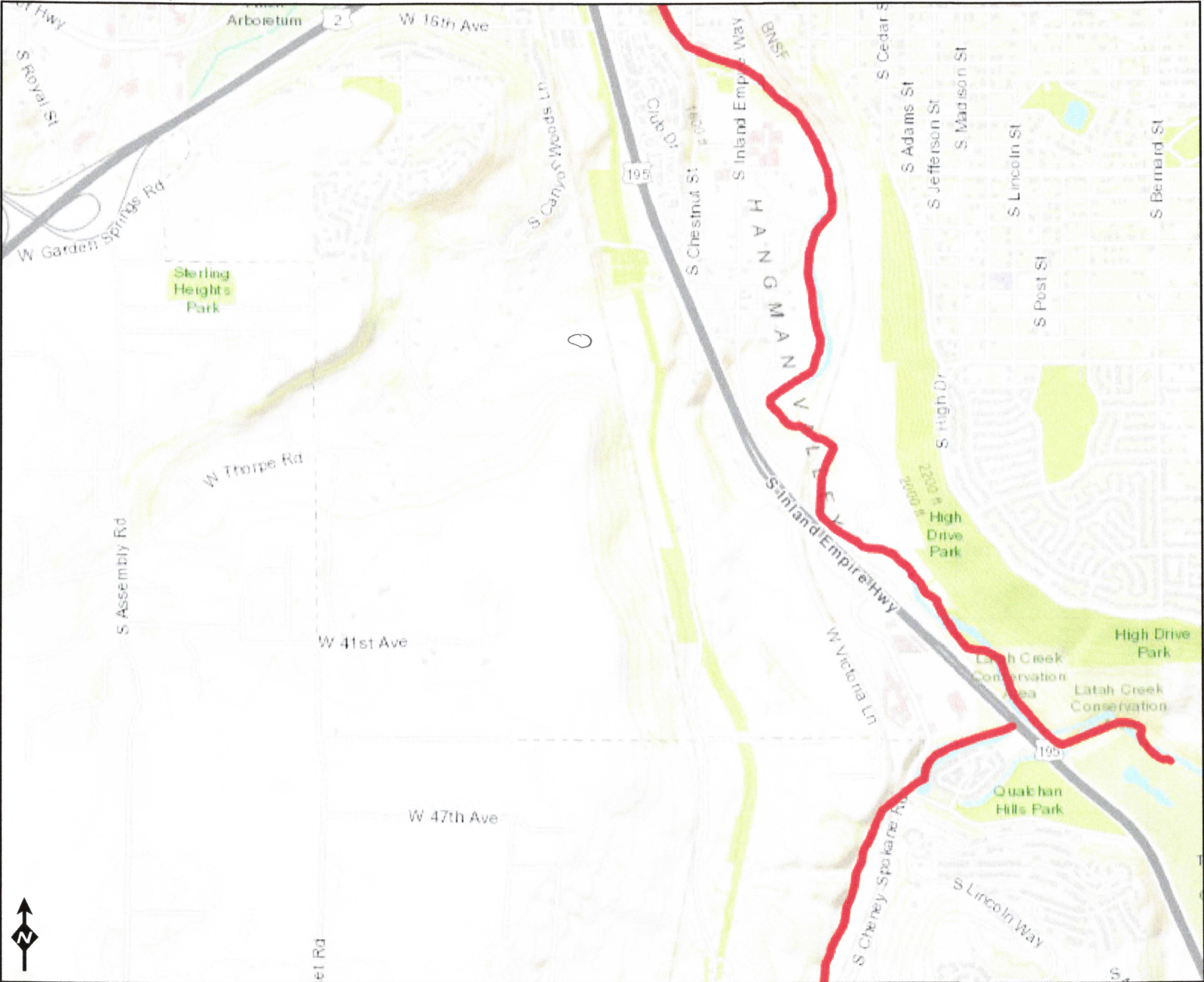














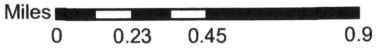
Figure 6
D3.1, D3.2

Victory Heights



Assessed Water/Sediment

- Water**
-  Category 5 - 303d
 -  Category 4C
 -  Category 4B
 -  Category 4A
 -  Category 2
 -  Category 1
- Sediment**
-  Category 5 - 303d
 -  Category 4C
 -  Category 4B
 -  Category 4A
 -  Category 2
 -  Category 1



