June 24, 2016

Courtney Thompson
Lincoln County Land Services
27234 State Route 25 N
Davenport, WA 99122

RE: Wetland Assessment and Mitigation Proposal for the Proposed Creek Side Recreational Vehicle Subdivision.

Ms. Thompson:

This wetland site assessment and wetland mitigation proposal was authorized by the project proponent (Larry Kendrick), to assist with the anticipated site development plans on the subject property. The property of interest is identified as Lincoln County Parcel #2636705000020 and a portion of Parcel #2636705000030, which encompasses a total of approximately 12.9 acres. The property is located in the NE ¼ of Section 5, Township 26 North, Range 36 East; approximately 11.0 miles northwest of the Town of Davenport, in Lincoln County, Washington (see attached Vicinity Map).

This report is arranged into three sections as follows:

- Section 1 - Baseline Conditions describes the existing conditions within the subject property, and includes the findings of the wetland assessment.
- Section 2 - Mitigation Sequencing describes how mitigation sequencing was used to avoid, minimize and mitigate impacts to identified wetlands and associated buffer areas contained within the subject property.
- Section 3 - Mitigation Proposal contains the proposed actions related to mitigating the anticipated impacts to identified wetlands and associated buffer areas contained within the subject property.

Section 1: Baseline Conditions

To quantify and describe the existing conditions within the subject property, a wetland reconnaissance was conducted. The following Methods, Discussion, and Wetland Findings sub-sections provide the details related to the completed wetland assessment.

Methods

The subject property was systematically walked to assess the current habitat conditions on November 20, 2015 and March 18, 2016 by Vincent Barthels, a qualified Biologist at J-U-B ENGINEERS, Inc. These site visits were conducted to confirm the previously delineated wetland locations identified by Dr. Mike Folsom and Jim Johnson, evaluate the type of wetland areas contained within the subject property, and functioned as reconnaissance-level assessment to score or rate the wetland features per the most current Washington

Department of Ecology (WDOE) wetland rating system (http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/).

The base map associated with the subject property was provided by NCW Land Surveying, LLC (NCW). NCW captured the established wetland boundaries and provided the line work for the site improvements. The collected field points were brought into AutoCAD Civil 3D 2015, which aided in the determination of wetland and buffer area quantities within the subject property. This wetland reconnaissance verified the locations of the wetland boundaries as reflected by the NWC's survey. During the site visits, pertinent photos were taken of the wetland features described herein (see attached Photo Inventory).

Referenced baseline information that was utilized during the wetland reconnaissance included: the United States Department of Agriculture (USDA) Web Soil Survey (see attached); the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map (see attached); and, the Olsen Canyon Quadrangle 7.5 Minute Topographic United States Geological Survey (USGS) Map.

Discussion

Proposed Project Action:
The subject property is planned to be developed into a recreational vehicle (RV) park. The RV park would consist of 41 individual lots with gravel parking pads, gravel access roads, and supporting facilities (e.g. swimming pool, club house and laundry/showers).

Topography:
The subject property is situated between Hawk Creek and Hawk Creek Road (i.e. along the left bank of Hawk Creek) (see attached Wetland Reconnaissance Exhibit). The topography of the site generally slopes from the west to the east (toward Hawk Creek), with typical slopes ranging between 5% and 30%. The elevation of the subject parcel falls between approximately 1,480 and 1,530 feet above sea level (NGVD 29).

Climate:
Climate data collected for this analysis was provided by the USDA, Natural Resource Conservation Service (NRCS) online climate database. According to the climate data collected from the Wilbur weather station (WA9238), the proposed project area has an average annual temperature of 46.0 degrees Fahrenheit. The average annual rainfall is 13.09 inches; whereas, the average annual snowfall is 25.9 inches. The growing season typically falls between May 9th and October 4th; a total of 147 days.

Vegetation:
The majority of the subject property is undisturbed with a variety of riparian/wetland plant communities in lower areas of the site as well as transitional and upland species at higher elevations. The plant species observed during the site visit primarily consisted of nettles (*Urtica dioica*), cattails (*Typha latifolia*), curly dock (*Rumex crispus*), teasel (*Dipsacus sylvestris*), hawthorns (*Crataegus douglasii*), willows (*Salix spp.*), cottonwoods (*Populus trichocarpa*), clematis (*Clematis ligusticifolia*), common mullein (*Verbascum thapsus*), snowberry (*Symphoricarpos albus*), reed canary grass (*Phalaris arundinacea*), smooth brome (*Bromus inermis*) and various sedges (*Carex spp.*). For illustrations of the current vegetative communities adjacent to and within the subject property, please refer to the attached Photo Inventory.

Hydrology:
The hydrological conditions linked to wetlands that exist within the subject property are primarily influenced by the high water table and the adjacent segment of Hawk Creek and associated braided channels.

Soils:
The majority of the soils within the subject property is mapped as riverwash, which is classified as fully hydric (rating of 100 out of 100). The remaining portions of the subject property contain soils mapped as Nespelem silt loam (15-35% slopes), which is classified as non-hydric (rating of 0 out of 100) (see attached Hydric Soils Map).

NWI Map Wetland Classifications:
The NWI Map (attached) for the subject property does not identify any mapped wetland areas within the subject property. The nearest NWI-mapped wetland area is a PEM1A (palustrine, emergent, persistent, temporary flooded) wetland that is located approximately 600 feet south of the subject property.

Wetland Findings

The information contained within this report reflects guidelines set forth by the Washington State Department of Ecology (WWDOE) for identifying wetland types (Hruby 2014) and by the 1994 Lincoln County Critical Areas Ordinance (CAO) with respect to determining buffer zones associated with identified wetland classes (Table 1).

Table 1: Regulating Policy from the Lincoln County CAO (p. 26) regarding minimum buffer width based on wetland class rating. Note, the proposed project actions should be considered "Low Intensity" development because of the minimal amount of ground disturbance, low percentage of post-project impervious surfaces, and proposed seasonal overall low impact of the land use.

Development Type	Wetland Category - Class I	Wetland Category - Class II	Wetland Category - Class III	Wetland Category – Class IV
High Intensity	200 Feet	100 Feet	50 Feet	25 Feet
Low Intensity	100 Feet	**50 Feet**	**25 Feet**	25 Feet

The Washington State Wetlands Rating System for Eastern Washington (Hruby 2014) is the definitive guidebook for categorizing and rating wetlands in Eastern Washington. The guidebook identifies four wetland types: lake fringe, slope, riverine, and depressional. As there are no lakes on the property, there are no lake fringe wetlands to be considered. During the site visit, observations were made in order to evaluate each wetland area according to wetland definitions established by WDOE and each identified wetland was rated based on WDOE rating guidelines.

Despite the lack of wetlands identified by the NWI (see attached NWI Map), one contiguous riverine wetland and four slope wetlands (two of which share an origination) were identified and rated (see Wetland Reconnaissance Exhibit (Sheet 2)). The eastern boundary of the riverine wetland was not mapped, as potential effects of the proposed project actions would be limited to the area west of this wetland. Table 2 shows the class ratings for each of the identified wetlands, the number of each wetland type observed at the site, and the minimum buffer widths required by the Lincoln County CAO for each wetland class based on the intensity of the proposed project action (i.e. from Table 1). For details regarding the scoring or rating of the wetlands, see the attached Eastern Washington Wetland Rating Forms.

Table 2. Wetland types, number observed, class and minimum buffer widths for the proposed project area.

Wetland Type	Number of Features Contained on the Subject Property	Wetland Category or Class	Minimum Buffer Width per 1994 CAO
Riverine	1	II	50 feet
Slope	4	III	25 feet

Section 2: Mitigation Sequencing

Mitigation sequencing is a three-step process in which project actions should first avoid, then minimize and then mitigate project-related impacts to wetlands and other critical areas. This section highlights the steps taken by the landowner and project proponent to implement mitigation sequencing.

Step 1: Avoid Wetland Impacts

In an effort to avoid wetland impacts while meeting the proposed project goals, several layouts and significant iterations (5 to be exact) for the proposed RV park were considered. Initial project layouts contained up to 46 RV lots and a much more elaborate interior road network. The refinements to the project layout have reduced wetland and associated buffer impacts by nearly 50%. Nonetheless, after investigating several different development plans, some wetland impacts were determined to be unavoidable for this project, and thus wetland impacts would need to be minimized and ultimately mitigated for. Minimization and mitigation measures are discussed in the subsequent sections.

Wherever practical, the proposed development has avoided the identified wetlands and associated wetland buffers contained within the subject property. All staging of equipment and storage of materials would occur outside of wetlands and wetland buffers.

Step 2: Minimize Wetland Impacts

The proposed project elements have been oriented and sited in a manner to minimize wetland/buffer impacts to the furthest extent possible while maintaining buildability and practical use of the site.

Best Management Practices (BMPs) for minimizing wetland and buffer impacts would also be used throughout the proposed project actions. These BMPs include, but are not limited to:

- Prior to beginning earth-disturbing activities, all clearing limits, easements, setbacks and wetlands would be clearly marked to prevent off-site impacts.
- The Contractor shall develop and maintain a Spill Prevention Plan, which shall be approved prior to construction.
- Post-construction reseeding with the recommended seed mixture would be implemented in disturbed areas to provide stabilization and erosion control.
- Periodic inspection and maintenance will be required during and post-construction to verify the effectiveness of erosion control measures.

