Ordinance No. 3835 Exhibit C

LOCAL WETLAND INVENTORY REPORT FOR PENDLETON, OREGON

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Local Wetland Inventory Report
Pendleton, Oregon

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Introduction

The City of Pendleton, through a grant from the Oregon Department of Land Conservation and Development, retained Winterbrook Planning (Winterbrook) to conduct a Local Wetland Inventory (LWI) within the City's Urban Growth Boundary (UGB) and Urban Reserve Area (URA). The combined UGB and URA are hereafter referred to as the LWI Study Area.

This report provides a summary of LWI methods and findings, together with wetland inventory maps. Wetland data sheets, characterization and assessment forms, and other supporting documentation are contained in the appendices to this report.

Once approved by the Department of State Lands (DSL), the LWI replaces the National Wetlands Inventory (NWI) and is incorporated into the Statewide Wetlands Inventory. In Pendleton, the LWI will fulfill the location and quantity information required for State Goal 5 inventories. A wetland quality assessment was also conducted concurrently with the LWI using the Oregon Freshwater Wetland Assessment Methodology (OFWAM) developed by DSL. Wetlands meeting the criteria for "Locally Significant Wetlands" will be analyzed further to determine appropriate local conservation measures. The LWI and associated maps will inform local planning work and help guide future growth of the Pendleton community.

Summary of Findings

The LWI was conducted in two phases: 1) a planning and preliminary field inventory phase, in which existing wetland data and maps were compiled and initial field data collected; and 2) a follow-up planning and field inventory phase, which included field assessments and a public outreach component. Winterbrook completed Phase 1 between January and June 2011, and Phase 2 between February and July 2012.

The LWI identifies four wetlands within the LWI study area, ranging in size from one-half to nine acres with a combined area of 14.3 acres. In addition to these wetlands, the LWI identifies 17 "probable wetlands" (PW) of less than one-half acre in size. A significant number of previously mapped wetlands were found to be: 1) less than one-half acre (these were mapped PW); 2) no longer present; or 3) within the ordinary high water boundary of Umatilla River or other waterways and therefore defined as "waters of the state."

Winterbrook evaluated the wetlands to determine whether any met the criteria for Wetlands of Special Interest for Protection. None of the wetlands evaluated in this LWI met those criteria.

Winterbrook evaluated inventoried wetlands against the state's criteria for Locally Significant Wetlands (LSW) and found that all four wetlands met the criteria.

The total area of significant wetlands is 14.3 acres or 0.15 percent of the LWI Study Area.

Study Area Overview

As noted, the study area for the LWI is the City's UGB plus the City's URA, which is located near the airport (see Figure 1). The study area is 9,282 acres in size.

In general terms, the study area's north boundary extends from the airport (as far north as Daniel Road) east along the hills north of Westgate and the Umatilla River until it meets the river at Lee Street. From there it follows the river to Wildhorse Creek, continues east near the creek and then south to the Riverside School area. From here, the eastern study area boundary travels south (paralleling NE 37th Street), turns west along the Umatilla River then south again near Goad Road. It then continues to the southwest across farmland and Patawa Creek until reaching SW Tahoe Avenue.

The southern study area boundary heads west from Tahoe Avenue, crossing Tutuilla Creek Road and farmland before reaching Southgate Road, where it drops south to approximately SW Broadlane Avenue. It then turns north, parallels SW 44th Street until it reaches McKay Creek, then turns east and north again before rejoining McKay and following it west to the Umatilla River. The boundary continues west along the river and adjacent farmland until it reaches Birch Creek Road in the far southwest corner of the study area. Finally, the boundary travels northeast along Rieth Road, then north to rejoin the airport and the surrounding URA.

Landscape Setting

Pendleton is set in the central part of the Umatilla River basin, approximately 50 river miles southeast of the river's confluence with the Columbia River and about 30 miles from its headwaters in the Blue Mountains to the east. The river flows six miles through the Pendleton LWI study area. The City developed along the river and on the adjacent hills to the north and south. The hills are traversed by multiple intermittent and perennial streams, which all drain to the Umatilla River. Interstate 84 passes through the study area, to the south and east of the downtown area.

Climate

According to the Umatilla County soil survey prepared by the Natural Resources Conservation Service (NRCS), the Pendleton area experiences cold winters and hot summers with fairly cool nights. Average winter temperatures and average winter minimum temperatures in Pendleton are 36°F and 29°F, respectively. Average summer temperatures and summer maximum are 71°F and 85°F. Precipitation patterns are strongly seasonal, with the bulk of the 12 inches of annual precipitation falling during the cooler parts of the year, and 30 percent falling between April and September. Snowfall at higher elevations extends water availability after rainfall has tapered off in late spring and summer.

Site visits were conducted for the LWI on May 17-19, 2011 and April 16-20, 2012. Total precipitation for the 2010-2011 water year was 16.65 inches, which was 133 percent of normal. The bulk of the above-average rainfall came during October through December, though May and June also received heavy rainfall coinciding with very high river flows before and during the 2011 site visit. The 2011-2012 water year to date is right at normal; 9.44 inches of rainfall to date is 104% of the long-term average for that period. Most months in this water year were

close to average or slightly under; April was the outlier, receiving about twice the typical rainfall for that month. Charts 1, 2 and 3 show precipitation levels for the water years and field inventory periods described above.

Chart 1.

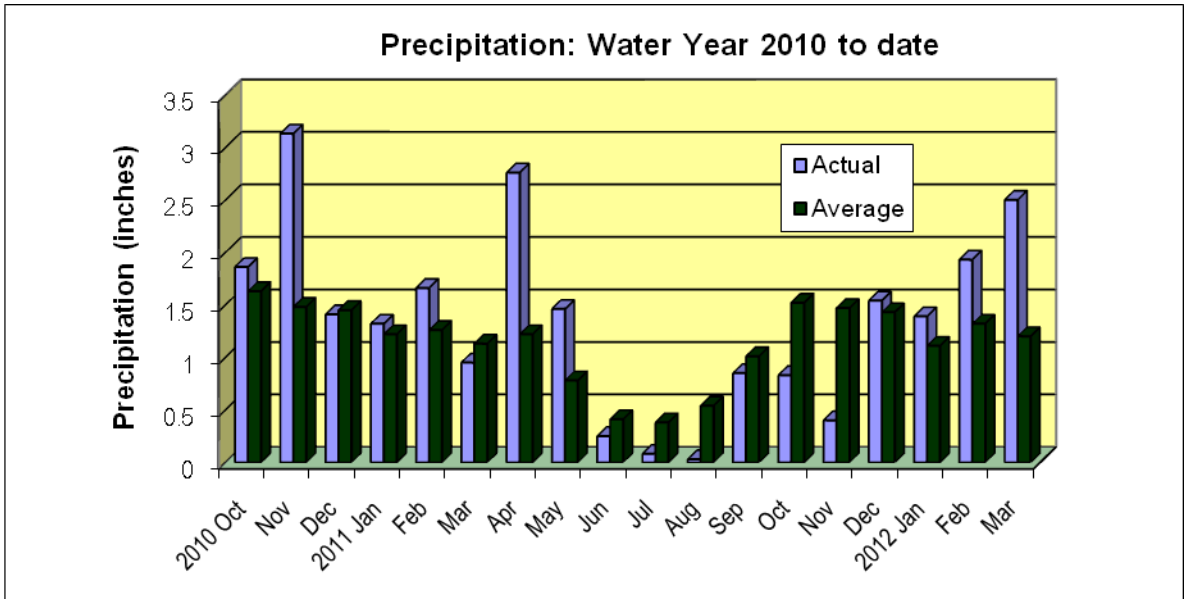


Chart 2.

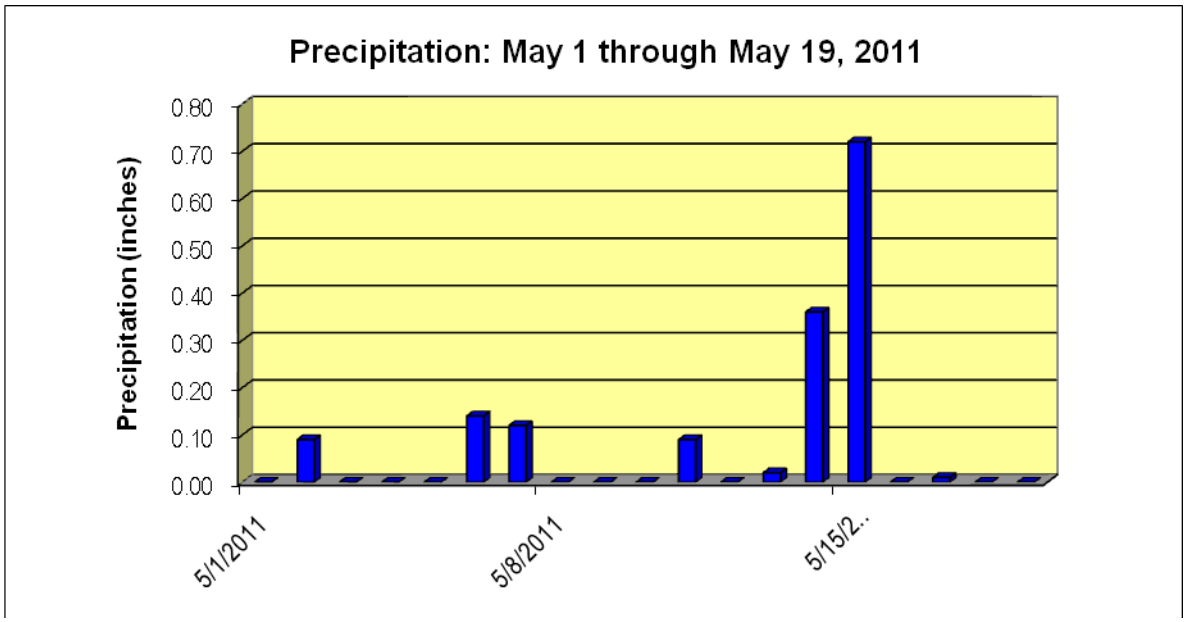
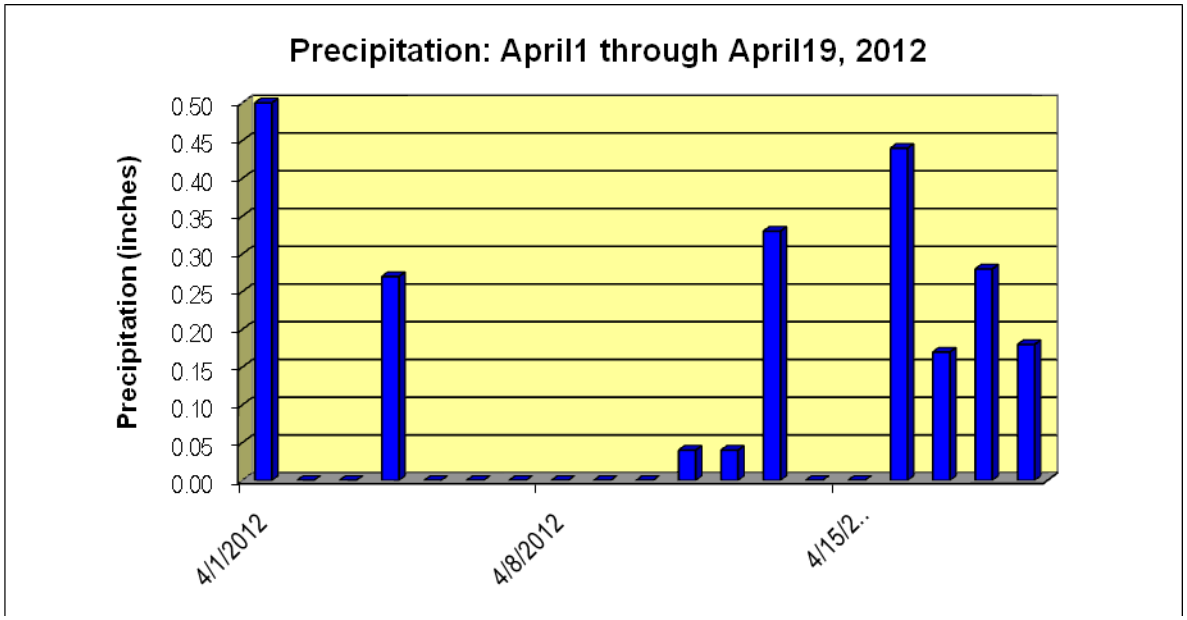


Chart 3.