Esri, NASA, NGA, USGS, FEMA
 Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

Figure 7

Main Listing Information

Listing ID: 77288

Waterbody Name: HANGMAN CREEK

Medium: Water

Parameter: Dissolved Oxygen

WQI Project: None

Designated Use: Aquatic Life - Salmonid Spawning, Rearing, and Migration

Year	Category
2018	5
2012	3
2010	3
2008	3
2004	3
1998	N
1996	N

Assessment Unit

Assessment Unit ID: 17010306000007_001_001

County: Spokane

Size: 4.599 Kilometers

WRIA: Hangman

Associated Component(s): Reach: 17010306000007 0% - 100%, Type: Rivers/Streams

Basis Table

Assessment Year					
2018					
Sampling Year	Excursion Count	Sample Count	Criterion/Threshold	Aggregate	Calculated Value
2009	4	6	8.0 mg/L	Daily Minimum	5.47

Basis Statement

Remarks

Item
Assessment Cycle 2018 - During calendar year 2009, data had large deviations from the criterion magnitude.

Data Sources

Study Id	Location Id	Source Database
JJ0Y0005	56HAN-01.9	EIM
JJ0Y0005	56HAN-03.6	EIM

Map Link

 [Map Link \(https://apps.ecology.wa.gov/waterqualityatlas/wqa/map?lstdid=77288\)](https://apps.ecology.wa.gov/waterqualityatlas/wqa/map?lstdid=77288)

Wetland name or number 2

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Victory Heights Date of site visit: 3/16 } 2022
6/2 }
 Rated by Larry Dawe S Trained by Ecology? Yes ___ No Date of training 2002
2008
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ___ Y N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY 3 (based on functions or special characteristics ___)

1. Category of wetland based on FUNCTIONS

- ___ Category I – Total score = 22-27
- ___ Category II – Total score = 19-21
- Category III – Total score = 16-18
- ___ Category IV – Total score = 9-15

*Alternative 3
 200' Buffer
 8 points Habitat Score
 High Impact Land USE*

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	(H) M L	H (M) L	H (M) L	
Landscape Potential	H M (L)	H M (L)	(H) M L	
Value	H (M) L	H M (L)	(H) M L	TOTAL
Score Based on Ratings	<u>6</u>	<u>4</u>	<u>8</u>	<u>18</u>

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY	
	<i>Circle the appropriate category</i>	
Vernal Pools	II	III
Alkali		I
Wetland of High Conservation Value		I
Bog and Calcareous Fens		I
Old Growth or Mature Forest – slow growing		I
Aspen Forest		I
Old Growth or Mature Forest – fast growing		II
Floodplain forest		II
None of the above		

Wetland name or number 2

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality		
D 1.0. Does the site have the potential to improve water quality?		
D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland has no surface water outlet Wetland has an intermittently flowing outlet Wetland has a highly constricted permanently flowing outlet Wetland has a permanently flowing, unconstricted, surface outlet		points = 5 points = 3 points = 3 points = 1 5
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions of soils)</u> YES = 3 NO = 0		0
D 1.3. <u>Characteristics of persistent vegetation</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes) Wetland has persistent, ungrazed, vegetation for $> \frac{2}{3}$ of area Wetland has persistent, ungrazed, vegetation from $\frac{1}{3}$ to $\frac{2}{3}$ of area Wetland has persistent, ungrazed vegetation from $\frac{1}{10}$ to $< \frac{1}{3}$ of area Wetland has persistent, ungrazed vegetation $< \frac{1}{10}$ of area		points = 5 points = 3 points = 1 points = 0 5
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i> Area seasonally ponded is $> \frac{1}{2}$ total area of wetland Area seasonally ponded is $\frac{1}{4}$ - $\frac{1}{2}$ total area of wetland Area seasonally ponded is $< \frac{1}{4}$ total area of wetland		points = 3 points = 1 points = 0 3
Total for D 1		Add the points in the boxes above 13

Rating of Site Potential If score is: X 12-16 = H ___ 6-11 = M ___ 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1- D 2.3? Source _____	Yes = 1 No = 0	0
Total for D 2	Add the points in the boxes above 0	