- Post-construction regular maintenance will be necessary to remove surface sediment, trash, debris, leaf litter, and dead or diseased plant material.

Step 3: Mitigate Wetland Impacts

Despite efforts to avoid and minimize wetland impacts, some wetland impacts are anticipated to be unavoidable based on the proposed project actions. Based on the anticipated site development plans:

- The identified slope wetland areas would be impacted by approximately 700 square feet by the proposed gravel parking pads and interior roadway (see Sheet 3 of the attached Wetland Assessment and Mitigation Exhibits). The anticipated impacts constitute as the minimum impact necessary in order to maintain safe vehicular passage and provide access into and out of the proposed RV park development;
- The wetland buffer areas would be impacted by approximately 3,840 square feet of the proposed gravel parking pads (see Anticipated Wetland/Buffer Impact Exhibit); and,
- Impacts to the identified riverine wetland are not anticipated.

The following section describes the mitigation measures proposed to offset the anticipated wetland and associated buffer impacts described above.

Section 3: Wetland Mitigation Proposal

Per the latest draft of the Lincoln County CAO, wetland impacts associated with the four identified Category III slope wetland features would need to be mitigated for at a 2:1 standard mitigation ratio (Pers. Comm. Courtney Thompson 6/13/2016). The mitigation plan presented herein meets, and in some instances exceeds, the 2:1 standard mitigation ratio, and provides for a viable ecological lift onsite.

The mitigation proposal includes:

- Creating approximately 0.60 acres (26,136 square feet) of new wetland area. The newly created wetland area would be established by:
  - even dispersal of a wetland seed mixture made up of basin wild rye (*Leymus cinereus*), Kentucky bluegrass (*Poa pratensis*), meadow foxtail (*Alopecurus pratensis*), and redtop (*Agrostis gigantea*) (see attached Proposed Mitigation Exhibit (Sheet 4)); the seed mix dispersal rate is 50 lbs/acre; and,
  - the installation of 1,000 wetland planting plugs (10 cubic inch in size), consisting of 250 plantings each of Baltic rush (*Juncus balticus*), beaked sedge (*Carex utriculata*), common rush (*Juncus effusus*), and Nebraska sedge (*Carex nebrascensis*) (see attached Proposed Mitigation Exhibit (Sheet 4) and Wetland Creation Profile Exhibit (Sheet 5)); the planting plug dispersal rate is 1 per every 5.25 square feet.
- Enhancing approximately 0.176 acres (7,680 square feet) of wetland buffer area. The enhancement would be achieved by installing 80 5-gallon nursery sized native plantings (see attached Proposed Mitigation Exhibit (Sheet 4)) consisting of 20 of each of the following species: alder (*Alnus rubra*), cottonwood (*Populus trichocarpa*), coyote willow (*Salix exigua*), and black hawthorn (*Crataegus douglasii*). The native woody plantings would be dispersed on 10-foot spacing.

Monitoring for the mitigation site would begin after the "as-built" drawings have been developed and submitted to the Lincoln County Planning Department, the Department of Ecology (DOE) and the U.S. Army Corps of Engineers (USACE). Established photo points shall be illustrated on the "as-built" drawings. The mitigation site must be monitored year round, for a period of no less than 5 continuous years. All plant materials must be cataloged according to their condition (i.e., living, stressed, or dead) and a percent of survivability must be assessed. No more than 30 percent cover of non-native plants or other invasive vegetation is permissible during any monitoring year within the created wetlands or enhanced wetland buffer areas.

During the first 5 years after the mitigation site is implemented, the property owner or their authorized agent would be responsible for monitoring all mitigation measures and preparing an annual report to be submitted to the Lincoln County Planning Department, DOE and USACE by November 30th of each of the monitoring years. The annual report must identify all maintenance concerns and include a photo-inventory (a minimum of four, 3 x 4 inch original color photographs) that displays pertinent components of the mitigation site. All photos are to be taken from the established photo-reference points and archived by area, date, and time of photograph.

If the mitigation site requires refinements, the annual monitoring reports must address the issues and provide practical solutions. Collectively, the annual reports will track the progress of the mitigation site. An objective of this mitigation strategy is that by the end of Year 5, native plantings would be established and would not need further attention for long term survival. The prescribed plantings would create an aesthetically pleasing and functioning wetland or wetland buffer zone, respectively.

In terms of mitigation site performance standards, the primary goal of this plan is to mitigate for 700 square feet of Category III slope wetland impacts and 3,840 square feet of wetland buffer impacts. The following criteria would be used to measure the success of the mitigation measures:

- Herbaceous vegetation survival standards would be based on total percentage of aerial coverage. Table 3 documents percentages of aerial coverage considered to be successful for Years 1 through 5.

  Table 3. Total percentage of aerial coverage by emergent hydrophytic vegetation.

Year	Total Percent Cover (%)
1	20
2	35
3	50
4	65
5	80

- Woody vegetation survival standards are set at 80% through the end of Year 5. Any planting that is unsuccessful through Year 5 would be replaced in the spring (i.e. during the month of April) of the following year.
- The wetland soils within the created wetland areas would be saturated for a minimum duration of 15 consecutive days during the first part of the growing season. For the first five years following the implementation of the mitigation site, the hydrology standard would be presumed to be fulfilled if the total percentage of vegetative cover is consistent with the guidelines in Table 3.
- Noxious weeds would be identified and eliminated within the created wetlands and established wetland buffer area. Removal would include the recommended herbicide protocol outlined for an aquatically approved herbicide such as AquamasterTM or an approved equal. Areas where noxious weeds have been eliminated would be replanted with the prescribed native wetland seed mix (see attached Proposed Mitigation Exhibit (Sheet 4)) towards the end of the growing season.

Contingency actions and/or adaptive management approaches with regard to the mitigation site would be based on the information gathered during the monitoring events. If all the prescribed mitigation measures fail, at the end of Year 5 an alternative mitigation site would need to be selected and approved through coordination with the Lincoln County Planning Department, DOE and USACE. If an alternative mitigation site becomes necessary, a separate Mitigation Plan would need to be developed. Financial responsibility for an additional wetland mitigation site, as well as the required permitting and documentation, would be the responsibility of the property owner.

In terms of a real estate assurance of the proposed mitigation measures, the required as-built drawings could provide the physical limits to record a deed restriction for the subject property. The deed restriction would need to be recorded with the Lincoln County Assessor and be maintained in perpetuity. Providing a perpetual deed restriction for the mitigation measures would be the responsibility of the property owner.

Conclusion

The subject property was evaluated by a Qualified Biologist on November 20, 2015 and March 18, 2016 to assess and confirm the wetlands that exist onsite. During the site visit, one riverine wetland and four slope wetlands were identified and rated based on the 2015 Eastern Washington Rating Form (attached). Based on the evaluation of the identified wetland areas, a total of approximately 700 square feet of Category III slope wetland would be encroached upon to complete the proposed site improvements. The extents of the proposed developments compared to the location of the identified wetland areas have been illustrated on the sheets contained within attached Anticipated Wetland/Buffer Impact Exhibit (Sheet 3).

This wetland mitigation proposal contained herein would yield the creation of approximately 0.60 acres of new sloped wetlands and the enhancement of 0.176 acres of wetland buffer areas. Within the newly-created wetland areas, a combination of wetland seed mixture and wetland plantings would be applied (for details, see the attached Proposed Mitigation Exhibit (Sheet 4)), while the enhanced wetland buffer areas would receive 80 native 5-gallon nursery sized plantings. Five years of annual monitoring efforts as well as contingency measures have been described for the mitigation site.

Pending your review and approval, please provide a brief email correspondence verifying your concurrence with this assessment. Please comment on the mitigation proposal. If you have any further questions or concerns, or if you would like to conduct a site visit, please do not hesitate to contact me. I can be reached at (509) 458-3727 or via email at vbarthels@jub.com. Lastly, it should be noted that the final authority and wetland determination rests with the appropriate regulatory agencies.

Sincerely,

6/24/16

Vincent Barthels, Biologist
J-U-B ENGINEERS, Inc.