Topography

Pendleton's topography is varied, with flat to gently sloping lowlands and terraces along the Umatilla River transitioning to steeper slopes on the hills to the north and south. The river drops in elevation from 1,100 feet at the east end of the study area to 960 feet at the west. The valley floor sits at elevations between 1,000 and 1,100 feet. At 1,100 feet, the hills begin to rise, reaching plateaus at about 1,400 feet (to the north) and 1,300 feet (to the south). The City's high point is 1521 feet just west of the airport. The steepest slopes include the hills south of the Umatilla River across from Rieth Road, and the south slopes of Owen Hill near the confluence of the river and Wildhorse Creek. These slopes reach 60 percent or more.

Hydrology

The LWI study area is bisected by the Umatilla River, an 89-mile tributary of the Columbia River with a drainage basin of 2,450 square miles. The river flows east to west through the study area, travelling six miles and ranging in width from 50 feet to more than 250 feet. To the north and south of the river are multiple intermittent and perennial tributaries to the Umatilla River, including McKay, Patawa, Tutuilla and Wildhorse Creeks. Table 1 provides a summary of the Umatilla River and key tributary streams. These waterways are described in greater detail in the Inventory Results section of this report.

Table 1. Key Waterways in the Study Area

Waterway	Location / Description	Size (acres)	Length (miles)
Umatilla River	Flows east to west through center of town and UGB; adjacent wetlands along some reaches	245	6.7

Waterway	Location / Description	Size (acres)	Length (miles)
McKay Creek	From SW 42nd and Vista to north of Pendleton Community Park (lower reach is outside UGB)	25	1.8
Patawa Creek	Short reach within UGB east of Tutuilla Creek Rd at SW Nye Ave	6	0.4
Tutuilla Creek	Parallels Tutuilla Creek Rd on west side, then south side of I-84 before reaching Umatilla River	44	2.4
Wildhorse Creek	Short reach in NE corner of UGB from NE Mt Hebron Dr west to Umatilla River	8	0.6
Total		328	11.9

Geology

The Pendleton area, like most of the Umatilla River basin, is underlain by a thick series of basalt flows known as the Columbia River Basalt Group (14-17 million years old). These flows covered roughly 63,000 square miles of the Pacific Northwest, creating one the largest lava flows on earth. The arching (angle) of the basalt flows varies across the region, but the flows are nearly horizontal in the Pendleton area. The total thickness of this formation is more than 6,000 feet. A thin layer of sedimentary deposits covers the basalt. Alluvium deposited by the Umatilla River and tributary streams occurs in valleys and floodplains. Pleistocene and Holocene glacial and wind-blown silt and fine sand can be found to a depth of 20 feet, such as in the Wildhorse Creek watershed.

Soils

Soils in the Pendleton LWI study area are dominated by well-drained silt loams, including the Anderly, Pilot Rock and Walla Walla series. Hydric soils – soils that are indicative of wetlands – are extremely rare in the City. In fact, there is less than one acre of hydric soils within the study area. However, there are several soils containing hydric inclusions. Table 2 below provides a summary of key features of these soils within the LWI study area. Most of these soils are found in floodplains; the Pilot Rock silt loam is found in depressions.

Table 2. Hydric Soil Characteristics in the Study Area

Map Unit	Soil Series	Hydric	Hydric Inclusion	Local landform	Drainage Class	Acres
17A	Catherine silt loam	Yes	No	Floodplains, valleys	Poorly drained	0.4
28A	Freewater gravelly silt loam	No	Yes - Xerofluvents	Floodplains	Somewhat excessively drained	288
29A	Freewater very cobbly loam	No	Yes - Xerofluvents	Floodplains	Somewhat excessively drained	39
39A	Hermiston silt loam	No	Yes - Xerofluvents, Aquolls	Floodplains	Well drained	147
67B	Pilot rock silt loam	No	Yes, Aquolls	Depressions	Well drained	691
109A	Veazie silt loam	No	Yes, Catherine Variant, Xerofluvents, Aquolls	Floodplains, depressions	Well drained	57

Map Unit	Soil Series	Hydric	Hydric Inclusion	Local landform	Drainage Class	Acres
126A	Xerofluvents	No	Yes, Fluvaquents, Riverwash	Floodplains	Somewhat poorly drained	183
128A	Yakima silt loam	No	Yes - Xerofluvents	Floodplains	Well drained	205

Vegetation

Vegetation in the study area varies considerably depending upon land use practices and the frequency and duration of water. Along the Umatilla River and its tributaries, native trees are rare in upland areas, though a variety of ornamental trees were observed in maintained areas. A thin margin of mature trees along waterways and wetland edges is intermittently present where development, agricultural, and other land uses have not resulted in their removal. Typical trees in these margin areas include black cottonwood, elm, box elder, Russian olive, black locust and in the wettest areas, Pacific willow. The largest tree groves are present along the Umatilla River where the channel has braided.

Areas of shrub cover are also present, sometimes under the tree canopy but also in occasionally dense thickets that provide considerable shading. Shrub cover is more extensive in terms of aerial cover than that of trees. Geyer willow is the most common constituent of the wetland and floodplain community, but Douglas hawthorn and other native species were also observed. Himalayan blackberry was also noted in some of the riparian corridors, extending down past the jurisdictional boundary in many cases. Uplands were frequently disturbed and the native plant community removed, but where native shrubs were present, green rabbitbrush, gray rabbitbrush, and sagebrush are the most common species.

The most diversity in vegetation species was observed in the herbaceous layer. Upland areas were characterized by ripgut brome, bottlebrush squirreltail, and cheatgrass, with low-diversity cheatgrass stands ubiquitous along roadside edges and ditch slopes. Tumblemustard, horseweed, Scotch thistle, goldenrod, and Russian thistle were also frequently observed. Poison hemlock was frequently observed in disturbed areas, near or in wetlands or stream corridors but also in gravel areas that received roadway runoff from adjacent impervious surfaces. Stream margins were often colonized heavily by reed canarygrass and, to a lesser extent, bulbous bluegrass. Common cattail and duckweed were dominant in areas of still water experiencing prolonged or permanent inundation such as UR-1. MC-1, a setting with a seasonal fluctuation in inundation, was dominated by yellow flag iris and native sedges and rushes in the wettest areas, with Geyer willow dominating an area that experienced seasonal fluctuation in saturation but where inundation was rare. Black cottonwood was present at this location, but in areas of higher ground where the top soil horizon did not experience prolonged saturation or inundation.

Inventory Methods

The inventory of wetlands follows the guidelines and rules for conducting LWIs adopted by the DSL in 1990 and amended in 2001 and 2009.

Two levels of investigation were conducted for the inventory of wetlands: a review of existing information and a field inventory. Key elements of the inventory methodology are summarized in this section.

Review of Existing Information

Winterbrook reviewed existing literature, maps, and data sources to identify wetlands and site characteristics indicative of wetlands within the study area.

Information sources included the following:

- Oregon Department of State Lands (DSL), wetland determination files;
- *National Wetlands Inventory* (NWI) data (U.S. Fish and Wildlife Service, 1991);
- Wetlands (ODOT, SRSAM Survey, 2004)
- Wetlands (Pacific Northwest Hydrography Framework, 2006)
- *Soil Survey for Umatilla County Area, Oregon* (U.S.D.A. Natural Resource Conservation Service, 2003);
- *Hydric Soils List, Umatilla County Area, Oregon* (NRCS, 2006).
- Floodplains (Federal Emergency Management Agency, 1987).
- Color ortho photography (Oregon Imagery Explorer, Summer 2005)
- Color ortho photography (City of Pendleton, 2006)
- Rivers (State of Oregon, 2010)
- Streams and intermittent streams (ODF, 2010)
- Fish-bearing streams (ODF and ODFW, 2010)
- Fish and critical habitat data (StreamNet, 2010)
- Topography, 10’ contour intervals (U.S. Geological Survey, 7.5 minute series, 1976)
- Topography, LiDAR, 1’ contour intervals (City of Pendleton, 2006)

Umatilla County GIS data included the following:

- Pendleton City Limits
- City of Pendleton UGB
- Parcels
- Streets

The Geographic Information System (GIS) data layers served as the base for the preliminary wetland mapping. The preliminary LWI mapping included the following data:

- DSL approved wetland determinations (file numbers)
- NWI wetlands
- ODOT Wetlands
- Hydric soils
- Soils with hydric inclusions
- Color ortho photography

- Topography
- Other potential wetland areas

Winterbrook contacted Department of State Lands (DSL) to review the state's available wetland determination data for the Pendleton study area. Eleven files were reviewed and DSL file numbers and wetlands information were noted on field maps; most determinations concluded that no wetlands were present or that only waters of the state were present. Appendix F contains a list of the DSL files for the LWI study area.

Winterbrook contacted the Oregon Biodiversity Information Center (ORBIC) for records of special status species and their documented or potential occurrence within two miles of the study area. Ten species records were found in the area: eight fish records (summer steelhead, bull trout, and margined sculpin) and single records for painted turtle and western ridged mussel. Supporting information on fish presence within and adjacent to the Pendleton study area was obtained from Streamnet. Additional information on fish and wildlife species within the study area was obtained from ODFW Biologists.

Field Inventory

Winterbrook conducted the field inventory in accordance with LWI standards established under OAR 141-86-180 through 240, as amended January 1, 2009. Wetland boundaries were identified using the COE Wetland Delineation Manual Technical Report Y-87-1 (Environmental Laboratory 1987) and the 2008 Regional Supplement. The 1987 manual defines wetlands as requiring indicators of hydric soils, a dominance of hydrophytic vegetation, and wetland hydrology.

Where property access was permitted, wetland boundaries were verified in the field. Location of sample points and mapping conventions followed state LWI standards and were not intended to define the limits of regulatory jurisdiction. Under state guidelines, LWI wetland boundaries are mapped at an accuracy of approximately 5 meters (16.4 feet). Additional on-site wetland investigation and boundary delineation may be needed to determine whether state or federal regulations apply to a particular development proposal.

Each inventoried wetland was assigned a unique identification code based on the watershed in which it is located. For example, MC-01 is located in the McKay Creek (MC) watershed. Wetlands along the Umatilla River were similarly coded UR-1, UR-2 and UR-3, with numbers moving east to west along the river.

For wetlands where access was granted, Winterbrook typically established between two and six sample plots at locations that best characterized the wetland. Soil pits were excavated up to a depth of 20 inches in selected locations. The soil profiles were examined for hydric soils and wetland hydrology field indicators. The percent cover of the dominant species within the plant community was estimated at each sampling location. General characteristics of each wetland were documented, including approximate wetland size, classification[1], soil type, hydrologic

[1] This includes both Cowardin and hydrogeomorphic (HGM) classifications and subclassifications as defined in the revised LWI rules (also see Appendix A, Definitions).

source, dominant plant species, field dates, field investigators, a summary of the wetland context, and other relevant data. The LWI map shows the location of wetlands and the individual sample plots. Wetland characteristics were recorded on individual summary sheets contained in Appendix B. Appendix C contains completed Wetland Determination Forms for wetlands sampled using the on-site method.[2]

Wetlands identified in DSL determination files[3] were visually verified where possible to determine whether wetlands were still present and of the same general size and configuration as when delineated. Field observations were noted on field maps and the current status of these sites is listed in Appendix F.

In cases where property access permission was not granted, Winterbrook used off-site determination methods, including existing NWI and soil survey data and maps, interpretation of aerial photos, and off-site observation from nearby public rights-of-way or adjacent properties where access was granted. Areas exhibiting wetland indicators such as wetland hydrology or dominant hydrophytic vegetation were noted. This data was reported on wetland determination forms contained in Appendix C.

Wetland Function and Condition Assessment

Wetland quality was assessed using the Oregon Freshwater Wetland Assessment Methodology (OFWAM). The OFWAM evaluates the extent to which a wetland performs certain functions based on specific factors. It assesses the following ecological functions and values: wildlife habitat, fish habitat, water quality, hydrologic control, education, recreation, sensitivity to impact, enhancement potential, and aesthetic quality. As clarified in the revised LWI rules, only the first four functions (wildlife habitat, fish habitat, water quality and hydrologic control) have a direct bearing on the wetland significance criteria. In addition, where a wetland was located on public lands, educational functions are also assessed to determine whether the wetland is significant as an educational resource.

Following is a summary of the key functions evaluated.