Rating of Landscape Potential If score is: ___ 3 or 4 = H ___ 1 or 2 = M X 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, or lake that is on the 303(d) list?	Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where water quality is an issue in some aquatic resource [303(d) list, eutrophic lakes, problems with nuisance and toxic algae]?	Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the drainage or basin in which the wetland is found)?	Yes = 2 No = 0	0
Total for D 3	Add the points in the boxes above 1	

Rating of Value If score is: ___ 2-4 = H X 1 = M ___ 0 = L Record the rating on the first page

The drainage basin for the wetland is small and there is no surface or subsurface outlet for water in the wetland and no hydrologic connection to Hangingman Creek.

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and erosion.		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. <u>Characteristics of surface water outflows from the wetland:</u>		
Wetland has no surface water outlet	points = 8	8
Wetland has an intermittently flowing outlet	points = 4	
Wetland has a highly constricted permanently flowing outlet	points = 4	
Wetland has a permanently flowing unconstricted surface outlet <i>(If outlet is a ditch and not permanently flowing treat wetland as "intermittently flowing")</i>	points = 0	
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or deepest part (if dry).		
Seasonal ponding: > 3 ft above the lowest point in wetland or the surface of permanent ponding	points = 8	2
Seasonal ponding: 2 ft - < 3 ft above the lowest point in wetland or the surface of permanent ponding	points = 6	
The wetland is a headwater wetland	points = 4	
Seasonal ponding: 1 ft - < 2 ft	points = 4	
Seasonal ponding: 6 in - < 1 ft	points = 2	
Seasonal ponding: < 6 in or wetland has only saturated soils	points = 0	
Total for D 4	Add the points in the boxes above	10

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L Record the rating on the first page

D 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	0
D 5.2. Is > 10% of the area within 150 ft of the wetland in a land use that generates runoff?	Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?	Yes = 1 No = 0	0
Total for D 5	Add the points in the boxes above	0

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. <u>The wetland is in a landscape that has flooding problems.</u>		
Choose the description that best matches conditions around the wetland being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds), AND		
Flooding occurs in sub-basin that is immediately down-gradient of wetland	points = 2	0
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.		
Explain why <u>No outlet</u>		points = 0
There are no problems with flooding downstream of the wetland		points = 0
D 6.2. Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	0

Rating of Value If score is: 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number _____

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		3
Total for H 1	Add the points in the boxes above	9

Rating of Site Potential If score is: 15-18 = H ~~X 7-14 = M~~ 0-6 = L Record the rating on the first page

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate: % undisturbed habitat</i> <u>30</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>30%</u> > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon points = 0		2
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate: % undisturbed habitat</i> <u>40</u> + [(% moderate and low intensity land uses)/2] <u>12</u> = <u>52%</u> Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of Polygon points = 0		3
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use points = (- 2) Does not meet criterion above points = 0		0
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 No = 0		0
Total for H 2	Add the points in the boxes above	5

Rating of Landscape Potential If score is: ~~X 4-9 = H~~ 1-3 = M < 1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see Appendix B) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input checked="" type="checkbox"/> It is mapped as a location for an individual WDFW species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		2

Rating of Value If score is: 2 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number _____

**Maps and figures required to answer questions correctly for Eastern Washington
Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	1
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	1
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	2
Map of the contributing basin	D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4, 5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	6
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	D 3.3	7

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

Figure 1

- D1.1, D4.1 - no outlet
- D1.3 persistent ungrazed > 2/3
- H1.1 Emergents
- H1.5 Interspersion of habitats
- H1.2 No aquatic plants
- H1.3 No open water