cc: Larry Kendrick - w/enclosures

Jacob McCann, DOE Eastern Washington Wetland Specialist - w/enclosures

Dave Moore, USACE Regulatory Project Manager - w/enclosures

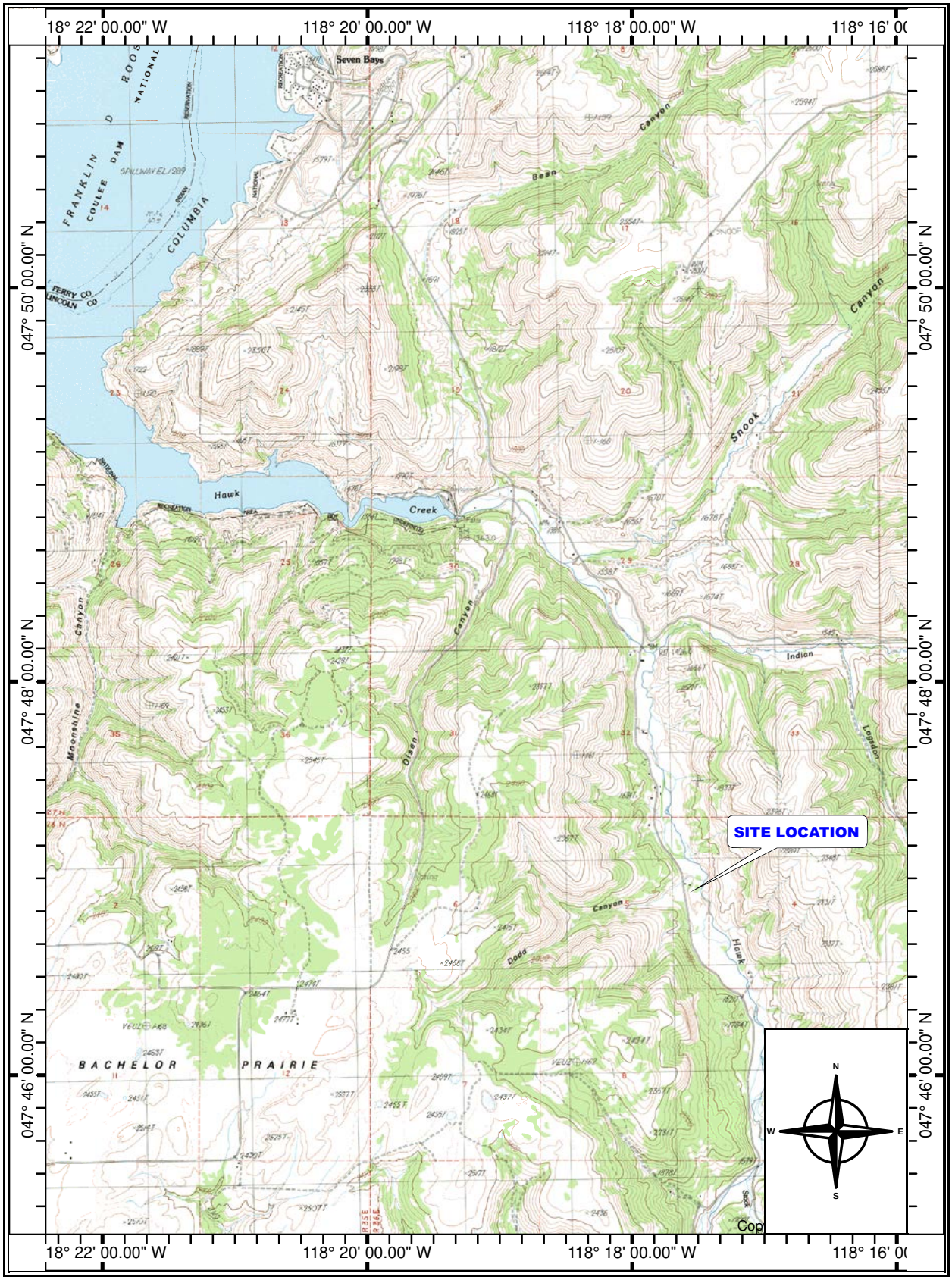
List of Attachments

1. Vicinity Map (Sheet 1)
2. Photo Inventory
3. Hydric Rating Map (i.e. soils map)
4. NWI Map
5. Wetland Reconnaissance Exhibit (Sheet 2)
6. Anticipated Wetland/Buffer Impacts Exhibit (Sheet 3)
7. Proposed Mitigation Exhibit (Sheet 4)
8. Wetland Creation Profile Exhibit (Sheet 5)
9. Planting Details (Sheet 6)
10. Eastern Washington Wetland Rating Forms

References Cited

Courtney Thompson, Lincoln County Land Services, Personal Communication via E-mail on 6/13/2016.

Hruby, T. (2014). Washington State Wetland Rating System for Eastern Washington: 2014 Update. (Publication #14-06-030). Olympia, WA: Washington Department of Ecology.



HORIZONTAL DATUM: NAD27

MAP: OLSEN CANYON

J·U·B ENGINEERS, INC.

0 1000 2000 3000 4000 5000 6000 7000 8000 9000
FEET

1 inch = 4,500 ft.

CONTOUR INTERVAL: 40 Feet

SHEET 1 - VICINITY MAP

Photo Inventory

The following 6 photos were taken on November 20, 2015. For photo point locations, see the Wetland Reconnaissance Exhibit.

Photo 1. This photo shows the riverine wetland boundary between the subject parcels. Evident topographic shifts, coupled with the start of common mullein, helped to mark the wetland boundary at this location.

Photo 2. This photo, looking northeasterly, shows the transition between the riverine wetland and the slope wetland. The back edge of the patch of cattails marks the back edge of the riverine wetland.

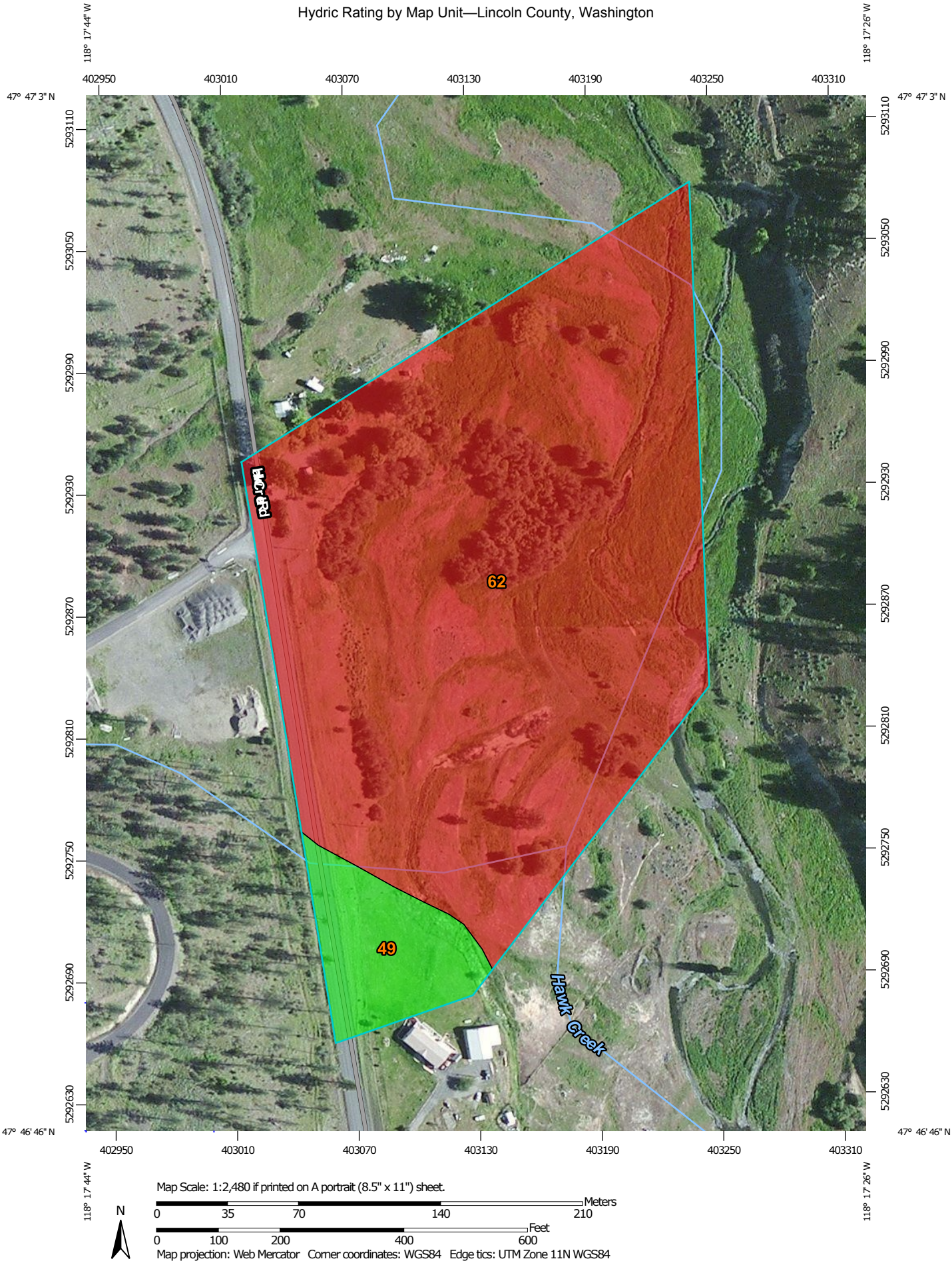
Photo 3. This photo, looking northerly, shows the interior upland portion of the property between two slope wetland fingers.

Photo 4. This photo, looking down-gradient, shows the upper extent of the northern-most slope wetland. The woody core is dominated by hawthorns, with a few willows and cottonwoods interspersed. Reed canary grass is the dominant herbaceous cover. The transition from reed canary grass to smooth brome was observed along the wetland boundary.

Photo 5. This photo looks up-grade at the slope wetland above the existing farm road access.

Photo 6. This photo looks down-gradient at the northern-most slope wetland. Scattered cottonwoods and hawthorns can be seen in this reed canary grass-dominated wetland.

Hydric Rating by Map Unit—Lincoln County, Washington



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Lines

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Points

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
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: Lincoln County, Washington
Survey Area Data: Version 11, Sep 25, 2015

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

Date(s) aerial images were photographed: Data not available.