- *Wildlife habitat:* This function addresses the habitat diversity for species usually associated with wetlands, without emphasizing one particular species. A diverse plant community typically increases animal community diversity. The OFWAM assesses whether wetlands provide diverse habitat for wildlife, provide habitat for some wildlife species, or provide no habitat function.

- *Fish habitat:* This function addresses how a wetland contributes to fish habitat in streams, ponds or lakes associated with a wetland. The questions are suitable for both warm water and coldwater fish and no particular species are emphasized. Wetlands that support fish habitat include those with adjacent vegetation that provides shade, cover, and food sources. Under OFWAM, a wetland's fish habitat function can be assessed as intact, impacted or degraded, or lost or not present.

[2] Data from numerous off-site determinations is also included in this appendix.
[3] These files contain documentation on wetland investigations and concurrence letters from DSL validating the report findings.

- *Water quality:* This function addresses the potential of a wetland to reduce the impacts of excess nutrients in stormwater runoff on downstream waters. A wetland can contribute to water quality by trapping sediment during periods of heavy rainfall, keeping it from entering adjacent downstream resources. It also traps nutrients such as nitrogen and phosphorus, helping to minimize algal blooms and subsequent oxygen deficiencies downstream. Under OFWAM, a wetland's water quality function can be assessed as intact, impacted or degraded, or lost or not present.

- *Hydrologic control:* This function addresses the effectiveness of a wetland in reducing downstream flood peaks and storing floodwaters. Wetlands can act as flood regulators, trapping water during periods of high precipitation or flooding, and then slowly releasing the flow downstream. Under OFWAM, a wetland's hydrologic control function can be assessed as intact, impacted or degraded, or lost or not present.

- *Education:* This function addresses the suitability of a wetland to provide educational opportunity on land that is open or accessible to the public. Easily accessible wetlands with a diversity of plants and animals are useful in outdoor education. Under OFWAM, a wetland can have educational uses, have the potential to provide such uses, or may not be appropriate for such uses.

Winterbrook used a OFWAM field form to characterize wetlands and address specific functions that required field observation. Data collected in the field included wetland Cowardin classes, the presence and extent of vegetative cover and wetland hydrology, the character of adjacent water bodies, and other field data essential to the OFWAM assessment. The field evaluations were generally conducted from viewing areas near wetland sample plots, or from neighboring public lands where property access was not granted or the property was not accessible.

The OFWAM assessments were completed in the office using field data, aerial photographs, maps, and information gathered from public agencies such as:

- Oregon Department of Environmental Quality (DEQ);
- Oregon Department of Fish and Wildlife (ODFW);
- Oregon Department of Forestry (DOF);
- Oregon Natural Biodiversity Center (ORBIC); and
- U.S. Fish and Wildlife Service (USFWS).

The assessment result is a determination of whether a function is high (intact or diverse), moderate (impacted/degraded), or low (lost or not present). Factors such as size of wetland, biological diversity, presence of rare or sensitive species, and adjacent land uses are used in the rating system. These ratings are used in the evaluation of wetland significance as discussed below. For example, any wetland with a "diverse" wildlife habitat function, or an "intact" fish habitat, water quality or hydrologic control function meets a criterion for a "locally significant wetland."

Wetlands of Special Interest for Protection

The OFWAM also includes a set of questions to assess whether any wetlands within the study area should be considered Wetlands of Special Interest for Protection (WSIP). The questions address whether a wetland is in a management plan or is protected by regulatory rules and statutes. They address topics such as the presence of threatened, endangered and sensitive species or critical habitat, whether the wetland is considered rare or unique. An affirmative answer to any one of the ten questions will place the wetland into the WSIP category.

Locally Significant Wetland Criteria

Following completion of the LWI and the OFWAM functional assessment, all wetlands were evaluated against DSL's wetlands significance criteria (OAR 141-086-0350). In addition to a high rating for any of the four aforementioned functions (wildlife habitat, fish habitat, water quality and hydrologic control), the State's mandatory criteria include wetlands that:

- Are located within 1/4-mile of a "water quality limited stream" and have "intact" or "impacted or degraded" water quality function;
- Contain one or more rare plant communities;
- Are inhabited by any species listed by the federal government as threatened or endangered, or listed by the state as sensitive, threatened or endangered; or
- Have a direct surface water connection to a stream segment mapped by the ODFW as habitat for indigenous anadromous salmonids, and have "intact" or "impacted or degraded" fish habitat function.

The DSL rule includes two additional criteria used to determine the significance of wetlands at the discretion of the local government agency. These criteria are:

- The wetland represents a locally unique native plant community; and,
- The wetland is publicly owned and determined to "have educational uses" using OFWAM, and such use by a school or organization is documented for that site.

These optional criteria were evaluated but no wetlands were found to meet either criterion.

Mapping Procedures

Field maps were prepared using digital color ortho-photographs.[4] Information shown on the field maps included existing wetland data such as DSL wetland determinations, NWI wetlands, and the 2004 ODOT *Salmon Resource and Sensitive Area Mapping* (SRSAM) Survey. Additional information included hydric soils, soils with hydric inclusions, topography, streams, water bodies, property boundaries, and public rights-of-way. All data were geo-referenced with the City's aerial imagery and parcel data. Other aerial based maps were used to obtain more detailed information. For example, Google Earth and Bing Maps provided high-resolution, recent

[4] The City's latest available imagery is from 2005 and 2006, but Winterbrook also consulted 2011 aerial imagery, using Google and other mapping sources.

aerial images that allowed evaluation of vegetation communities and, in some cases, observation of standing water or saturated soils.

Wetlands and sample plots were mapped on the field maps and selected GPS waypoints were taken at data plots and along wetland boundaries. Additional reference points were used to establish the location and perimeter of each wetland polygon. These references included property lines (e.g., survey corner markers), building lines, streets, utilities, streams, trees and other mapped physical features that could aid determination of location and distances on the ground. Wetland boundaries and sample plots were then digitized and registered with the base map in GIS.

Public Involvement Process

Public Outreach

Public outreach for the Pendleton LWI began in May 2011. Field representatives began site visits and discussions with local residents. The City held a joint Planning Commission/ City Council work session on May 26, 2011, covering the City's Periodic Review Work Program and Comprehensive Plan updates, which included preliminary information on Goal 5 wetland resources and the planned LWI process. The Planning Commission held public hearings on these plans on June 30, July 21, and August 4, 2011. These hearings were followed by City Council hearings on August 16 and September 20, 2011 (adoption date for Ordinance 3814).

In Phase 2 of the LWI project, the City mailed letters notifying potentially affected landowners about the LWI process on March 27, 2011. The letters contained information on the LWI process, planned data collection methods and how that information would be used. The notification letters also contained a right-of-entry request for landowners and an invitation to a LWI open house on April 18, 2011.

In early April 2011, Winterbrook staff contacted property owners who responded to the notice to arrange site visits. All owners who responded were called, and Winterbrook field staff met on site with most owners or their representatives.

On April 18, 2011, an open house was held at Pendleton City Hall. In addition to property owners, the meeting was attended by City of Pendleton and Winterbrook Planning staff, and representatives from DLCD and DSL. The open house provided information about the LWI process, preliminary mapping, and answered questions from landowners.

Following completion of the September 2012 draft LWI report, appendices and maps, the City of Pendleton posted the draft documents to its web site for public review and input (as of March 2013, these documents remain posted).

On November 27, 2012, the City issued a press release inviting the public to a December 6 Open House to "provide the public an opportunity to view, ask questions and comment on the proposed Local Wetland Inventory." The press release was posted to the web site and mailed to potentially affected property owners.

On December 6, 2012, the City hosted the public Open House. Representatives from DSL and other agencies attended, as did members of the City Council and City Planning Commission. Two landowners attended and commented that the maps were generally accurate: the wetlands on their property are distinct and well-documented.

Agency Coordination

Winterbrook initiated coordination with DSL in January, 2011, with requests for DSL wetland determination files. Additional files were provided in April, 2011, prior to the initial field visits. DSL coordination continued in March, 2012, with additional data requests and coordination on the April 2012 public open house. Winterbrook toured multiple field sites with DSL's representative on April 18 and 19, 2012. Additional DSL field tours were conducted in early December 2012, and a DSL representative attended the open house on December 6, 2012.

Other agency contacts and coordination included the ORBIC and ODFW, which provided data on sensitive plant and animal species within two miles of the study area. Other data sources included the City of Pendleton's Planning and Public Works Departments, Umatilla County's GIS Department, and other agencies identified previously in this report. Throughout the LWI process, Winterbrook has been in regular contact with DLCD representatives.

Inventory Results

Overview

This LWI provides maps and information about wetlands located within the Pendleton study area, which includes the City's UGB and its URA. The LWI serves as a planning tool for balancing the protection of wetland functions with other community needs.

The LWI was conducted in two phases: 1) a planning and preliminary field inventory phase, in which existing wetland data and maps were compiled and initial field data collected; and 2) a follow-up planning and field inventory phase, which included field assessments, landowner meetings and a public open house. Winterbrook completed Phase 1 between January and June 2011, and Phase 2 between February and July 2012. Site visits were conducted from May 17-19, 2011 and April 16-20, 2012. A total of four wetlands were identified within the study area, in addition to 17 "probable wetlands" of less than one-half acre in size[5]. Wetlands within the Pendleton UGB range from one-half to nine acres in size. The total area of wetlands within the City is 14.3 acres.

Winterbrook evaluated the wetlands to determine whether any met the criteria for Wetlands of Special Interest for Protection. None of the wetlands evaluated in this LWI met those criteria.

Winterbrook evaluated inventoried wetlands against the state's criteria for Locally Significant Wetlands (LSW) and found that all of the wetlands met the criteria.

[5] A significant number of previously mapped wetlands were found to be: 1) less than one-half acre (mapped PW); 2) no longer present; or 3) within the ordinary high water boundary of Umatilla River or other waterways and therefore defined as "waters of the State."

The total area of significant wetlands is 14.3 acres or 0.15 percent of the LWI Study Area.

Special Conditions in Pendleton

The Pendleton area is crossed by small tributaries running north and south and the Umatilla River flowing east to west. Despite this, wetlands are relatively uncommon in the landscape. The reasons for this are related to topography and geology. The tributaries generally flow through sloping topography. There are few flat areas where water could naturally collect or impound, so water flows through this landscape quickly. Peak flows during flash flooding and/or sudden snowmelt runoff help maintain the flow-through quality of the landscape by washing away woody vegetation that could block the channel and facilitate creation of impoundments.

Geology also plays a role in the absence of wetlands. Soil throughout the study area is highly erodible, particularly in the tributary corridors where soil is generally a fine sandy loam or silt loam with little cohesiveness and little gravel or cobble to create a more stable matrix. With the lack of resistance to the friction created by high flows, most streams show some evidence of downcutting, which further smooths the channel and disconnects the stream from the adjacent floodplain, facilitating the outflow of surface water.

A second way that geologic conditions affect the formation of wetlands in the study area is soil drainage. Soil in the riparian zones drains freely, both within the soil profile itself and the stonier alluvial layer that underlays the upper soil horizons. Along the Umatilla River and the larger streams, water freely infiltrates the soil, driving oxygen out of the soil profile. When the high flows recede, that water drains freely out of the soil profile rather than being retained as it would be in soil with a greater clayey fraction or higher organic content. Consequently, soil saturation is highly correlated in duration with the surface water elevation; when high flows recede, the adjacent soil profile responds rapidly and the duration of soil saturation is insufficient to develop redoximorphic hydric soil characteristics.

As noted previously, most of the soils in the study area are classified as well-drained soils. There is just a trace (0.4 acre) of hydric soil within the entire 9,282-acre study area, though soils with hydric inclusions are more common.

Pendleton Stream Systems

This section reviews the conditions of the primary rivers and streams within Pendleton. The City's wetlands are generally associated with the Umatilla River and its tributary streams. As noted previously, most smaller (<0.5 acre) "probable wetlands" are located along the stream corridors as well.

Umatilla River

The Umatilla River is a lower perennial stream that receives water from all of the streams in the study area. It is designated as Essential Fish Habitat and a Water Quality Limited stream. Total Maximum Daily Loads have been established for several pollutants, including nutrients, temperature, and bacteria. The river flow generally peaks in May and June, coinciding with pulses in runoff and/or snowmelt. However, the river and its tributaries are very responsive to heavy precipitation events. During the April 2012 field inventories, Winterbrook noted river debris caught in trees 3 to 4 feet higher than the current water level, which was already inundating large trees on islands, gravel bars, and along the river's edge.