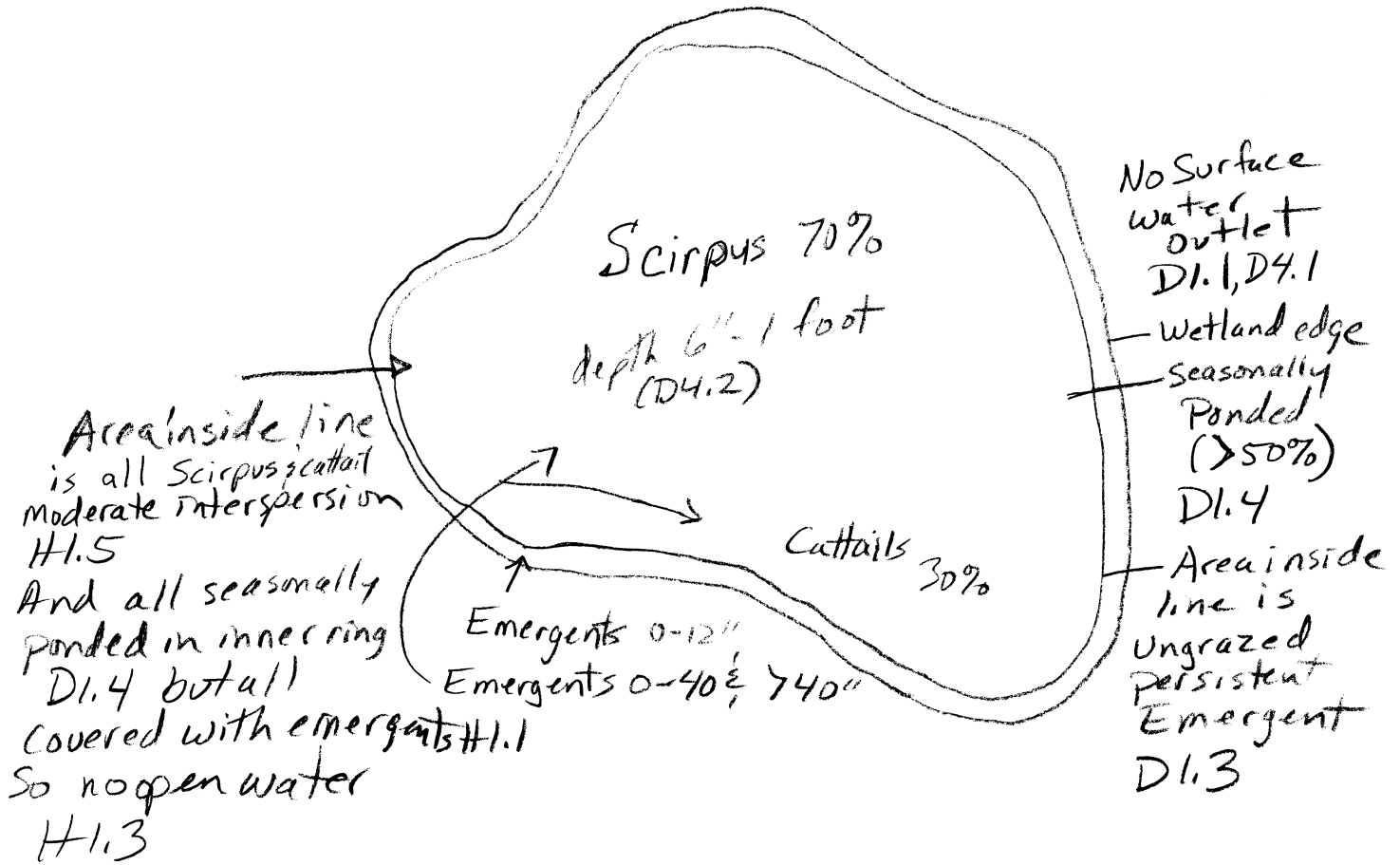