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.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Lincoln County, Washington (WA043)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
49	Nespelem silt loam, 15 to 35 percent slopes	0	1.3	8.3%
62	Riverwash	100	14.2	91.7%
Totals for Area of Interest			**15.5**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

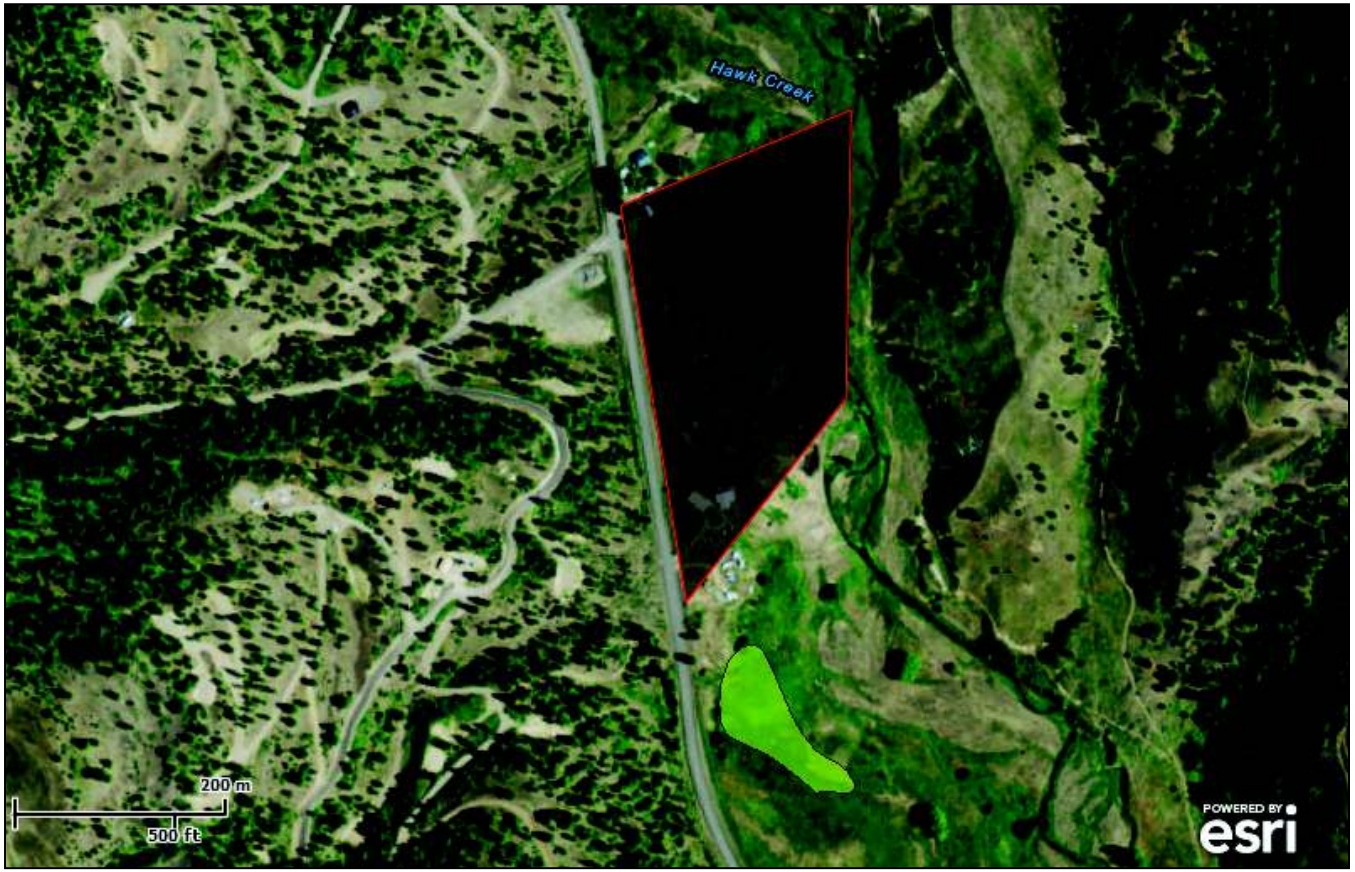
Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

U.S. Fish and Wildlife Service

National Wetlands Inventory

Nov 19, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

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.

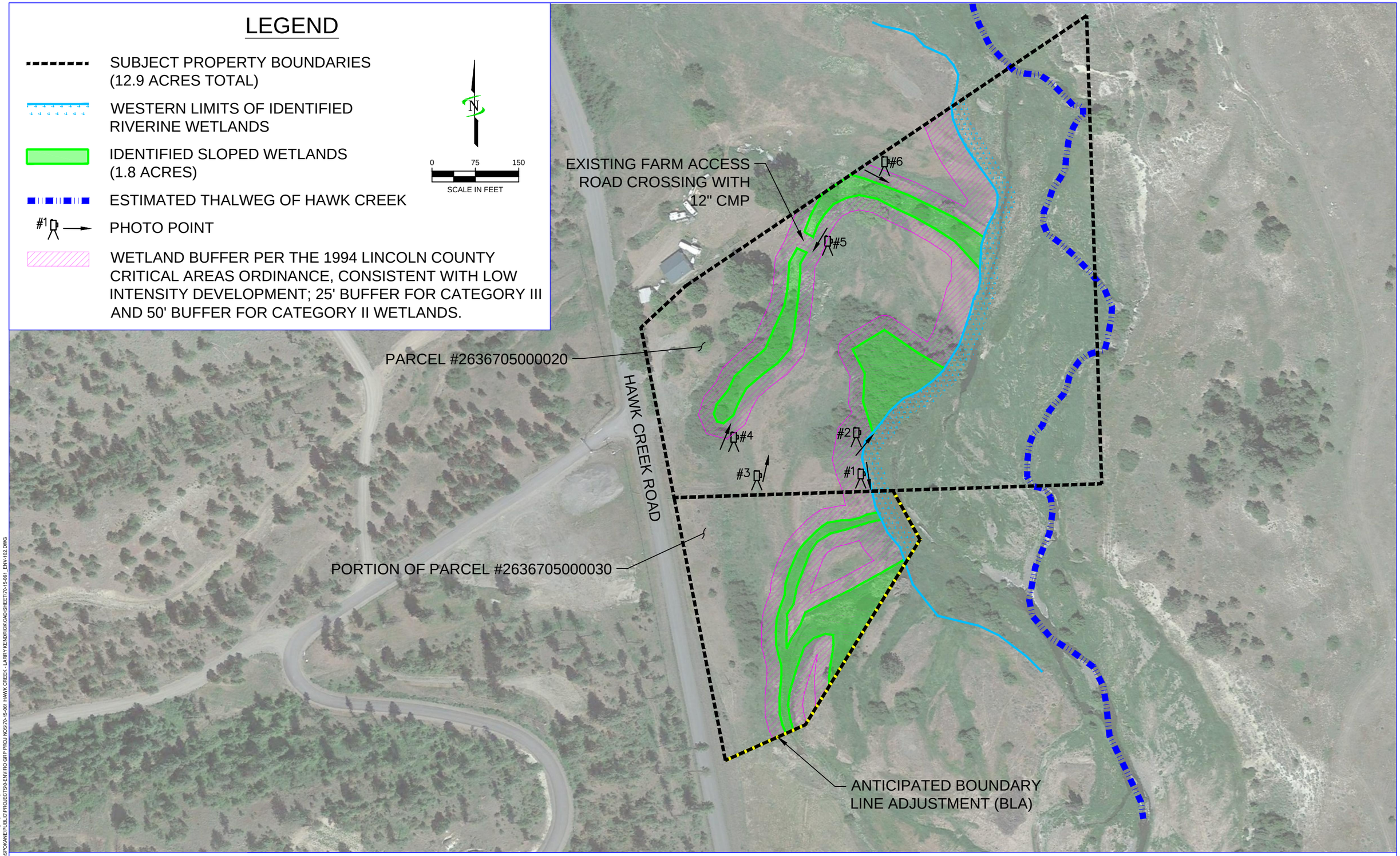
User Remarks:

LEGEND

- SUBJECT PROPERTY BOUNDARIES (12.9 ACRES TOTAL)
- WESTERN LIMITS OF IDENTIFIED RIVERINE WETLANDS
- IDENTIFIED SLOPED WETLANDS (1.8 ACRES)
- ESTIMATED THALWEG OF HAWK CREEK
- #1 PHOTO POINT
- WETLAND BUFFER PER THE 1994 LINCOLN COUNTY CRITICAL AREAS ORDINANCE, CONSISTENT WITH LOW INTENSITY DEVELOPMENT; 25' BUFFER FOR CATEGORY III AND 50' BUFFER FOR CATEGORY II WETLANDS.