Winterbrook evaluated several terraces along the river corridor. The river has formed secondary channels at many locations. These features convey high flows and often interface with areas of groundwater discharge where the river channel intersects with a perched or true water table. Riparian soils are generally alluvial in origin and their porosity and excellent drainage allows interchange of water with the river as well as free percolation of direct precipitation and overland flow. Gravel bars and other areas adjacent to the river readily saturate with flows as the river rises, and freely discharge that water as the river's surface elevation drops; consequently, duration of saturation in riparian soil is limited to that period when the water levels in the river are high.

The riparian corridor is well vegetated. Common species include sandbar willow, box elder, snowberry, reed canarygrass, bromes, and poison-hemlock. Below the Ordinary High Water (OHW), there are areas where hydrophytes are present, but where flows are high, the ground is more likely bare or poorly vegetated. Based on the size of cobble moved in some areas via bedload, the river carries tremendous force at peak flow.

The soil/substrate is erodible, even where stony, particularly where unanchored by trees and shrubs. Soils are generally bright and lacking redoximorphic activity considering their periodic inundation (10YR 3/2 to 4/2, fine sandy loam on terraces, stonier below OHW), suggesting that saturation is periodic but of insufficient duration to create extended periods of anaerobiosis required to create the characteristic iron and manganese concentrations or matrix depletion. Consequently, most soils fail to exhibit indicators of hydric soils, even below OHW. However, using the Problem soil methodology in Chapter 5 of the Arid Lands supplement, vegetated floodplains are considered a hydric soil.

McKay Creek

This perennial stream has high flow variation; spring flows can be very high, as evidenced by wrack lines on gravel bars. There was evidence of overbank flow along some sections of bank, but no evidence of general flooding in the area. The riparian cover is narrow where it still exists, and park and residential uses have restricted it to a ribbon of one or two tree canopy widths along the stream. Tree species include black cottonwood, box elder, Russian olive, and Pacific willow, with other areas of Geyer willow shrubs forming small thickets. Reed canarygrass, bromes, and more rarely, sedges and rushes are common herbaceous species in moist areas. Upstream of the Community Park to the edge of the UGB, residential yards abut the stream and the riparian fringe narrows.

The character of the stream is similar to other tributaries in the Umatilla River basin. Streambanks tend to be steep and erodible, with areas of slumping at the margins. McKay Creek also contains generally unvegetated gravel bars within the channel, some large enough to show some braiding.

MC-1 is the only wetland mapped in the McKay Creek drainage. This wetland is an off-channel feature that receives surface flows as the elevation in McKay Creek rises. The low end of the wetland nearest the confluence with McKay Creek is herbaceous, with a scrub-shrub dominated wetland at the higher end.

Tutuilla Creek

Tutuilla Creek is a tributary of the Umatilla River, and the receiving water of Patawa Creek near Nye Street. From the confluence with the Umatilla River to the SW Hailey Ave. bridge (above Hwy. 395), this perennial stream is confined between the adjacent hillside and freeway or roadway embankment. Riparian cover consists of occasional cottonwood, Russian olive, and box elder trees and larger patches of sandbar willow with reed canarygrass, bromes, wildrye, and thistle. Upstream of Tutuilla Road, the stream was about 20 feet wide, with short slopes ranging from vertical to 1:1 up approximately three feet to a flat terrace. The terrace did not show overbank flow. The stream appears to be downcutting and bank erosion was noted. Sandbar willow cover was about 80 percent at this location, with minimal herbaceous vegetation below top of bank. The adjacent terraces supported cheatgrass, ripgut brome, blue wildrye, and bulbous bluegrass. At the Patawa Creek confluence at Nye Street., the channel cross-section is much wider and flatter than at Tutuilla Road, allowing for laid-back slopes and a braided channel. This area showed severe erosion: the water's force was sufficient to uproot sandbar willow and reed canarygrass. This reach had some herbaceous vegetation in the outer margins, but the entire channel and floodplain showed signs of heavy water damage or thick sediment deposition.

The erodible uplands around Tutuilla Creek were noted be slumping into the channel. These features are generally small with some vegetated areas of ground below the top of bank but above the low-flow channel of the creek. Because of their small size, the high erodibility of the soil, and apparent force of the water, these features are likely transitory in size and location.

Patawa Creek

Patawa Creek is a tributary of Tutuilla Creek, flowing into Tutuilla Creek at Nye Street. Patawa Creek is very similar to the lower reaches of Tutuilla Creek, with heavy shrub and herbaceous cover on a terrace above the stream. This creek has a defined channel and narrow floodplain. The stream and floodplain are contained by steep slopes leading to a higher terrace well above the active floodplain. Both the streambank itself and the steep slopes confining the floodplain are subject to frequent slumping, scour, and erosion; the entire corridor is dynamic due to highly erodible soils and a stream hydroperiod that has high peak flows.

Vegetation consists mainly of shrub-scrub and herbaceous plants in the channel and floodplain area, becoming almost exclusively herbaceous in the uplands. The most prevalent dominant

species in channel areas is reed canarygrass; upland dominants include bromes grasses and thistle.

Nelson Creek

This feature is a channel with minimal irregular floodplain. The dominant vegetation species in the channel are poison hemlock, bromes, quackgrass, and cotton thistle. There is little to no tree cover. Adjacent areas are dominated by bromes, thistles, tumble mustard, and goldenrod. This is likely an ephemeral stream, drying quickly after cessation of rain and snowmelt and with minimal if any groundwater discharge during the growing season. Culverts are apparently sized for flash flood events, and the channel is hardened at several locations. Based on observed hydrologic conditions and lack of hydrophytic vegetation, no LWI wetlands were identified along Nelson Creek.

Wildhorse Creek

This is a perennial stream with a wetted perimeter of about 24 feet (at limited observation points). Reed canarygrass, poison hemlock and sandbar willow are dominant on low terraces that likely flood frequently but for short duration. High terraces are in residential or commercial use; where commercial salvage operations are present, areas are completely disturbed. Mature trees on second higher benches are mostly elms. Residential areas are highly disturbed and used for livestock, parking areas, houses and ancillary structures related to on-site uses. Where vegetation is present, lawn and ornamental species have replaced natives.

Wetland Classes

Wetlands in Pendleton fall into four primary (Cowardin) classifications: Palustrine Forested, Palustrine Emergent, Palustrine Aquatic Bed, and Palustrine Unconsolidated Bottom. These classifications are summarized below.

- *Palustrine Forested Wetlands (PFO)*

  Forested wetlands generally include wetlands or portions of wetlands with cover by woody species over 20 feet in height exceeding 30 percent. Forested wetlands were noted at one location, Wetland UR-3, found along the lower reach of the Umatilla River south of Reich Road. This wetland could not be accessed during field surveys but from off-site, black cottonwood was dominant tree species; sandbar willow also occurs in the canopy. The emergent layer was dominated by invasive, non-native reed canarygrass. This wetland type generally provides good quality habitat for a variety of birds, mammals, amphibians and aquatic organisms.

- *Palustrine Scrub-Shrub (PSS)*

  Scrub-shrub wetlands are transitional habitats characterized by woody species less than 30 feet in height. Scrub-shrub wetlands are components of two Pendleton wetlands, MC-1 and UR-1. Sandbar willow is the dominant plant species. Emergent species at these sites are limited in diversity and often dominated by reed canarygrass or cattail. These wetlands

provide food, cover, and nesting habitat for insect-eating birds such as swallows, warblers, and flycatchers and small mammals. Structural and species diversity is low to moderate.

- *Palustrine Emergent Wetlands (PEM)*

  Emergent wetlands include marshes and shallow ponds dominated by grasses and other herbaceous plants. These resources generally have less than 30 percent cover by trees and/or shrubs and greater than 30 percent cover by grasses, grasslikes, and other herbaceous flora. This is the most common wetland type within the study area and all inventoried wetlands contained a PEM component. Most emergent wetlands in Pendleton are dominated by reed canarygrass. Other species include cattail, sedges, rushes, and both native and non-native grasses. Small mammals and snakes are commonly found within this habitat type, which in turn attract raptors and larger mammals that feed upon them. Overall habitat value of this wetland type is low to moderate, depending of the extent of reed canarygrass infestation and the interspersion with other habitats.

- *Palustrine Unconsolidated Bottom Wetlands (PUB)*

  Palustrine Unconsolidated Bottom habitats generally include small ponds and standing water habitats whose substrate is undetermined and whose plant cover does not exceed 30 percent. Ponded areas provide important habitat for fish, aquatic invertebrates, water-dependent mammals, waterfowl and shorebirds. In Pendleton, Wetlands UR-1 and UR-2 contained areas with this type of habitat.

Summary

Table 3 summarizes the distribution of wetlands by Cowardin classification within the UGB. It should also be noted that some wetlands contained a patchwork of classes; however, only distinct Cowardin classes of more than one-quarter acre were mapped.

Table 3. Wetland Cowardin Classifications

Cowardin Class	Area (acres)
PFO	1.46
PSS	1.01
PEM	8.36
PUB	3.43
Total	**14.26**

The hydrogeomorphic (HGM) classification for two of the City's wetlands was Riverine Flow-through (RFT). The total area of RFT wetlands is 4.39 acres. Wetland UR-1 is classified as Riverine Impounding (RI) and UR-2 is Depressional Closed, Permanently Flooded (DCP). The total area of these classes is 9.33 acres and 0.55 acres, respectively.

Table 4 provides a summary of the classification and size of wetlands by watershed within the study area. The wetlands are mapped in Figure 1.

Table 4. Wetland Classification and Size

Wetland code	Cowardin Class/Subclass	HGM Class	Area (acres)
MC-1	PEMC, PSSC	RFT	0.68
UR-1	PEMC, PSSC, PUB	RI	9.33
UR-2	PEMC, PUB	DCP	0.55
UR-3	PEMC, PFOC	RFT	3.71
Total			14.26

Wetland Assessment Results

Winterbrook assessed wetland quality for each wetland unit using the Oregon Freshwater Wetland Assessment Methodology (OFWAM). As provided in the updated 2009 LWI rules, only the four wetland functions (wildlife habitat, fish habitat, water quality, hydrologic control) need to be assessed, since they relate directly to the wetland significance criteria. In addition, where a wetland was located on public lands, education functions were assessed to determine whether the wetland was significant as an educational resource. Table 5 provides the results of the OFWAM assessments for the four key wetland functions.

Table 5. OFWAM Assessment Results

Wetland Code	Wildlife	Fish	Water Quality	Hydrologic Control
MC-1	Some	Impacted	Intact	Impacted
UR-1	Diverse	Impacted	Intact	Intact
UR-2*	Some	N/A	Impacted	Impacted
UR-3	Diverse	Impacted	Impacted	Intact

* This wetland also has potential educational uses.

In short, all wetlands provided wildlife habitat functions and two of them provide diverse habitat. Fish habitat functions of wetlands were impacted or non-existent. Two of the wetlands provide intact water quality functions and two provide intact hydrologic control functions.

Significant Wetlands Determination

Following completion of the wetland inventory and functional assessment, Winterbrook evaluated all wetlands against DSL's wetlands significance criteria.

To be considered for significance, wetlands must not meet any of the following exclusions:

- Wetlands artificially created entirely from upland that are:
  1. Created for the purpose of controlling, storing, or maintaining stormwater; or
  2. Active surface mining or active log ponds; or

3. Ditches without a free and open connection to natural waters of the state and which do not contain food or game fish; or
4. Less than one acre in size and created unintentionally as the result of:
   a. Irrigation water overflow or leakage; or
   b. Construction activity not related to compensatory mitigation for permitted wetland impacts; or
5. Of any size and created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.

- Wetlands or portions of wetlands that are contaminated by hazardous substances, materials or wastes as per the following conditions:
  1. The wetland is documented as contaminated on either the U.S. Environmental Protection Agency's (EPA) National Priority List, or the Department of Environmental Quality's (DEQ) Inventory of Hazardous Substance Sites.
  2. Only the portion of the wetland affected by such hazardous substances or wastes shall be excluded from the LSW analysis. Affected portions shall be delineated in consultation with EPA and DEQ, and shall include areas potentially disturbed by clean-up activities.
  3. Contaminated wetlands that have subsequently been removed from the NPL or DEQ Inventory following clean-up shall be re-evaluated under the LSW criteria at the next periodic review.