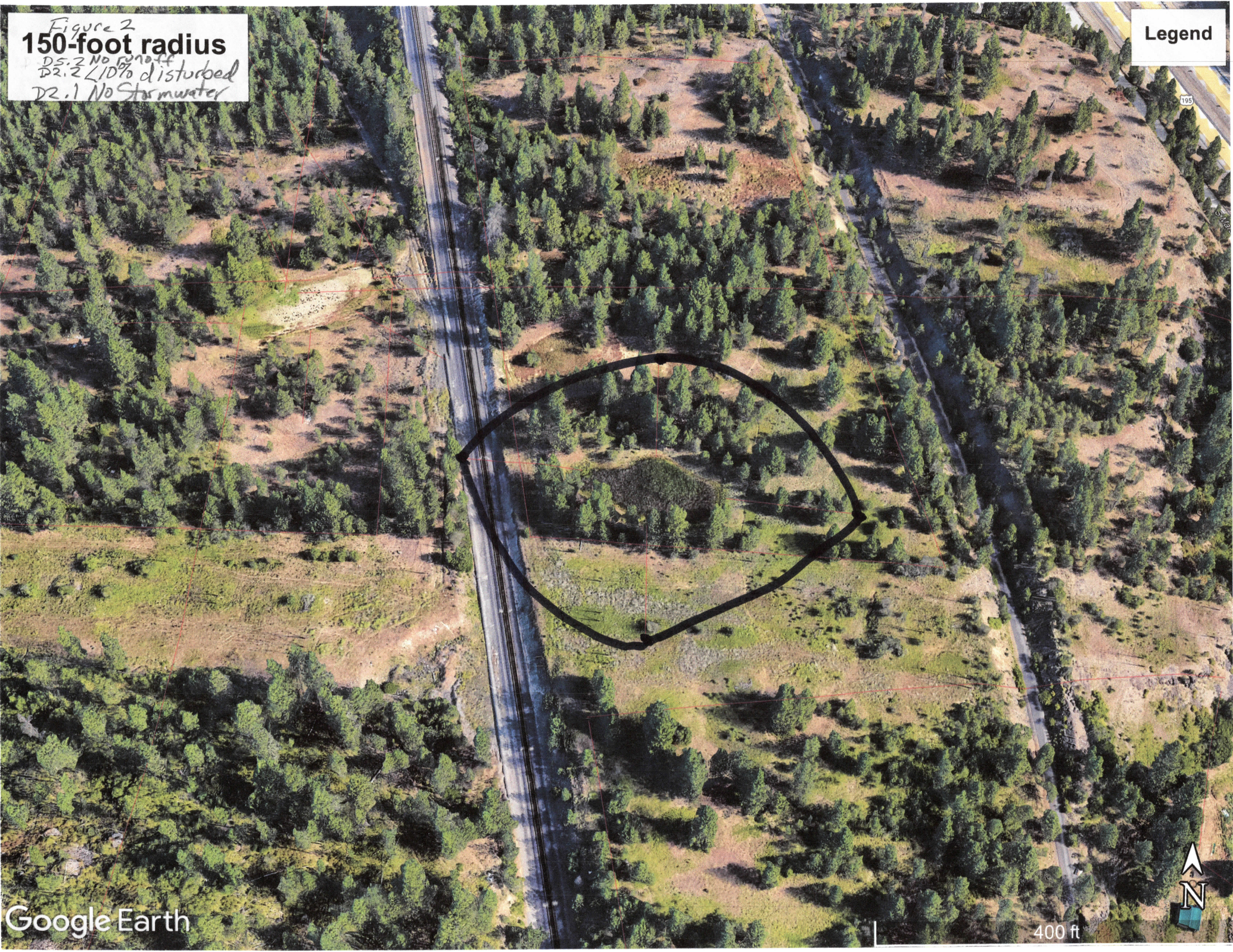