N

0 75 150
SCALE IN FEET



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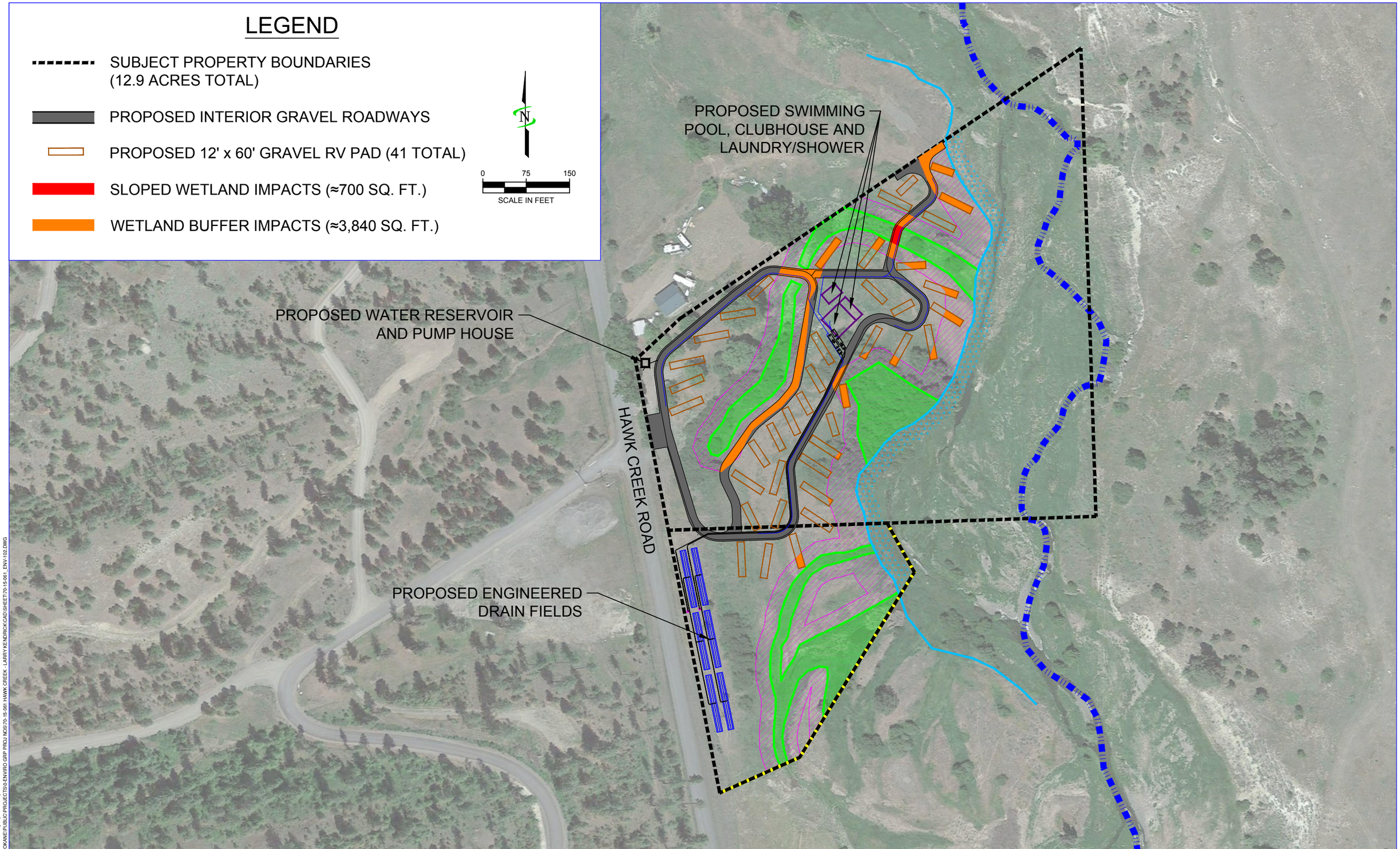
Data Created:6/21/2016 \\SPOKANE\PUBLIC\PROJECTS\0-ENVIRO GRP PROJ NOS\70-15-061 HAWK CREEK - LARRY KENDRICK\CAD\SHEET\70-15-061_ENV-102.DWG

J-U-B ENGINEERS, INC.

LAST UPDATED: 6/21/2016
PLOT DATE: 6/24/2016
FILE: 70-15-061_ENV-102

CREEK SIDE RECREATIONAL VEHICLE SUBDIVISION
LINCOLN COUNTY PARCEL # 2636705000020 & AND PORTION OF # 2636705000030
SHEET 2 - WETLAND RECONNAISSANCE EXHIBIT



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Date Created:6/21/2016 \SPOKANE\PUBLIC\PROJECTS\0-ENVIRO GRP PROJ NO\70-15-061 HAWK CREEK - LARRY KENDRICK\CAD\SHEET\70-15-061_ENV-102.DWG

J-U-B ENGINEERS, INC.

LAST UPDATED: 6/21/2016
PLOT DATE: 6/24/2016
FILE: 70-15-061_ENV-102

CREEK SIDE RECREATIONAL VEHICLE SUBDIVISION
LINCOLN COUNTY PARCEL # 2636705000020 & AND PORTION OF # 2636705000030
SHEET 3 - ANTICIPATED WETLAND/BUFFER IMPACTS EXHIBIT

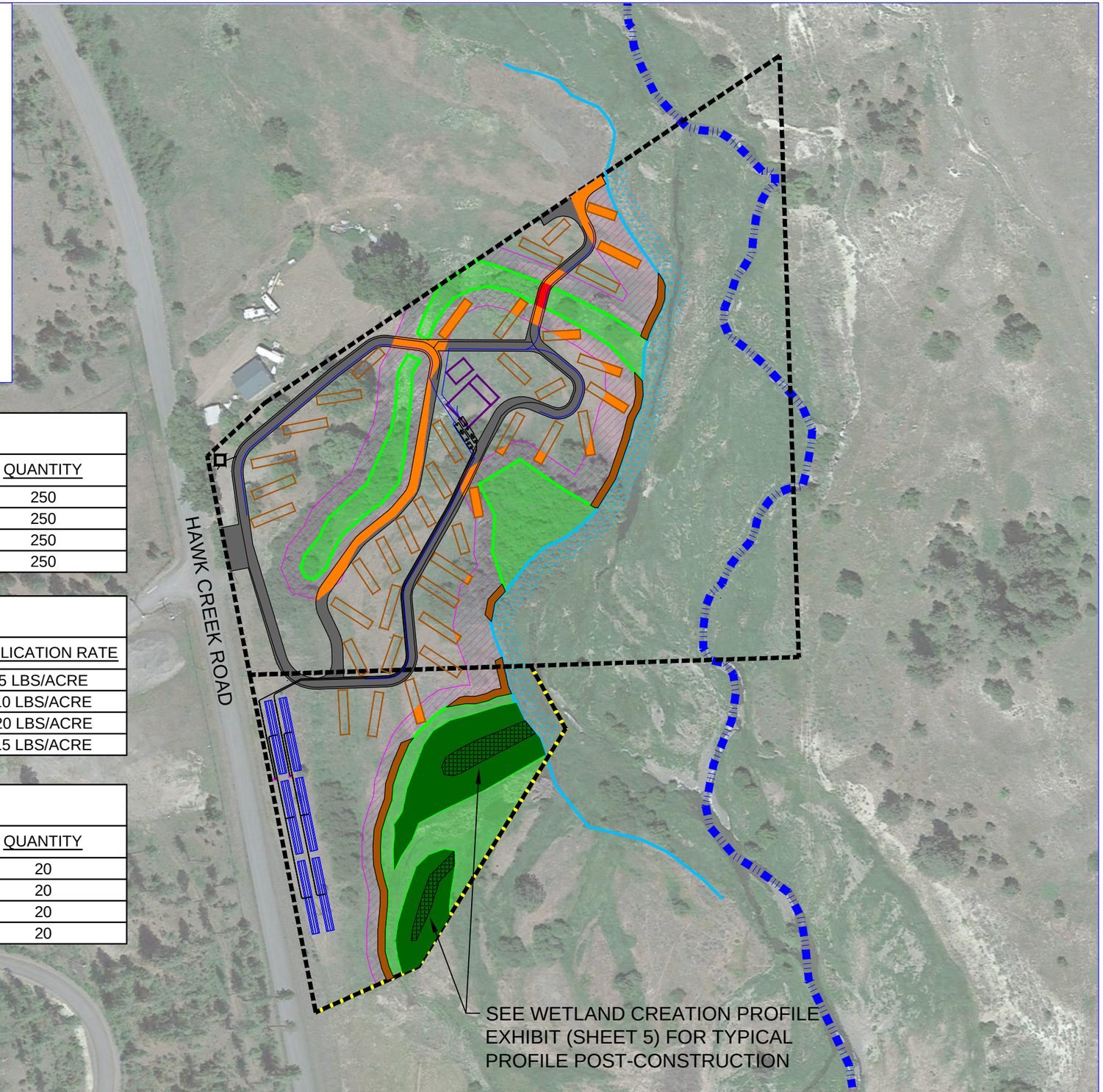
LEGEND

- SUBJECT PROPERTY BOUNDARIES (12.9 ACRES TOTAL)
- PROPOSED CREATED (SLOPED) WETLAND AREAS (0.60 ACRES)
- PROPOSED PLANTING PLUG INSTALLATION WITHIN CREATED WETLANDS (0.12 ACRES)
- PROPOSED BUFFER ENHANCEMENTS WITH NATIVE WOODY VEGETATION PLANTINGS (0.176 ACRES)

N

0 75 150

SCALE IN FEET



CREATED WETLAND PLANTINGS

COMMON NAME	SCIENTIFIC NAME	CONDITION	QUANTITY
BALTIC RUSH	*JUNCUS BALTICUS*	10 CU. IN. PLUG	250
BEAKED SEDGE	*CAREX UTRICULATA*	10 CU. IN. PLUG	250
COMMON RUSH	*JUNCUS EFFUSUS*	10 CU. IN. PLUG	250
NEBRASKA SEDGE	*CAREX NEBRASCENSIS*	10 CU. IN. PLUG	250

CREATED WETLAND SEED MIXTURE

COMMON NAME	SCIENTIFIC NAME	MIX COMPOSITION	APPLICATION RATE
BASIN WILD RYE	*LEYMUS CINEREUS*	10%	5 LBS/ACRE
KENTUCKY BLUEGRASS	*POA PRATENSIS*	20%	10 LBS/ACRE
MEADOW FOXTAIL	*ALOPECURUS PRATENSIS*	40%	20 LBS/ACRE
REDTOP	*AGROSTIS GIGANTEA*	30%	15 LBS/ACRE