Wetlands not meeting any of the exclusions above must meet one or more of the following mandatory criteria to be deemed LSWs:

1. Wetland provides a diverse wildlife habitat, intact fish habitat, intact water quality function, or intact hydrologic control function;
2. Wetland is located within 1/4-mile of a “water quality limited stream” and has “intact” or “impacted or degraded” water quality function;
3. Wetland contains one or more rare plant communities;
4. Wetland is inhabited by any species listed by the federal government as threatened or endangered, or listed by the state as sensitive, threatened or endangered; or
5. Wetland has a surface water connection to a stream that is habitat for indigenous anadromous salmonids and has “intact” or “impacted or degraded” fish habitat function.

In addition to the mandatory criteria, wetlands meeting either of the following optional criteria were also determined to be locally significant wetlands in Pendleton. These criteria are:

1. Wetland represents a locally unique native plant community; or
2. Wetland is publicly owned and has educational uses.

As shown in Table 6 on the following page, none of the inventoried wetlands met the exclusions identified above. All wetlands met one or more of the above criteria and were determined to be significant. None of the wetlands met the optional criteria.

Next Steps

The next step in the LWI process is the DSL review of the draft LWI products, including the LWI report, appendices and maps. Two DSL staff representatives have toured parts of the study area and attended public meetings. Winterbrook has received preliminary comments from DSL review staff, and these comments are addressed in this report and attached maps.

Once DSL has completed its review of the Pendleton LWI, it will issue a written approval of the LWI. Following approval, the City will notify affected landowners. Pendleton's wetland planning process is expected to be completed in 2013.

Table 6. OFWAM Wetland Assessment and LSW Results

			Mandatory Criteria								*Optional Criteria*		Locally Signifi-cant Wetland?
			OFWAM Thresholds (diverse wildlife habitat, intact fish habitat, intact water quality or intact hydrologic control function)				**¼ Mile of WQL Stream**	**Rare Plant Community**	**Listed Species**	**Directly Connects to Salmon Habitat**	**Local Unique Native Plant Community**	**Public With Educational Use**	
Wetland Code	**Acres**	**Exclu-sion?**	**Wildlife**	**Fish**	**Water Quality**	**Hydrologic Control**							
MC-1	0.68	No			Intact		Yes	No	N/D	Yes	No	No	Yes
UR-1	9.33	No	Diverse		Intact	Intact	Yes	No	N/D	Yes	No	No	Yes
UR-2	0.55	No					Yes	No	N/D	No	No	No	Yes
UR-3	3.71	No	Diverse			Intact	Yes	No	N/D	Yes	No	No	Yes

WQL: Water quality limited (per DEQ)
N/D: None Detected (based on incidental observation during inventory; a formal sensitive species survey was not completed for this project).

Appendix A. Definitions

Basin – a topographical entity within which all the surface water draining to a single point falls; some of the surface water may have come from groundwater fed by geological strata outside the basin.

Cowardin Class or **subclass** – the wetland classification according to the U.S. Fish and Wildlife Service's *Classification of Wetlands and Deepwater Habitats of the United States*, Cowardin et al., 1979.

Emergent – a plant that grows rooted in shallow water, the bulk of which emerges from the water and stands vertically. Usually applied to non-woody vegetation.

Emergent Wetland – a subclass of palustrine system (see Cowardin Class above), a wetland characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens.

Enhancement – an improvement in the functions and values of an existing wetland, forest, or other natural resource.

Exotic species – -plants that are not indigenous to the Pacific Northwest (see invasive species).

Field Verification – to walk over and/or visually check an area, for example, to make a wetland determination and map wetlands (this may or may not include collecting sample plot data).

Fish habitat – those areas upon which fish depend in order to meet their requirements for spawning, rearing, food supply, and migration.

Floodplain – river valley apart from the river channel which is inundated only in a flood event, attenuating the flood discharge. The 100-year floodplain shows the flood with a 100-year recurrence interval.

Forested Wetland – a subclass of palustrine system (see Cowardin Class above), a wetland characterized by woody vegetation that is six meters (20 feet) tall or taller.

Geographic Information System (GIS) – a system of hardware, software and data storage that allows for the analysis and display of information that has been geographically referenced.

Global Positioning System (**GPS**) – is a navigation satellite system transmitting signals that allow GPS receivers to determine the receiver's location, speed and direction. Its primary use for the Pendleton inventory is to provide accurate field position data for use in GIS (see above) to verify the location of natural features such as landslide areas, wetlands and streams.

Goal 5 – Statewide Planning Goal (OAR Chapter 660, Division 23) intended to protect natural resources and conserve scenic and historic areas and open spaces.

Goal 5 Inventory – a survey, map, or description of one or more resource sites that is prepared by a local government, state or federal agency, private citizen, or other organization and that includes information about the resource values and features associated with such sites.

Growing season – the portion of the year when soil temperatures are above biologic zero at 50 cm (19.7").

Herbaceous – with the characteristics of an herb; a plant with no persistent woody stem above ground.

Hydric soil – a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Hydrogeomorphic (HGM) or **subclass** means the hydrogeomorphic classification of the wetland based upon its landscape position and hydrology characteristics, according to the HGM classification developed by the Department of State Lands.

Hydrologic Soil Group – The hydrologic soil group refers to the infiltration potential of the soil after prolonged wetting. There are four groups, generally described as follows:

- Group A Soils: High infiltration (low runoff). Sand, loamy sand, or sandy loam.
- Group B Soils: Moderate infiltration (moderate runoff). Silt loam or loam.
- Group C Soils: Low infiltration (moderate to high runoff). Sandy clay loam.
- Group D Soils: Very low infiltration (high runoff). Clay loam, silty clay loam, sandy clay, silty clay, or clay.

Hydrology – The properties, distribution, and circulation of water.

Hydrophyte – Any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

Hydrophytic vegetation – See hydrophyte.

Invasive species – Those species which become established easily in disturbed conditions, reproduce readily, and often establish monocultures. Most invasive plants are non-native species. Examples of common invasive species in Pendleton are: Himalayan blackberry and reed canarygrass.

Indicator – The soil, vegetation, and hydrology characteristics or other field evidence that indicate that wetlands are present.

Indigenous Anadromous Salmonids – Chum, sockeye, Chinook and Coho salmon, and steelhead and cutthroat trout that are members of the family Salmonidae and are listed as sensitive, threatened or endangered by a state or federal authority.

Local Wetlands Inventory (LWI) – A collection of maps and information about wetlands throughout a local community that provides a planning tool for balancing the protection of

wetland functions with other community needs. LWIs satisfy the requirements for wetland inventories under Statewide Planning Goal 5. Once approved, LWIs become part of the Statewide Wetlands Inventory. Mapped LWI wetland boundaries are generally accurate to within 5 meters, but may be less in areas that could not be field verified. A wetland boundary delineation may be needed to determine whether regulations apply to a development proposal.

Locally Significant Wetlands (LSW) – Those wetland sites that provide functions or exhibit characteristics that are pertinent to community planning decisions made at a local scale, for example, within a UGB. These wetland sites shall be identified by local governments according to the criteria and procedures in sections 141-086-0340 and 141-086-0350.

National Wetlands Inventory (NWI) – an inventory of wetland maps and geospatial wetland data covering the location, classification and approximate extent of wetlands in the United States.

Native Plant Community – A recognized assemblage of plant species indigenous to Oregon. All such wetland plant communities are listed in the Classification and Catalog of Native Wetland Plant Communities in Oregon (Oregon Natural Heritage Information Center).

Offsite Determination – A wetland determination conducted without field verification using NWI maps, soils maps, and aerial photographs.

Ordinary high-water mark – The line on the shore established by the fluctuations of water and indicated by physical characteristics such as: a clear, natural line impressed on the bank; changes in the character of soil or vegetation; shelving; or the presence of a line of litter or debris.

Oregon Freshwater Wetland Assessment Methodology (OFWAM) – The method adopted by the State to evaluate and rate the relative quality of a wetland by measuring its condition and its capacity to perform certain functions, including wildlife habitat, fish habitat, water quality, and hydrologic control. The results of the OFWAM rating is used as a basis for determination of wetland significance.

OFWAM Evaluation Descriptor – a summary statement describing whether the wetland is (1) intact, (2) impacted or degraded, or (3) function is lost or not present.

Other Waters – means waters of the state other than wetlands, such as streams and non-vegetated ponds.

Probable Wetland (PW) – an area noted during the course of LWI development that appears to meet wetland criteria but is less than one half of an acre in size or is small and of undetermined size, and is mapped as a point rather than a polygon on the LWI maps.

Rare Plant Community – Relictual, uncommon or unique in Oregon, determined by number of occurrences and threats following national heritage program criteria (i.e., rarity ranking of G1-G3 or S1-S3).

Reach – A length of channel with uniform characteristics.

Restoration – Restoration is the process of repairing damage to the diversity and dynamics of ecosystems. Ecological restoration is the process of returning an ecosystem as closely as possible to predisturbance conditions and functions.

Sample Plot – A specific area on the ground where soils, vegetation and hydrology data are recorded on a field data form in order to make a wetland determination.

Scrub-shrub Wetland – A subclass of palustrine system (see Cowardin Class above), areas dominated by woody vegetation less than 6 meters (20 feet) tall. The species include tree shrubs, young trees, and trees or shrubs that are stunted because of environmental conditions.

Significance Determination – The significance determination of a Goal 5 resource is based on:

(a) The quality, quantity, and location information;
(b) Supplemental or superseding significance criteria set out in OAR 660-023-0090 through 660-023-0230; and
(c) Any additional criteria adopted by the local government, provided these criteria do not conflict with the requirements of OAR 660-023-0090 through 660-023-0230.

Soil Map Unit – A conceptual group of one to many delineations identified by the same name in a soil survey that represent similar landscape areas comprised of either: (1) the same kind of component soil, plus inclusions, or (2) two or more kinds of component soils, plus inclusions, or (3) component soils and miscellaneous area, plus inclusions, or (4) two or more kinds of component soils that may or may not occur together in various delineations but all have similar, special use and management, plus inclusions, or (5) a miscellaneous area and included soils.

Statewide Wetlands Inventory (SWI) – an inventory that contains at minimum the location, type (e.g. classification) and approximate extent of wetlands in the State of Oregon. This inventory is continually revised as additional information is received or obtained by DSL.

Stream – A watercourse created by natural processes, or one that would be in a natural state if it were not for human-caused alterations. Stream includes a channelized or relocated stream.

Top of Bank – Has the same meaning as “bankfull stage” defined in OAR 141-085-0010(2). The stage or elevation at which water overflows the natural banks of streams or other waters of this state and begins to inundate the upland. In the absence of physical evidence, the two-year recurrence interval flood elevation may be used to approximate the bankfull stage.

Visually Confirm or **Visual Confirmation** – to walk over and/or visually check an area to make a wetland determination and map wetlands and other waters.

Wetland – an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetland Assessment or **Functional Assessment** – An evaluation and rating of the relative quality of a wetland by measuring its condition and its capacity to perform certain functions.

Wetland Boundary – A line marked on a map that identifies the approximate wetland/non-wetland boundary.

Wetland Condition – The integrity of a wetland's physical and biological structure, which determines the wetland's ability to perform specific functions, as well as its resilience and enhancement opportunities.

Wetland Delineation Manual or **1987 Manual** – Provides technical guidelines and methods to determine whether an area is a wetland for purposes of Section 404 of the Federal Clean Water Act. The objective of the Act is to maintain and restore the chemical, physical, and biological integrity of the waters of the United States.

Wetland Determination – A decision that a site may, does, is unlikely to, or does not contain wetlands. A determination does not include the precise location or boundaries of any wetlands determined to be present.

Wetland Function – Characteristic action or behavior associated with a wetland that contributes to a larger ecological condition such as wildlife habitat, fish habitat, water quality, and/or flood control.

Wetland Hydrology – The total of all wetness characteristics in areas that are inundated or have saturated soils for a sufficient duration to support hydrophytic vegetation.

Wetland Indicator Status – Categories of plant species based upon the estimated probabilities (expressed as a frequency of occurrence) of a species occurring in a wetland or non-wetland. Wetland indicator status (WIS) includes the following:

- Obligate (OBL): species that almost always occur in wetlands under natural conditions (estimated probability >99%).
- Facultative wetland (FACW): species that usually occur in wetlands (estimated probability 67 to 99%), but are occasionally found in non-wetlands.
- Facultative (FAC): Species that are equally likely to occur in wetlands or non-wetlands (estimated probability 34 to 66%).
- Facultative upland (FACU): species that usually occur in non-wetlands (estimated probability 67 to 99%), but are occasionally found in wetlands.
- Upland (UPL): species that almost always occur in non-wetlands under normal conditions (estimated probability >99%).
- Not listed (NL): species that are not listed and are presumed to be upland species.
- No indicator status (NI): species that have not yet been evaluated.