Figure 2
150-foot radius
DS.2 No runoff
DR.2 <10% disturbed
DR.1 No Stormwater

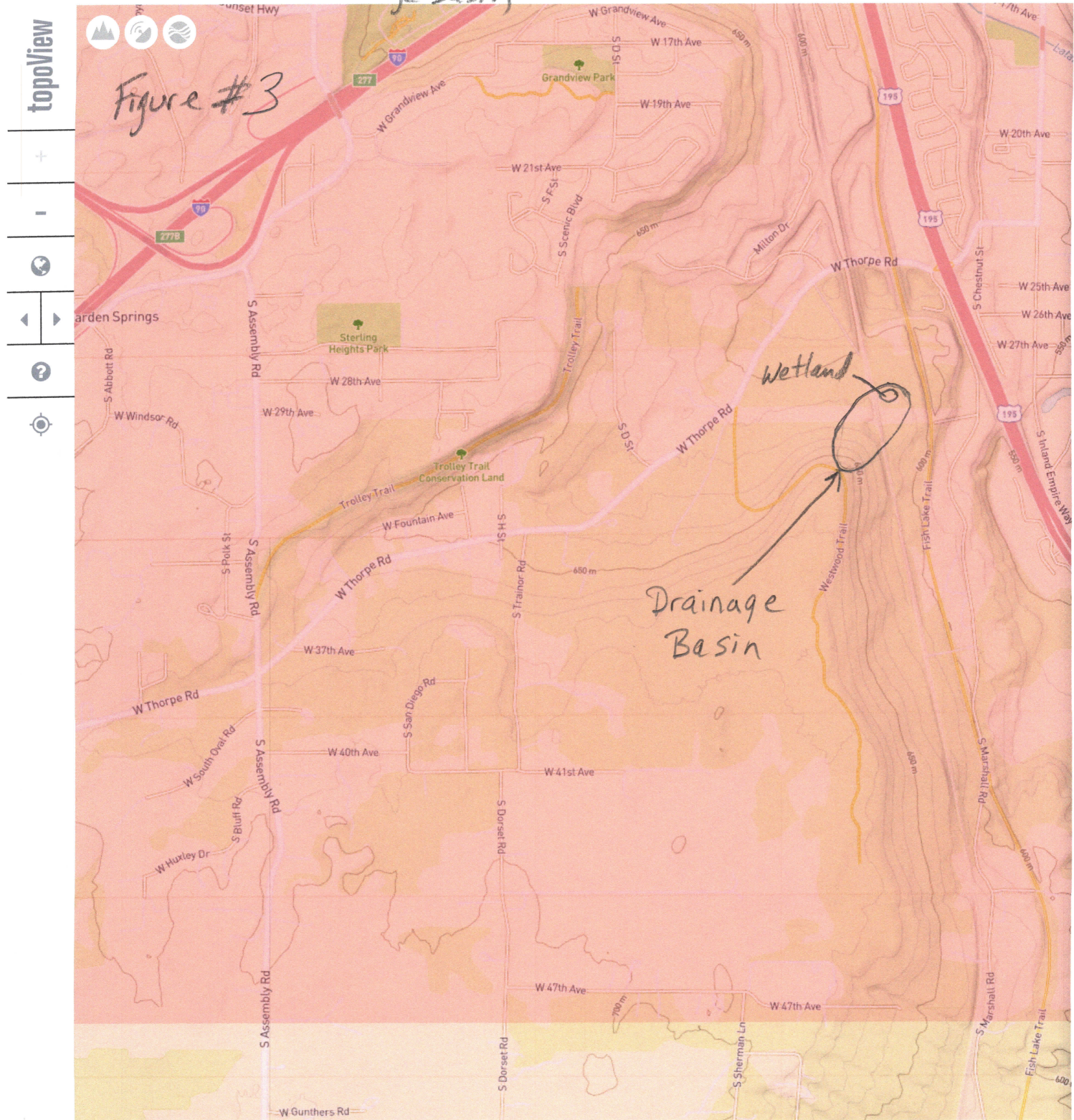
Legend



Google Earth