BUFFER ENHANCEMENT PLANTINGS

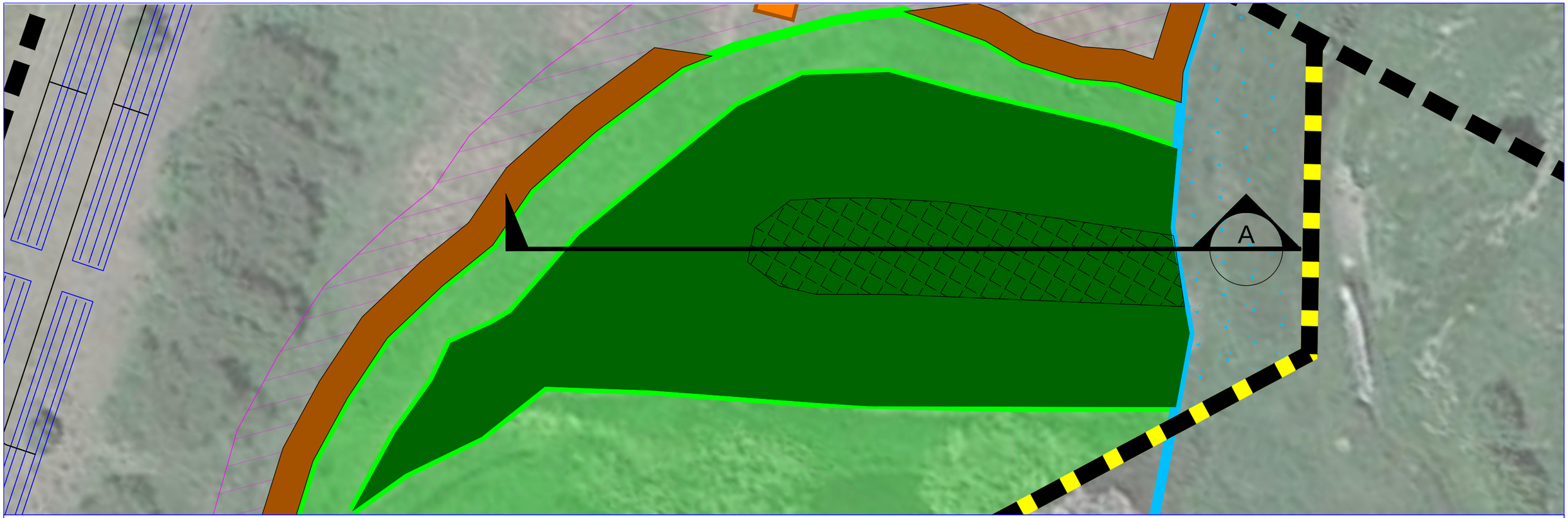
COMMON NAME	SCIENTIFIC NAME	CONDITION	QUANTITY
ALDER	*ALNUS RUBRA*	5-GALLON POTTED	20
COTTONWOOD	*POPULUS TRICHOCARPA*	5-GALLON POTTED	20
COYOTE WILLOW	*SALIX EXIGUA*	5-GALLON POTTED	20
HAWTHORN	*CRATAEGUS DOUGLASII*	5-GALLON POTTED	20

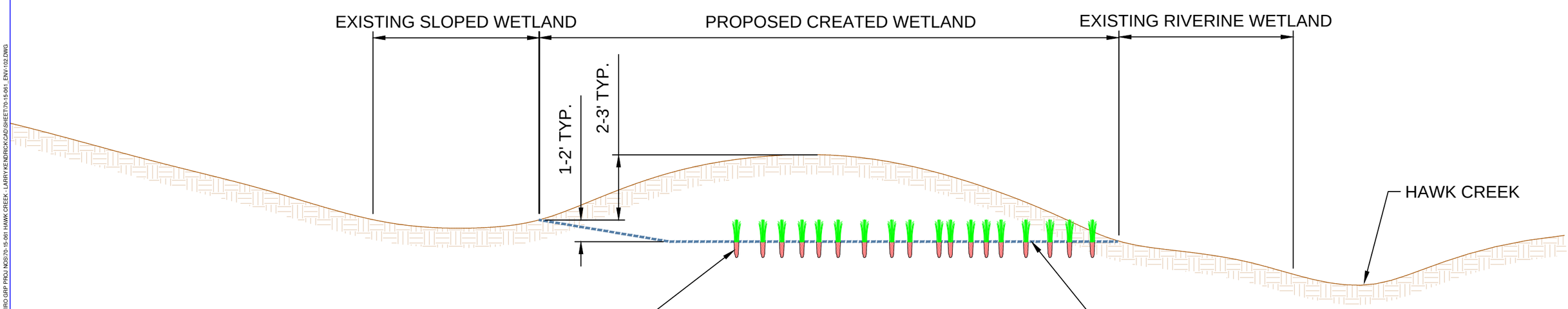
Plot Date:6/24/2016 1:43 PM Plotted By: Spencer Stephens
Date Created:6/21/2016 \\SPOKANE\PUBLIC\PROJECTS\0-ENVIRO GRP PROJ NOS\70-15-061 HAWK CREEK - LARRY KENDRICK\CAD\SHEET\70-15-061_ENV-102.DWG

LAST UPDATED: 6/21/2016
PLOT DATE: 6/24/2016
FILE: 70-15-061_ENV-102

J-U-B ENGINEERS, INC.

CREEK SIDE RECREATIONAL VEHICLE SUBDIVISION
LINCOLN COUNTY PARCEL # 2636705000020 & AND PORTION OF # 2636705000030
SHEET 4 - PROPOSED MITIGATION EXHIBIT





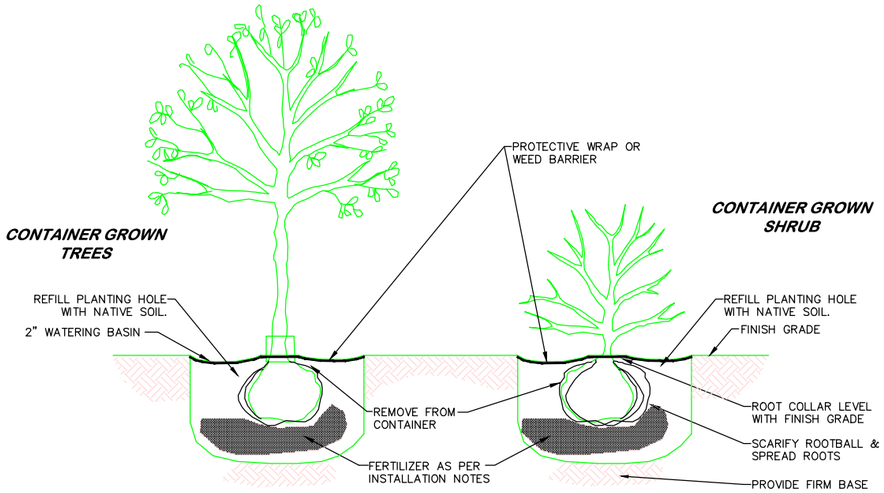
SECTION A - NOT TO SCALE

J-U-B ENGINEERS, INC.

LAST UPDATED: 6/21/2016
PLOT DATE: 6/24/2016
FILE: 70-15-061_ENV-102

CREEK SIDE RECREATIONAL VEHICLE SUBDIVISION
LINCOLN COUNTY PARCEL # 2636705000020 & AND PORTION OF # 2636705000030
SHEET 5 - WETLAND CREATION PROFILE EXHIBIT

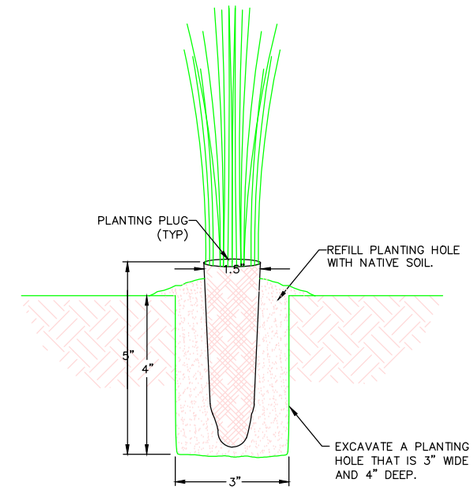
Plot Date:6/24/2016 1:44 PM Plotted By: Spencer Stephens
Date Created:6/21/2016 \SPOKANE\PUBLIC\PROJECTS\0-ENVIRO.GRP PROJ NOS\70-15-061 HAWK CREEK - LARRY KENDRICK\CAD\SHEET\70-15-061_ENV-102.DWG



PLANTING DETAIL
NOT TO SCALE

INSTALLATION NOTES:

1. ALL PLANTING AND SITE PREPARATION OPERATIONS SHALL BE CONDUCTED ACCORDING TO AMERICAN NURSERYMAN'S ASSOCIATION GUIDELINES.
2. ALL PLANT MATERIALS SHALL BE NATIVE TO THE LINCOLN COUNTY AREA. PLANT MATERIAL SHALL BE FROM NATIVE STOCK, NO CULTIVARS OR HORTICULTURAL VARIETIES WILL BE ALLOWED.
3. ALL PLANT MATERIAL SCHEDULED FOR INSTALLATION WILL BE IDENTIFIED IN THE PLANT SCHEDULE FOR THIS PROJECT. PROPOSALS FOR SUBSTITUTIONS REQUIRE THE APPROVAL OF THE PROJECT BIOLOGIST.
4. THE REQUIREMENTS OF ALL NURSERY GROWN PLANT MATERIALS ARE IDENTIFIED IN THE PLANT SCHEDULE, ALL PLANTS SHALL BE GROWN IN CONTAINERS. ONLY SOUND, HEALTHY, VIGOROUS PLANTS, FREE OF DEFECTS, DISEASE, AND ALL FORMS OF INFESTATIONS WILL BE ACCEPTED.
5. DIG, PACK, TRANSPORT, AND HANDLE ALL PLANTS WITH CARE TO ENSURE PROTECTION FROM INJURY. STORE PLANTS IN THE MANNER NECESSARY TO ACCOMMODATE THEIR HORTICULTURAL REQUIREMENTS. HEEL–IN PLANTS IF NECESSARY TO KEEP THEM FROM DRYING OUT.
6. WOODY PLANTINGS SHALL BE KEPT SATURATED AND SHADED UNTIL THE ACTUAL TIME OF INSTALLATION. DO NOT ALLOW WOODY PLANTINGS TO DRY OUT OR SIT IN THE SUN PRIOR TO OR DURING INSTALLATION. IMMEDIATELY SATURATE PLANTINGS AFTER PLANTING TO AVOID CAPILLARY STRESS.
7. EXCAVATE CIRCULAR PLANTING PITS WITH VERTICAL SIDES AND INSTALL PLANTS AS SHOWN IN THE PROPOSED MITIGATION EXHIBIT. BACKFILL EXCAVATED PITS WITH NATIVE SOIL.
8. A PROTECTIVE WRAP OR WEED BARRIER SHALL BE PLACED IN A 3 FT RADIUS AT THE WOODY PLANTING TRUNK. THIS WILL DISCOURAGE COMPETITION AMONGST OTHER PLANT SPECIES.
9. INSTALL TRANSPLANTER TYPE FERTILIZER, SUCH AS OSMOCOTE SLOW RELEASE FERTILIZER (16–16–16 ANALYSIS) OR EQUAL, TO TREE AND SHRUB PITS. APPLICATION RATE SHALL BE AS SPECIFIED BY THE MANUFACTURER. FERTILIZER WILL BE ALLOWED IN PLANTING PITS ONLY.



PLANTING PLUG (10 CUBIC INCH)
PLANTING DETAIL
NOT TO SCALE

INSTALLATION NOTES:

1. PLANTING PLUGS SHALL BE PLANTED AS SOON AS ADEQUATE SOIL MOISTURE AND CONDITIONS ARE REACHED (i.e., 40–45 DEGREES FAHRENHEIT AT A SOIL DEPTH OF 4 INCHES).
2. PRIOR TO INSTALLATION THE PLUGS SHOULD NOT BE ALLOWED TO SIT IN THE DIRECT SUNLIGHT.
3. USING A SHOVEL OR DIBBLE, CONSTRUCT A RELATIVELY SQUARE PLANTING HOLE THAT MEASURES 4 INCHES IN DEPTH AND 3 INCHES WIDE. AVOID OVER COMPACTION OF THE SOIL WALL, WHICH COULD PREVENT ROOT GROWTH INTO THE SURROUNDING SOIL.
4. AFTER THE HOLE IS DUG, PLACE ONE PLUG IN THE UPRIGHT POSITION INTO THE HOLE.
5. LOOSELY REPLACE THE REMAINING SPACE IN THE HOLE WITH NATIVE SOIL. THE ROOTING MEDIA SHOULD BE COVERED WITH NATIVE SOIL.

CREEK SIDE RECREATIONAL VEHICLE SUBDIVISION
LINCOLN COUNTY PARCEL # 2636705000020 & AND PORTION OF # 2636705000030
SHEET 6 - PLANTING DETAILS

Wetland name or number Hawk Creek RV – slope

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Lincoln County Parcel # 2636705000020 and a portion of 2636705000030 Date of site visit: 11-20-15

Rated by Vince Barthels (J-U-B) Trained by Ecology? X Yes ___ No Date of training 10-30-08

HGM Class used for rating Slope Wetland has multiple HGM classes? ___ Y X N

NOTE: Form is not complete without the figures requested (*figures can be combined*).
Source of base aerial photo/map google earth – see Wetland Reconnaissance Exhibit

OVERALL WETLAND CATEGORY III (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
X **Category III** – Total score = 16-18
___ **Category IV** – Total score = 9-15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
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	6	17

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY *Circle the appropriate category*
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	(X)

1/8/16

Wetland name or number Hawk Creek RV - slope

SLOPE WETLANDS **Water Quality Functions** - Indicators that the site functions to improve water quality	Points (only 1 score per box)
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of average slope of wetland: *(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)* Slope is 1% or less — points = 3 Slope is > 1% - 2% — points = 2 Slope is > 2% - 5% — points = 1 Slope is greater than 5% — points = 0 per survey the average slope is 2% to 4%.	1
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or tureorganic *(use NRCS definitions)*: Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. *Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.* Dense, uncut, herbaceous plants > 90% of the wetland area — points = 6 Dense, uncut, herbaceous plants > ½ of area — points = 3 Dense, woody, plants > ½ of area — points = 2 Dense, uncut, herbaceous plants > ¼ of area — points = 1 Does not meet any of the criteria above for plants — points = 0	6
Total for S 1 — Add the points in the boxes above	7

Rating of Site Potential If score is: ___12 = H X 6-11 = M ___0-5 = L *Record the rating on the first page*

S 2.0. Does the landscape have the potential to support the water quality function at the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____ Yes = 1 No = 0	0
Total for S 2 — Add the points in the boxes above	0

Rating of Landscape Potential If score is: ___1-2 = M X 0 = L *Record the rating on the first page*

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly to a stream, river, or lake that is on the 303(d) list (*within 1 mi*)? Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? *At least one aquatic resource in the basin is on the 303(d) list.* Yes = 1 No = 0	0
S 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 wetland is found*)? Yes = 2 No = 0	2
Total for S 3 Dissolved Oxygen — Add the points in the boxes above	2

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L *Record the rating on the first page*

Wetland name or number Hawk Creek RV - slope

SLOPE WETLANDS **Hydrologic Functions** - Indicators that the site functions to reduce flooding and erosion	Points (only 1 score per box)
S 4.0. Does the site have the potential to reduce flooding and erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually > $^{1}/_{8}$ in), or dense enough, to remain erect during surface flows.* Dense, uncut, **rigid** plants cover > 90% of the area of the wetland points = 1 All other conditions points = 0	1

Rating of Site Potential If score is: X **1 = M** ___ **0 = L** *Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses that generate excess surface runoff? Yes = 1 No = 0	0

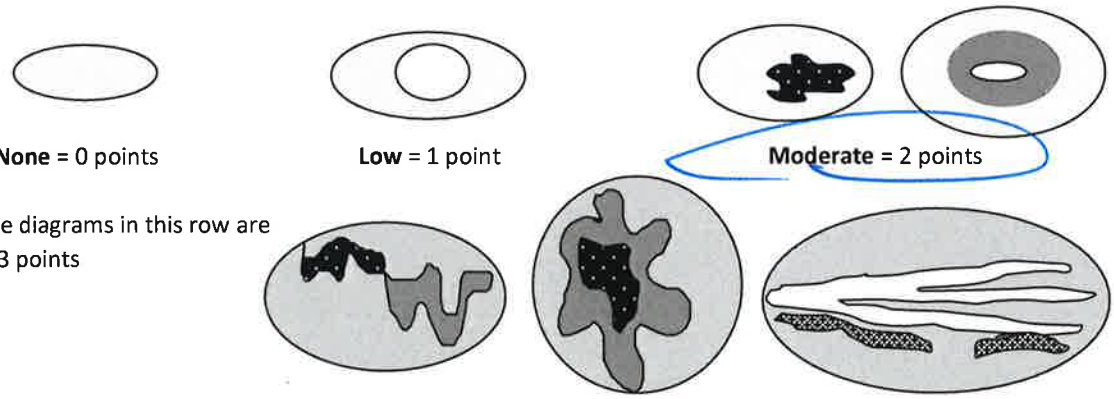
Rating of Landscape Potential If score is: ___ **1 = M** X **0 = L** *Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	1
S 6.2. Has the site been identified as important for flood storage and flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for S 6 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*

NOTES and FIELD OBSERVATIONS:

Wetland name or number Hawk Creek RV – slope

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	(only 1 score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Structure of the plant community: *Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.* ____Aquatic bed ____Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover ____Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover X Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover X Scrub-shrub (areas where shrubs have >30% cover) — 4 or more checks: points = 3 ____Forested (areas where trees have >30% cover) — 3 checks: points = 2 2 checks: points = 1 1 check: points = 0	1
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	0
H 1.3. Surface water H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac **OR** 10% of its area during the March to early June **OR** in August to the end of September? *Answer YES for Lake Fringe wetlands.* 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 ¼ ac or 10% of its area? *Answer yes only if H 1.3.1 is No.* Yes = 3 No = 0	3
H 1.4. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *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)* # of species ____ Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0 nettles, cattails, curly dock, teasel, hawthorn, willow, cottonwood, clematis	1
H 1.5. Interspersion of habitats 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. *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.*  **None** = 0 points **Low** = 1 point **Moderate** = 2 points All three diagrams in this row are **High** = 3 points Riparian braided channels with 2 classes	Figure__ 2