A (+) or (-) following the WIS signifies a greater or lesser likelihood of being found in wetlands.

Wetland Mosaic – A complex of several wetlands that are interspersed between areas of non-wetland each less than one half of an acre in size, making them difficult to map.

Wildlife Habitat – An area upon which wildlife depend in order to meet their requirements for food, water, shelter, and reproduction.

Appendix B. Wetland Characterization Sheets

Pendleton Local Wetland Inventory

Wetland Characterization Sheet

GENERAL INFORMATION

Wetland Code:	MC-1	Method:	Onsite
Wetland Size:	0.68 acres	Field Date(s):	4/17/2012
Cowardin Class:	PEMC, PSSA	Data Plot #s:	4, 5, 6
HGM Class:	RFT	Investigators:	TB/ACS

LOCATION

Street/landmark: McKay Creek near north end of SW 44th Street

Legal/tax map: 2N3200, tax lot 100, 2N3215BB, tax lot 902

Sub-basin code: McKay Creek

WETLAND CHARACTERISTICS

Description: This is an off-channel wetland that is separated from McKay Creek by a berm. The berm is discontinuous at the downstream end, allowing high flows to enter the wetland. The wetland is also fed by groundwater discharge via a permeable soil layer with visible flow on the landward (south) side. The berm is experiencing erosion from high flows in McKay Creek.

The low, downstream (west) end of the wetland near its connection with McKay Creek is dominated almost exclusively by yellow flag iris, with small amounts of native sedges and rushes in wet areas and black cottonwood on the berm. The upstream (east) portion is a shrub-scrub feature dominated by Geyer willow.

Soils: 29A – Freewater very cobbly loam, 0-3% slopes

Hydrologic Source: McKay Creek; groundwater discharge

Dominant Vegetation:

Trees	Shrubs	Vines/Herbs
Populus balsamifera v. trichocarpa (black cottonwood)	*Salix geyeriana* (sandbar willow)	*Iris pseudacorus* (yellow flag iris)

Potential Enhancement Opportunities: Property owner appeared very interested in enhancing wetland during on site meeting. Opportunities include the following:

- Elimination of noxious weeds, particularly the iris.
- Supplemental planting of native trees, shrubs, groundcover
- Limiting herbicide/fertilizer application on adjacent farm fields to protect water quality in high water table

Pendleton Local Wetland Inventory

Wetland Characterization Sheet

GENERAL INFORMATION

Wetland Code:	UR-1	Method:	Onsite
Wetland Size:	8.96 acres	Field Date(s):	5/19/11, 4/18-19/12
Cowardin Class:	PEMC, PSSC, PUB	Data Plot #s:	11-16, 48, 49
HGM Class:	RI	Investigators:	ACS/TB

LOCATION

Street/landmark:	West end of NW 36th Street, northeast of I-84
Legal/tax map:	2N320800, tax lots 613, 702, 1010, 1011
	2N3209B0, tax lots 900, 1300
Sub-basin code:	Umatilla River

WETLAND CHARACTERISTICS

Description: This is a large wetland complex in an industrial area north of Highway I-84; it was part of the Umatilla River channel until highway construction realigned the river's course in the 1970s. It lies at the interface of the Umatilla River and several small, intermittent drainages that meet near the toe of slope, ultimately connecting to the Umatilla River (Riverine Impounding).

This diverse wetland includes areas of several different Cowardin classifications. The western end is a hemi marsh dominated by common cattail with cover generally exceeding 70 percent; few other species are present in this dense community, and the remainder is open water of unknown but likely shallow depth. Moving east, the wetland narrows to approximately 20 feet wide behind a mobile home parking area. Water becomes shallower until the ground is exposed; in this area, inundation is likely of shorter duration and less depth than the cattail marsh. Along this gradient, the cattail cover gradually falls out, replaced by Geyer willow as the dominant species. East of the parking pad, the community transitions to a hemi marsh with occasional shrub cover at the margins of inundation. Open water in the hemi marsh is of unknown depth but persistent to permanent. An access road bisects the wetland at the east end. The easternmost segment is an area of open water with a thin margin and interior island dominated by willow, reed canarygrass, poison hemlock, and other water-tolerant species.

This wetland has limited upland buffers due to adjacent industrial uses: the northern edge is constrained by a railroad embankment; to the south, development extends right up to the (and likely well into the historic) wetland boundary.

Soils: 28A: Freewater gravelly silt loam, 0-3%

Pendleton Local Wetland Inventory

Wetland Characterization Sheet

GENERAL INFORMATION

Wetland Code:	UR-2	Method:	Onsite
Wetland Size:	0.55 acres	Field Date(s):	4/19/2012
Cowardin Class:	PEMC, PUB	Data Plot #s:	20, 21
HGM Class:	DCP	Investigators:	ACS/TB/PR

LOCATION

Street/landmark: Umatilla River terrace within sanitary treatment facility grounds

Legal/tax map: 2N3208, tax lots 700, 1001

Sub-basin code: Umatilla River

WETLAND CHARACTERISTICS

Description: This wetland lies on an upland terrace and lacks a surface connection to the Umatilla River. It is a closed depression fed by direct precipitation and local runoff sufficient to create an area of likely permanent ponding surrounded by an emergent fringe. Himalayan blackberry is present at the margins where light penetration is unrestricted. A large tree in the wet margin supports an active heron nest.

Soils: 28A: Freewater gravelly silt loam, 0-3 percent slopes; 126A: Xerofluvents, 0-3 percent slopes

Hydrologic Source: direct precipitation and local runoff

Dominant Vegetation:

Trees	Shrubs	Vines/Herbs
Populus balsamifera v. *trichocarpa* (black cottonwood)	*Rubus armeniacus* (Himalayan blackberry)	*Phalaris arundinacea* (reed canarygrass)

Potential Enhancement Opportunities: Enhancement opportunities include the following:

- Supplemental planting of native trees, shrubs and emergent vegetation
- Elimination of noxious weeds, including reed canarygrass and Himalayan blackberry
- Isolation of livestock from wetland margin

Pendleton Local Wetland Inventory

Wetland Characterization Sheet

GENERAL INFORMATION

Wetland Code:	UR-3	Method:	Offsite
Wetland Size:	3.7 acres	Field Date(s):	4/20/2012
Cowardin Class:	PFOC, PEMC	Data Plot #s:	viewed from road
HGM Class:	RFT	Investigators:	TB/ACS

LOCATION

Street/landmark:	Umatilla River, approximately 1,500 feet downstream of confluence with McKay Creek
Legal/tax map:	2N3207, tax lots 400, 600
Sub-basin code:	Umatilla River

WETLAND CHARACTERISTICS

Description: This wetland comprises a secondary channel of the Umatilla River and the surrounding wet areas. Lowest areas are vegetated by Geyer willow and an understory of grasses. The edge of bank above the secondary channel supports a line of black cottonwood trees. Although access permission was granted, site was not accessible because only legal access was by boat over Umatilla River and water levels were too high to make safe crossing. Viewed with binoculars from NW Reith Road.

Soils: Water

Hydrologic Source: High flows from the Umatilla River (and high water table)

Dominant Vegetation:

Trees	Shrubs	Vines/Herbs
Populus balsamifera v. *trichocarpa* (black cottonwood)	*Salix geyeriana* (Geyer willow)	*Phalaris arundinacea* (reed canarygrass)

Potential Enhancement Opportunities: Enhancement opportunities would require property owner cooperation. Opportunities include the following:

- Supplemental planting of native trees, shrubs, groundcover
- Elimination of noxious weeds, particularly reed canarygrass

Hydrologic Source: Contribution from tributaries, possibly hyporheic groundwater support from the Umatilla River

Dominant Vegetation:

Trees	Shrubs	Vines/Herbs
Populus trichocarpa v. *balsamifera* (black cottonwood) *Salix lucida* v. *lasiandra* (Pacific willow)	*Salix geyeriana* (sandbar willow)	*Phalaris arundinacea* (reed canarygrass) *Typha latifolia* (common cattail)

Potential Enhancement Opportunities: Enhancement opportunities would require property owner cooperation. Opportunities include the following:

- Supplemental planting of native trees, shrub and emergent species
- Elimination of noxious weeds
- Removal of flow restrictions to allow natural hydrology between site and Umatilla River
- Water treatment for parking lot runoff

Appendix C. Field Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	1
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	hillslope	Local relief (concave, convex, none)	concave	Slope (%)	3%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Plot taken east of Southgate, south of Perkins at the toe of a large fill slope. The plot lies at the low spot of a natural swale with no defined channel. Surface drainage would be impeded by fill material to the west.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Hordeum sp.	100	☒	NL
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30 ' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals	100		500

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Dipsacus fullonum common elsewhere on swale on adjacent property.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/2+	100					fine sandy loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Edge of disturbed area. Soil at plot is not fill material but some concrete is present at the surface in the plot and elsewhere near the toe of slope. Uniform soil color, texture throughout profile.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

No surface or subsurface indicators of saturation, surface flow, or ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	2
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	none	Slope (%)	3%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	Hermiston silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Tutuilla Creek is fully contained within bed and banks with no 2-year floodplain. Banks are high and vertical with no adjacent wetland. At this location, the channel is strongly trapezoidal with very steep sideslopes. This plot was taken within a Water of the State. Plot taken between Tutuilla Road and Highway 84, west of Marshall.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100	☒	FACW
2. Conium maculatum	T	☐	FACW
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plot taken in Phalaris growing on channel sideslope.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Plot location is below edge of flowing water. No pit was dug, and soil is considered hydric by definition.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): did not measure

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Local slumping and small bank failures are common along Tutuilla Creek. These areas create small benches of wetland below the Ordinary High Water Mark. With the high periodic peak flows associated with heavy rainfall and/or snowmelt runoff events, small size, and erodability of the soil, these small features are likely transitory and were therefore not individually mapped. We included plots of this and similar features to characterize the respective stream corridors.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	3
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Tutuilla Creek is highly dynamic with high flows and extensive slumping and erosion of the fine soils. There are numerous tiny wetlands throughout the creek below bankfull stage/2 year flood elevation. However, due to the small size and heavy flows they are likely to be transitory features; their presence, location, and extent will change from year to year in most cases. All are less than 0.5 acre; most are less than 0.05 acre. This plot represents upland conditions adjacent to Plot 2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Elaeagnus angustifolia	60	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	60% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Hordeum sp.	95	☒	NI/FACU
2. Lactuca communis	3	☐	FAC
3. Poa bulbosa	2	☐	NL
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	63	x 3 =	189
FACU species	95	x 4 =	380
UPL species	2	x 5 =	10
Column Totals	160		579

Prevalence Index = B/A = 3.62

Hydrophytic Vegetation Indicators:

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

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

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

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/2-3	100					fine sandy loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Loose, almost powdery texture. Highly erodible, well drained.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken at top of bank just above upper extent of waterborne debris. Water is currently about 4 vertical feet below the plot elevation. Soil is dry at 20 inches.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	4
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	hillslope	Local relief (concave, convex, none)	concave	Slope (%)	3%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	29A - Freewater very cobbly loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Riparian wetland connected to McKay Creek. Located at the north end of 44th and Kirk. Wetland MC-1

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Populus balsamifera v. trichocarpa	5	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	5% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Iris pseudacorus	95	☒	OBL
2. Juncus sp.	5	☐	FAC-W
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					silt loam	lots of fibrous roots
6-13	7.5YR 3/1	97	7.5YR 3/3	3	C	M	gravelly silt lm	pea- to fist-sized rock

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: rock refusal

Depth (inches): 13 inches

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Soil is very loose and unconsolidated. Soil saturates readily as water table rises seasonally.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☒ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes ☒ No ☐ Depth (inches): 13 inches

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

The lowest portion of this feature receives peak flows from McKay Creek, plus groundwater from the landward side seeping out near the toe of slope. Water was at least 14 inches deep based on highest extent of observed waterborne debris.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	5
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	berm	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	29A - Freewater very cobbly loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Plot is paired with Plot 4, approximately 1 foot above the upper extent of inundation indicators. MC-1 upland plot.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera v. trichocarpa	50	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	50% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Salsola kali	15	☐	FACU
2. Bromus rigidus	45	☒	NI
3. Poa bulbosa	20	☒	NL
4. _____	_____	☐	_____
5. Misc annuals	20	☒	FAC
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	15	x 4 =	60
UPL species	65	x 5 =	325
Column Totals	150		595

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	100					gravelly loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: rock refusal - alluvial gravels and cobble

Depth (inches): 10"

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Soil is dry at 10 inches.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	6
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	floodplain	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	29A - Freewater very cobbly loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Plot taken in the eastern portion of MC-1, upstream of the Iris pseudacorus-dominated section of the wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	100	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	100% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Agrostis sp.	50	☒	FAC-W
2. Carex stipata	5	☐	OBL
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	55% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 50%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Thick shrub overstory has shaded out much of herbaceous stratum.