400 ft



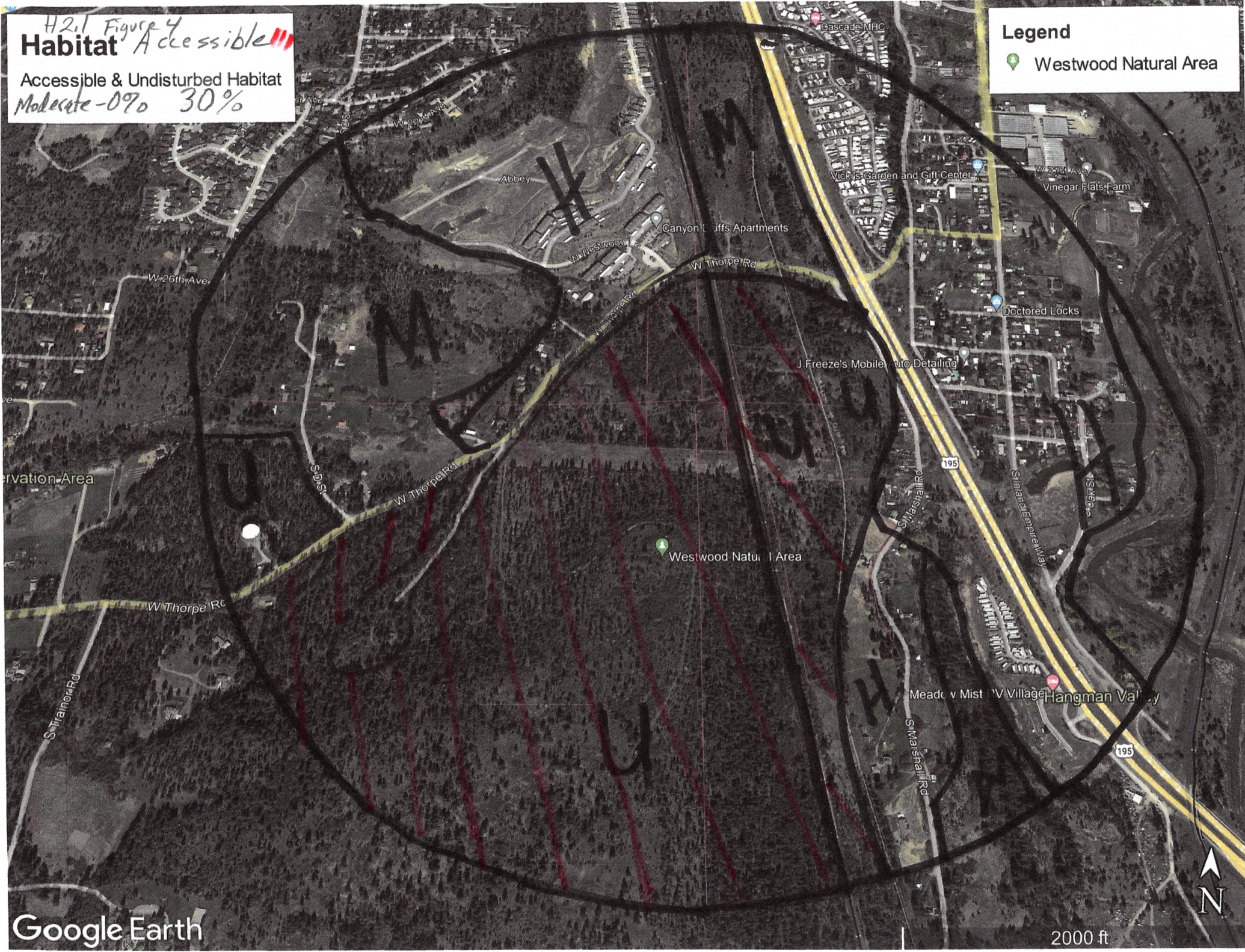


Map navigation controls including a search icon, a scale bar, and a share icon.