Wetland name or number Hawk Creek RV – slope

H 1.6. Special habitat features *Check the habitat features that are present in the wetland. The number of checks is the number of points.* ✓ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ✓ Cattails or bulrushes are present within the wetland. ✓ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ✓ 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 ___ Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)*	4
Total for H 1 — Add the points in the boxes above	11

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: *Calculate:* % undisturbed habitat 10 + [(% moderate and low intensity land uses)/2] N/A = 10 % > $^1/_3$ (33.3%) of 1 km Polygon — points = 3 20-33% of 1km Polygon — points = 2 10-19% of 1km Polygon — points = 1 (0) <10% of 1km Polygon — points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. *Calculate:* % undisturbed habitat 15 + [(% moderate and low intensity land uses)/2] 40 = 55 % 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) (0) 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	3

Rating of Landscape Potential If score is: ___ **4-9 = H** (X) **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 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — 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	1

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

Wetland name or number Hawk Creek RV - Riverine

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Lincoln County Parcel # 2636705000020 and a portion of 2636705000030 Date of site visit: 11-20-15

Rated by Vince Barthels (J-U-B) Trained by Ecology? X Yes ___ No Date of training 10-30-08

HGM Class used for rating Riverine Wetland has multiple HGM classes? ___ Y X N

NOTE: Form is not complete without the figures requested (*figures can be combined*).
Source of base aerial photo/map google earth - see Wetland Reconnaissance Exhibit

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

1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	Circle the appropriate ratings			
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	7	7	7	21

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

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY *Circle the appropriate category*
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	(X)

1/8/16

Wetland name or number Hawk Creek RV - Riverine

RIVERINE WETLANDS **Water Quality Functions** - Indicators that the site functions to improve water quality		Points (only 1 score per box)
R 1.0. Does the site have the potential to improve water quality?		
R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event:		
Depressions cover > $^1/_3$ area of wetland	points = 6	
Depressions cover > $^1/_{10}$ area of wetland 10-15%	points = 3	
Depressions present but cover < $^1/_{10}$ area of wetland	points = 1	3
No depressions present	points = 0	
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; **not** Cowardin classes):		
Forest or shrub > $^2/_3$ the area of the wetland	points = 10	
Forest or shrub $^1/_3$ – $^2/_3$ area of the wetland	points = 5	
Ungrazed, herbaceous plants > $^2/_3$ area of wetland	points = 5	
Ungrazed herbaceous plants $^1/_3$ – $^2/_3$ area of wetland	points = 2	5
Forest, shrub, and ungrazed herbaceous < $^1/_3$ area of wetland	points = 0	
Total for R 1	Add the points in the boxes above	8

Rating of Site Potential If score is: ___12-16 = H X 6-11 = M ___0-5 = L *Record the rating on the first page*

R 2.0. Does the landscape have the potential to support the water quality function of the site?		
R 2.1. Is the wetland within an incorporated city or within its UGA?	Yes = 2 No = 0	0
R 2.2. Does the contributing basin include a UGA or incorporated area?	Yes = 1 No = 0	0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?	Yes = 1 No = 0	0
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants	Yes = 1 No = 0	0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source upstream run-off	Yes = 1 No = 0	1
Total for R 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ___3-6 = H X 1 or 2 = M ___0 = L *Record the rating on the first page*

R 3.0. Is the water quality improvement provided by the site valuable to society?		
R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?	Yes = 1 No = 0	0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens?	Yes = 1 No = 0	1
R 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 in which wetland is found.*	Yes = 2 No = 0	2
Total for R 3 Dissolved Oxygen	Add the points in the boxes above	3

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L *Record the rating on the first page*

Wetland name or number Hawk Creek RV- Riverine

RIVERINE WETLANDS **Hydrologic Functions** - Indicators that site functions to reduce flooding and stream erosion	Points (only 1 score per box)
R 4.0. Does the site have the potential to reduce flooding and erosion?	
R 4.1. Characteristics of the overbank storage the wetland provides: *Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).* If the ratio is more than 2 — points = 10 If the ratio is 1-2 — points = 8 If the ratio is ½-<1 — points = 4 If the ratio is ¼-< ½ — points = 2 If the ratio is < ¼ — points = 1	10
R 4.2. Characteristics of plants that slow down water velocities during floods: *Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).* Forest or shrub for more than $^{2}/_{3}$ the area of the wetland — points = 6 Forest or shrub for >$^{1}/_{3}$ area OR emergent plants > $^{2}/_{3}$ area — points = 4 Forest or shrub for > $^{1}/_{10}$ area OR emergent plants > $^{1}/_{3}$ area — points = 2 Plants do not meet above criteria — points = 0	4
Total for R 5 — Add the points in the boxes above	14

Rating of Site Potential If score is: ___12-16 = H ___6-11 = M ___0-5 = L *Record the rating on the first page*

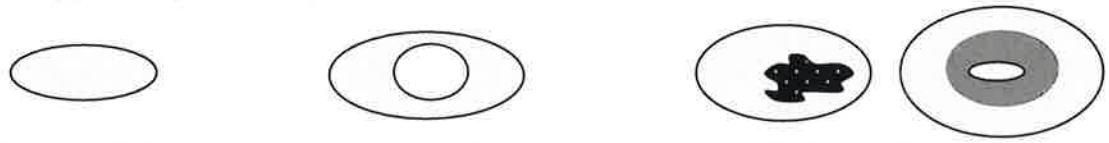
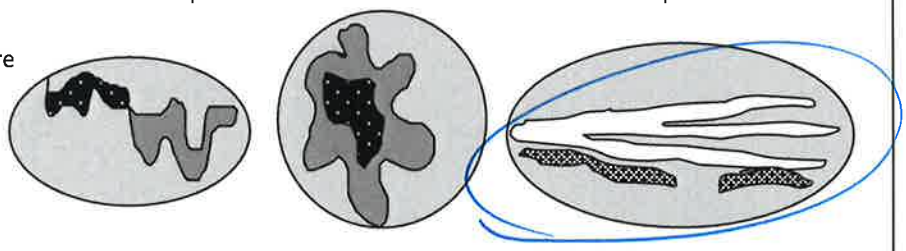
R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
R 5.1. Is the stream or river adjacent to the wetland downcut?	Yes = 0 No = 1	0
R 5.2. Does the up-gradient watershed include a UGA or incorporated area?	Yes = 1 No = 0	0
R 5.3. Is the up-gradient stream or river controlled by dams?	Yes = 0 No = 1	1
Total for R 5 — Add the points in the boxes above		1

Rating of Landscape Potential If score is: ___3 = H ___1 or 2 = M ___0 = L *Record the rating on the first page*

R 6.0. Are the hydrologic functions provided by the site valuable to society?	
R 6.1. Distance to the nearest areas downstream that have flooding problems? *Choose the description that best fits the site.* The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources — points = 2 Surface flooding problems are in a basin farther down-gradient — points = 1 No flooding problems anywhere downstream — points = 0	1
R 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? — Yes = 2 No = 0	0
Total for R 6 — 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 Hawk Creek RV - Riverine

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat	(only 1 score per box)
H 1.0. Does the wetland have the potential to provide habitat for many species?	
H 1.1. Structure of the plant community: *Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is >= ¼ ac or >= 10% of the wetland if wetland is < 2.5 ac.* X Aquatic bed ____ Emergent plants 0-12 in (0-30 cm) high are the highest layer and have > 30% cover X Emergent plants >12-40 in (>30-100 cm) high are the highest layer with >30% cover X Emergent plants > 40 in (> 100 cm) high are the highest layer with >30% cover ____ Scrub-shrub (areas where shrubs have >30% cover) ____ 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	2
H 1.2. Is one of the vegetation types Aquatic Bed? Yes = 1 No = 0	1
H 1.3. Surface water H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least ¼ ac **OR** 10% of its area during the March to early June **OR** in August to the end of September? ***Answer YES for Lake Fringe wetlands.*** 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 ¼ ac or 10% of its area? *Answer yes only if H 1.3.1 is No.* Yes = 3 No = 0	3
H 1.4. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft^2. *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)* # of species 7 cattails, sedges, teasel, curly dock, hawthorn cottonwoods, willows. Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0	1
H 1.5. Interspersion of habitats 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. *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.*  **None** = 0 points **Low** = 1 point **Moderate** = 2 points All three diagrams in this row are **High** = 3 points  Riparian braided channels with 2 classes	Figure 1 3

Wetland name or number Hawk Creek RV - Riverine

H 1.6. Special habitat features *Check the habitat features that are present in the wetland. The number of checks is the number of points.* ✓ Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. ✓ Cattails or bulrushes are present within the wetland. ✓ Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. ✓ Emergent or shrub vegetation in areas that are permanently inundated/ponded. ✓ 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 ____ Invasive species cover less than 20% in each stratum of vegetation *(canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)*	5
Total for H 1 — Add the points in the boxes above	15

Rating of Site Potential If score is: X **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: *Calculate:* % undisturbed habitat <10 + [(% moderate and low intensity land uses)/2] N/A = <10 % > $^1/_3$ (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	0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. *Calculate:* % undisturbed habitat 15 + [(% moderate and low intensity land uses)/2] 40 = 55 % 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	

Rating of Landscape Potential If score is: ___ **4-9 = H** X **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 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — 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	1

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