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/1	100					sandy loam	
8-14"	10YR 3/1	95	7.5YR 3/4	5	C	M	sandy loam	some gravel

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: rock refusal - alluvial gravels and cobble

Depth (inches): 14"

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes ☒ No ☐ Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 6"

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Backwater area subject to occasional ponding, but apparently outside area inundated by high creek flows.

Cowardin: PSS (western section is PEM)

HGM: Riverine Flow-Through

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	7
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	channel	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	Water	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: This plot was taken in a braided secondary channel of the Umatilla River above the main channel. The substrate is minimally vegetated bare rock. The cobbly substrate appears to comprise the islands between the channels as well. Consequently, drainage is rapid with the dropping of the water surface elevation after periods of high flow. This plot is jursidictional as a Water of the State. Plot taken south of Reith Road and railroad tracks, on Property 80. Paired with Plot 8.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Elymus glaucus	5	☒	NL
2. _____	_____	☐	_____
3. Misc annuals	10	☒	FAC
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	15% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 85%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	_____	x 4 =	_____
UPL species	5	x 5 =	25
Column Totals	15		55

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

High flow channel adjacent to main stream channel. Most vegetation scoured out. Water velocity precludes much vegetation except deeply rooted woody hydrophytes.

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: rock refusal at surface - river cobble

Depth (inches): surface

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Mapped as Water in the Umatilla County Soil Survey. Geomorphic position - this area lies below the OHWM of the Umatilla River.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☒ Water Marks (B1) (**Nonriverine**)
- ☒ Sediment Deposits (B2) (**Nonriverine**)
- ☒ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes ☐ No ☐ Depth (inches): did not measure

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): did not measure

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Plot taken 4 feet below upper extent of waterborne debris caught in trees. Sediment deposits, recent debris deposition and geomorphology indicate periodic high water at this location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/17/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	8
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	Water	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐
Hydric Soil Present?	Yes ☐	No ☒
Wetland Hydrology Present?	Yes ☐	No ☒

Is the Sampled Area within a Wetland? **Yes** ☐ **No** ☒

Remarks: Paired with Plot 7. Taken on an upland bench above the Umatilla River, above the influence of flowing water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera v. trichocarpa	30	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	30% = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conium maculatum	35	☒	FACW
2. Lactuca communis	25	☒	FAC
3. Onopordum acanthium	5	☐	NL
4. Galium aparine	5	☐	FACU
5. Hordeum sp	5	☐	FACU
6. _____	_____	☐	to NL
7. Agrostis sp.	10	☐	FAC to
8. _____	_____	☐	FACW
9. Unid perennial	10	☐	FAC
10. Chenopodium album	5	☐	FACU
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 15' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: _____

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
1-20	10YR 3/2	100					fine sandy loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot 2 feet above highest wrack line. No indicators of surface or subsurface hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	9
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	hillslope	Local relief (concave, convex, none)	none	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	See Soil Remarks	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Plot taken above a small tributary of a large wetland on the northern Umatilla River floodplain. The cross-section of the stream channel is sharply U-shaped with a low-flow channel that meanders back and forth across the bottom of the channel. Plot taken at PW 2, north of Westgate, east of Airport Road on Property 18. Paired with Plot 10.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Leymus cinereus	60	☒	FAC
2. Conium maculatum	40	☒	FACW
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					sandy loam	gravel to fist-size rock occasional below 12 inches
16-20	10YR 4/2	100					sandy loam	very gradual color shift

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Soil Survey shows the ravine dividing map unit 114C - Walla Walla silt loam, 7 to 12% slopes (west) and 48E - Lickskillet very stony loam, 7 to 40% slopes. The plot was on the Lickskillet side.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot 4 feet above bottom of narrow incised stream channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	10
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	channel	Local relief (concave, convex, none)	none	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	See Soil Remarks	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Plot taken on a small bench in the channel of a small tributary of a large wetland on the northern Umatilla River floodplain. The cross-section of the stream channel is sharply U-shaped with a low-flow channel that meanders back and forth across the bottom of the channel. Paired with Plot 9. Mapped as PW 2. Plot taken north of Westgate and east of Airport Road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Solidago sp.	50	☒	FAC-NL
2. Conium maculatum	5	☐	FACW
3. Dipsacus fullonum	5	☐	FAC
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	60% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals	_____		_____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Solidago were short seedlings; identification to species was not possible. Based on the observation of healthy seedlings growing in saturated soil well into the growing season, this species is adapted to grow in soil that experiences prolonged saturation and occasional inundation.

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/2	100					sandy loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Observation of flowing water and saturation at surface in April suggests this area meets the definition of hydric soil. Moreover, this small bench may be of recent origin from collapse of the sideslope and thus may not have developed hydric soil indicators yet.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): 2" deep nearby

Water Table Present? Yes ☒ No ☐ Depth (inches): 5 inches

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Water is flowing in the channel about 2 feet away, likely in response to recent rainfall. The channel is about 12 inches wide with water 2-3 inches deep during the site investigation. The property owner says the channel is dry by June in most years.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18, 4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	11
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace at toe of slope	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	28A - Freewater gravelly silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Large wetland complex in former river channel. Cut off by I-84. Mostly palustrine emergent with some palustrine scrub-shrub, tree groves and a section of open water. Good interspersion of habitat types. Mapped as UR-1, south of Murietta Road. Paired with Plot 12.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lucida v. lasiandra	10	☐	FACW
2. Populus balsamifera v. trichocarpa	60	☒	FAC
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	70% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	30	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	30% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Typha latifolia	100	☒	OBL
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Some areas have up to 30% open water among the Typha. Treed and shrubby areas are scattered.

SOIL

Sampling Point: 11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Developed areas extend right up to maximum extent of open water, which is several inches deep. Meets definition of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 3 inches at margin

Water Table Present? Yes ☐ No ☐ Depth (inches): did not measure

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): did not measure

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18, 4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	12
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace above surface water	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	28A - Freewater gravelly silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Uplands adjacent to large wetland complex in former river channel. Mapped as UR-1, south of Murietta Road. Uplands are generally filled areas in former floodplain. Surface elevations are built up sufficiently to allow year-round industrial uses unimpeded by fluctuations in surface elevation of adjacent river and wetland. Paired with Plot 11.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conyza canadensis	1	☒	FACU
2. Sisymbrium altissimum	1	☒	FACU-
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	2% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 98%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals	2		8

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Wetland Non-Vascular Plants[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

Plot taken in gravel pad upslope of edge of inundation. Vegetation is generally sparse and comprised of weedy forbs.

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: gravel pad

Depth (inches): surface

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Plot taken in gravel pad. No plot excavated.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken within developed area upslope of upper extent of inundation. Gravel pad precluded investigation of subsurface hydrology indicator observation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18, 4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	13
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace at toe of slope	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	28A - Freewater gravelly silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Depression between railroad and industrial area. Mapped as UR-1. Paired with Plot 14.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lucida v. lasiandra	10	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	10% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	30	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	30% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Typha latifolia	100	☒	OBL
2. Lemna minor	5	☐	OBL
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	105% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Carex sp., Juncus effusus, also present in wetlands with verry shallow to no inundation. Lemna covers open water where Typha cover is lower.

SOIL

Sampling Point: 13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Developed areas extend right up to maximum extent of open water, which is several inches deep. Meets definition of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 2 inches

Water Table Present? Yes ☐ No ☐ Depth (inches): did not measure

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): did not measure

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Inundation is up to 4 inches deep nearby. Uplands adjacent are an unvegetated gravel pad. Vegetation in uplands consists of weedy species such as Conium maculatum (near the edge of inundation), Salsola kali, Sisymbrium altissimum, and other annuals.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18, 4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	14
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace above wetland	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	28A - Freewater gravelly silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Depression between railroad and industrial area. Mapped as UR-1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Salsola kali	2	☒	NL
2. Sisymbrium altissimum	1	☒	FACU-
3. Conium maculatum	1	☒	FAC+
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	4% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 96%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	1	x 4 =	4
UPL species	2	x 5 =	10
Column Totals	4		17

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Gravel pad community. Uplands adjacent to wetlands are an unvegetated gravel pad. Vegetation in uplands consists of weedy species such as Conium maculatum (near the edge of inundation), Salsola kali, Sisymbrium altissimum, and other annuals.

SOIL

Sampling Point: 14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel pad

Depth (inches): surface

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Gravel pad precluded plot excavation to determine depth to water table and/or saturation, if present. Vegetation cover gradient suggests water is increasingly unavailable with distance from open water. Paired with Plot 13.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	15
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace at toe of slope	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	Water	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Open water "duck doughnut" in industrial area. Open water surrounded by PEM (as Plot 11) and PSS (as Plot 13). Inaccessible small island in center of open water likely meets 3 criteria for wetland determination. Paired with Plot 16.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Thin margin of Phalaris at edge of open water. Open water is unvegetated. Adjacent uplands are developed gravel/rock pads with little vegetation. Upland species present include Conyza canadensis, Cirsium vulgare, Bromus tectorum.

SOIL

Sampling Point: 15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Open water: meets definition of hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 2 inches at edge

Water Table Present? Yes ☐ No ☐ Depth (inches): did not measure

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): did not measure

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Maximum depth of water is unknown. This may be an old mitigation site.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/18/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	16
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace above open water	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	28A - Freewater gravelly silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒
Hydric Soil Present?	Yes ☐	No ☒
Wetland Hydrology Present?	Yes ☐	No ☒

Is the Sampled Area within a Wetland? **Yes** ☐ **No** ☒

Remarks: Gravel pad above open water "duck doughnut" in industrial area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus tectorum	10	☒	FACU
2. Conyza canadensis	2	☐	FACU
3. Cirsium vulgare	2	☐	FACU
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	14% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 86%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Vegetation cover generally decreases with increasing distance from jurisdictional boundary.

SOIL

Sampling Point: 16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel pad

Depth (inches): surface

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken on gravel pad above upper limit of evidence of inundation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	17
Investigator(s):	TB/ACS/PR	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	126A: Xerofluvents, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Terrace above the Umatilla River. No inundation at this location; it appears to stop about 100 feet to upstream. Property 62, South of Carden Avenue, north side of Umatilla River, near 14th Street.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Poa bulbosa	45	☒	FAC
2. Bromus tectorum	20	☒	NL
3. Bromus rigidus	15	☐	NL
4. _____	_____	☐	_____
5. _____	____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	90% = Total Cover		
Woody Vine Stratum (Plot size: 15' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 10%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	35	x 5 =	175
Column Totals	90		310

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/2	100					sandy loam	
20-23	10YR 4/2	99	10YR 4/4	1	C	M	sandy loam	very few redox features

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Well drained soil

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Soil is dry to touch at 23 inches. No surface indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	18
Investigator(s):	ACS/PR	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	water	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Floodplain of the Umatilla River, south end of Bedford Pedestrian Bridge, east of abutment. Paired with Plot 19. Plot is below OHWM, treated as Water of the State.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Alnus rhombifolia	25	☒	FACW
2. Acer negundo	20	☒	FAC+
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	45% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	60	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	60% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 40%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					silt loam	less sandy than elsewhere
18-23	10YR 3/2	97	7.5YR 3/4	3	C	M	silt loam	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Per Chapter 5: soil is apparently of recent deposition at this location. Treated as a Problem Soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes ☒ No ☐ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 8

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Wrack lines are approximately 2 feet above the plot surface at this location. Phalaris clearly shows evidence of water flow (all blades flattened and pointing downstream, sediment deposition).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	19
Investigator(s):	ACS/PR	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	129A: Yakima-Urban Land, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: South bank of Umatilla River. The channel braids on both sides, forming linear, tapering islands. Some areas of sediment deposition and accretion are present. Lower islands are vegetated with isolated scour from flowing water. Higher bench has a mix of trees, shrubs and often weedy herbaceous species. Paired with Plot 18.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plot taken in most hydrophytic part of otherwise drier terrace community. Also at this elevation are Ulmus sp., Rosa sp., Malus sp., Taraxacum officinale, Galium aparine, Onopordium acanthum. Clematis is an established weed here.