H2.1 Figure 4
Habitat Accessible

Accessible & Undisturbed Habitat
Moderate - 0% 30%

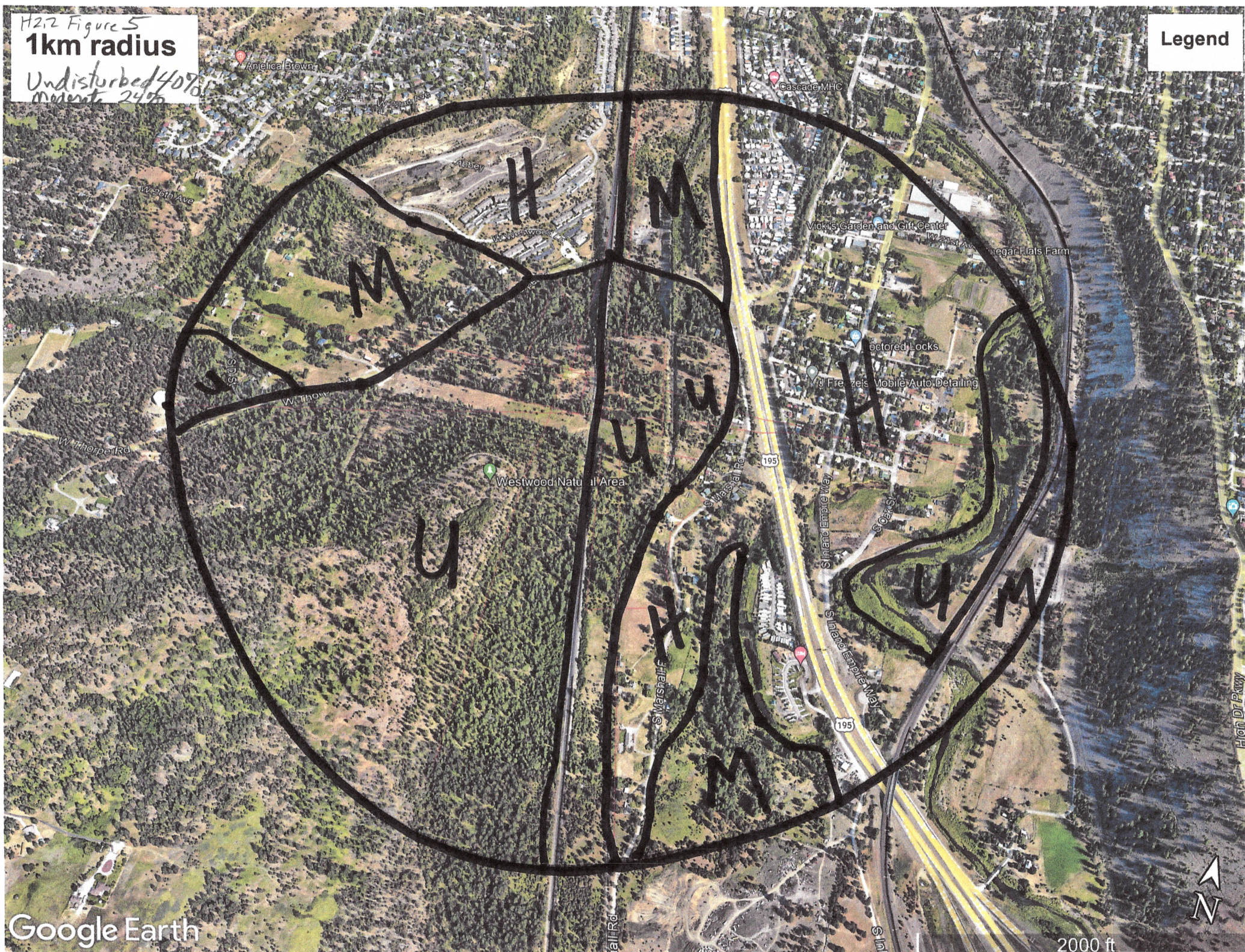
Legend
📍 Westwood Natural Area



H2.2 Figure 5
1km radius

Undisturbed 40%
Moderate 24%

Legend



Google Earth

2000 ft







Figure 6
D3.1, D3.2

Victory Heights









Assessed Water/Sediment

Water

-  Category 5 - 303d
-  Category 4C
-  Category 4B
-  Category 4A
-  Category 2
-  Category 1

Sediment

-  Category 5 - 303d
-  Category 4C
-  Category 4B
-  Category 4A
-  Category 2
-  Category 1

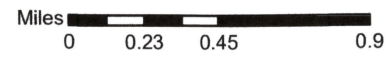


Figure 7

Main Listing Information

Listing ID: 70410

Waterbody Name: HANGMAN CREEK

Medium: Water

Parameter: pH

WQI Project: None

Designated Use: Aquatic Life - Salmonid Spawning, Rearing, and Migration

Year	Category
2018	5
2012	5
2010	3
2008	3
2004	3
1998	N
1996	N

Assessment Unit

Assessment Unit ID: 17010306000007_001_001

County: Spokane

Size: 4.599 Kilometers

WRIA: Hangman

Associated Component(s): Reach: 17010306000007 0% - 100%, Type: Rivers/Streams

Basis Table

Assessment Year					
2018					
Sampling Year	Excursion Count	Sample Count	Criterion/Threshold	Aggregate	Calculated Value
2008	2	2	6.5 - 8.5 pH	Daily Extreme	8.9
2009	4	10	6.5 - 8.5 pH	Daily Extreme	8.7

Basis Statement

Remarks

Item
Assessment Cycle 2018 - During two calendar years (2008 and 2009), the hypergeometric test failed using discrete data indicating that the standard was not met.
High pH Excursions
At least 10 percent of samples were excursion of the criteria in at least one year and at least 3 excursions exist from all data considered.

Data Sources

Study Id	Location Id	Source Database
JJQY0005	56HAN-01.9	EIM
JJQY0005	56HAN-03.6	EIM

Map Link

 [Map Link \(https://apps.ecology.wa.gov/waterqualityatlas/wqa/map?lstdid=70410\)](https://apps.ecology.wa.gov/waterqualityatlas/wqa/map?lstdid=70410)