SOIL

Sampling Point: 19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					silt loam	many fine roots
4-10	10YR 3/2	100					fine sandy loam	no roots
10-20	10YR 3/2	95	7.5YR 4/4	5	C	M/PL	fine sandy loam	not roots, occasional cobble

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Plot at borderline of hydric/non-hydric transition. Well drained soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

This area receives direct precipitation and local runoff only; above upper extent of waterborne debris. No indicators of saturation or inundation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	20
Investigator(s):	TB/ACS/PR	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	depression on terrace	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	see Soil Remarks	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Wetland and unvegetated surface water near Umatilla River inside City of Pendleton wastewater treatment plant grounds. South of Umatilla River, upstream of McKay Creek confluence. No surface connection to the river. Paired with Plot 21. Mapped as UR-2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 20

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					sandy loam	gravelly

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Rock

Depth (inches): 10 inches

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

Plot taken below maximum extent of inundation, in an area with surface saturation well into the growing season. Meets definition of hydric soil. Plot lies at the intersection of Map Units 6B (Anderly silt loam, 1-7% slopes), 28A (Freewater gravelly silt loam, 0-3% slopes) and 126A (Xerofluvents, 0-3% slopes).

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Water Table Present? Yes ☒ No ☐ Depth (inches): 3"

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Plot taken 1 foot from open water. Plot is fed by direct precipitation and local runoff.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	4/19/2012
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	21
Investigator(s):	TB/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	terrace	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	See Soil Remarks	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Pond near Umatilla River. No surface connection to the river. Paired with Plot 20 as UR-2 upland plot.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100	☒	FACW
2. Conium maculatum	T	☐	FACW
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					silt loam	lots of fine roots
4-10	10YR 3/2	100					fine sandy loam	few to no roots
10-20	10YR 3/2	94	7.5YR 4/4	5	C	M/PL	fine sandy loam	no roots
			7.5YR 4/1	1	D	M		occasional cobbles (riverwash)

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☒

Remarks:

Redox layer is too deep to meet F6; at hydric/non-hydric transition. Plot lies at the intersection of Map Units 6B (Anderly silt loam, 1-7% slopes), 28A (Freewater gravelly silt loam, 0-3% slopes) and 126A (Xerofluvents, 0-3% slopes).

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Direct precipitation and local runoff are the sources of hydrology for this area. No indicators of saturation or inundation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	22
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	hillslope	Local relief (concave, convex, none)	none	Slope (%)	10%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	6E: Anderly silt loam, 20-35% slopes	NWI Classification:	PEMA		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - plots taken via binoculars from NW A Avenue right-of-way. Near site 4. Paired with Plot 23.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Elaeagnus angustifolia	5	☐	FAC
2. Populus balsamifera v. trichocarpa	30	☒	FAC
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	30% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Crataegus douglasii	20	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	35% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Lysichiton americanum	70	☒	OBL
2. Unidentified grasses	20	☒	FAC
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	90% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 10%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Wooded swale in upper portion. Most of swale has herbaceous vegetation only.

SOIL

Sampling Point: 22

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Surface water not visible. Assume seasional saturation or surface water is present during the growing season based on lushness of vegetation, landform, and prevalence of water-dependent vegetation. Likely spring-fed, plus runoff from adjacent slopes. Head of wetland is about 200 feet from NW A Avenue.

Cowardin: PEMA

HGM: Slope Valley

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	23
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	hillslope	Local relief (concave, convex, none)	none	Slope (%)	10%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	6E: Anderly silt loam, 20-35% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - plots taken via binoculars from NW A Avenue right-of-way. Near site 4. Paired with Plot 22.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Ericameria nauseosa	20	☒	NL
2. Artemisia tridentata	10	☒	NL
3. Chrysothamnus vicidiflorus	2	☐	NL
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	32 = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus rigidus	5	☐	NL
2. Bromus tectorum	60	☒	NL
3. Hordeum jubaetum	5	☐	FAC-
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	70 = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 30%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	97	x 5 =	475
Column Totals	102		490

Prevalence Index = B/A = 4.80

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Except for the swale, hillside vegetation consists of grasses with patchy shrubs. Typical of hillside above drainage.

SOIL

Sampling Point: 23

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Hillslopes above the wetland show no indication of sheet flow, groundwater discharge, or high water table. Vegetation suggests drier hydrologic regime than Plot 22.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	24
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope draw	Local relief (concave, convex, none)	Concave	Slope (%)	10%
Subregion (LRR):	Arid Lands	Lat: 45.6841 N	Long: 118.8424 W	Datum:	_____
Soil Map Unit Name:	Anderly silt loam, 12-20%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐
Hydric Soil Present?	Yes ☐	No ☐
Wetland Hydrology Present?	Yes ☒	No ☐

Is the Sampled Area within a Wetland? **Yes** ☒ **No** ☐

Remarks: OFFSITE - viewed through binoculars from below at Airport Road. This site is a broad swale with herbaceous vegetation in the bottom and heavier on the sideslopes.. The bottom of the swale was visibly moist with a few scattered shallow puddles at the low end. While vegetation is borderline hydrophytic at the time of this investigation, the size of the standpipe suggests that this swale is capable of very high flows. Taken near area 52.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conium maculatum	FAC+	☒	40%
2. Bromus tectorum	NL	☐	10%
3. Bromus ridgidus	NL	☒	20%
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	70% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 30%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals	90		270

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Herbaceous cover only. Tree and shrub cover are absent in this reach of the swale.

SOIL

Sampling Point: 24

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)
- ☐

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 0.5 inch

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Near the roadway, there is a very large standpipe at this location, suggesting that signficant flows through this swale are possible.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	25
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope draw	Local relief (concave, convex, none)	Concave	Slope (%)	15%
Subregion (LRR):	Arid Lands	Lat: 45.6841 N	Long: 118.8424 W	Datum:	_____
Soil Map Unit Name:	Anderly silt loam, 12-20%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed through binoculars from below at Airport Road. This site is a broad swale with herbaceous vegetation in the bottom and heavier on the sideslopes.. This plot was taken on the slopes above the bottom, near the invert elevation of the standpipe. Paired with Plot 24. Near site 52.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conium maculatum	FAC+	☒	20%
2. Bromus tectorum	NL	☒	60%
3. Bromus ridgidus	NL	☐	10%
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	90% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 10%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	70	x 5 =	350
Column Totals	90		410

Prevalence Index = B/A = 4.56

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Herbaceous cover only. Tree and shrub cover are absent in this reach of the swale. Conium still present, but cover has shifted in favor of Bromus tectorum.

SOIL

Sampling Point: 25

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Near the maximum inundation potential, as governed by the standpipe.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	26
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope draw, impounded	Local relief (concave, convex, none)	Concave	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	6D: Anderly silt loam, 12-20% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed through binoculars from Red Lion hotel on Nye Avenue. This site is small pond at the edge of the landscaped area of the hotel. It appears to have been created through impoundment. Near site 92, paired with Plot 27.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Juncus effusus	FACW	☒	20%
2. Phalaris arundinacea	FACW	☒	30%
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	50% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 50%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Pond margins not maintained

SOIL

Sampling Point: 26

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)
- ☐

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): not measured

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Unable to discern depth of water in pond. Only visible source of water is runoff from adjacent developed areas. Aerial photos suggest the pond discharges in a narrow swalle to the south.

Cowardin : PUBHh

HGM: Depressional outflow

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	27
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope draw, impounded	Local relief (concave, convex, none)	Concave	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	6D: Anderly silt loam, 12-20% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed through binoculars from Red Lion hotel. This plot characterizes the area above a small pond at the edge of the landscaped area of the hotel. Paired with Plot 26, near site 92.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Lawn grasses	FAC	☒	100%
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Outside pond margin, vegetation consists of lawn grasses, most of which are rated FAC.

SOIL

Sampling Point: 27

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Based on topographic position, developed land upslope, and mapped non-hydric soil, it is unlikely that this area meets the wetland hydrology criterion.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	28
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek	Local relief (concave, convex, none)	none	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	39A: Hermiston silt loam, 0-3% slopes	NWI Classification:	PSSC		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - plot taken at the Tutuilla Road bridge near Murphy Road. Tutuilla Creek is somewhat incised with minimal overflow above top of bank at this location despite recent heavy flows. Taken near areas 38, 60, 121, and 123. Paired with Plot 29.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	80%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	80% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conium maculatum	15%	☒	FAC+
2. Phalaris arundinacea	10%	☒	FACW
3. Epilobium sp.	T	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	25% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 75%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Stream has near-vertical banks leading to a high terrace at this location. Wetland vegetation is limited to a thin margin where slopes are slightly shallower and areas of bank failure. Otherwise, most vegetation below top of bank has been scoured away.

SOIL

Sampling Point: 28

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): ~12

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/18/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	29
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek	Local relief (concave, convex, none)	none	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	39A: Hermiston silt loam, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - plots taken at the Tutuilla Road bridge near Murphy Road. Typical of sites 38, 60, 121, and 123. Paired with Plot 28.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	20%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	20% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conium maculatum	T	☐	FAC+
2. Phalaris arundinacea	T	☐	FACW
3. Bromus tectorum	80	☒	NL
4. Bromus rigidus	10	☐	NL
5. Poa bulbosa	5	☐	NL
6. Elymus glaucus	5	☐	FACU
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	95	x 5 =	475
Column Totals	120		535

Prevalence Index = B/A = 4.46

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Stream has near-vertical banks leading to a high terrace at this location. Wetland vegetation is limited to a thin margin where slopes are slightly shallower and areas of bank failure. Otherwise, most vegetation below top of bank has been scoured away.

SOIL

Sampling Point: 29

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken above extent of indicators of recent inundation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	30
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek @ Nye	Local relief (concave, convex, none)	none	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	39A: Hermiston silt loam, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - plots taken at the Tutuilla Road bridge near Nye Street. Surrounding area is a combination of residential property of various sizes. Near site 35. Paired with Plot 31. Mapped as Potential Wetland (PW) on the basis of landscape position, vegetation and hydrologic indicators, and size.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	20%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	20% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Conium maculatum	10	☒	FAC+
2. Phalaris arundinacea	15	☒	FACW
3. Lapsana communis	10	☒	NI
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	35% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 65%

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Much of the vegetation in this reach has been severely eroded by recent high flows.

SOIL

Sampling Point: 30

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☒ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): evidence of high flows

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Plot taken below OHW, but in area affected by recent high flows. This damaged reach of Tutuilla Creek is immediately downstream of the confluence with Patawa Creek and extends at least several hundred feet downstream.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	31
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek @ Nye	Local relief (concave, convex, none)	none	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	39A: Hermiston silt loam, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - plots taken at the Tutuilla Road bridge near Nye Street. Surrounding area is a combination of residential property of various sizes. Plot taken at site 35. Plot paired with Plot 30.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Elymus glaucus (planted?)	100	☒	FACU
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	100	x 4 =	400
UPL species	_____	x 5 =	_____
Column Totals	100		400

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

SOIL

Sampling Point: 31

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken above area affected by recent high flows.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	32
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Patawa Creek	Local relief (concave, convex, none)	Concave	Slope (%)	5%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	39A: Hermiston silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Patawa Creek viewed from Tutuilla Creek Road near confluence with Tutuilla Creek at Nye Street. The short segment of Patawa Creek between Tutilla Creek Road and the confluence has been virtually stripped of vegetation. This plot characterizes the reach that starts upstream of the bridge where vegetation is relatively unaltered. Site 35.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Elaeagnus angustifolia	20	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	20% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	20%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	20% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	10%	☒	FACW
2. Conium maculatum	15%	☒	FAC+
3. Lapsana communis	10%	☒	FAC
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	35% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 65%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Channel is somewhat incised. Wet margin consists of near-vertical banks, parts of the bank that have sloughed, and a narrow fringe influenced by peak flows.

SOIL

Sampling Point: 32

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☒ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Wetland margin subject to overbank flows as evidenced by drift and sediment deposits.

Cowardin : PEMA

HGM: Riverine Flow-Through

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	33
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek @ Hailey Ave.	Local relief (concave, convex, none)	Concave	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Tutuilla Creek viewed from bridge at Hailey Avenue bridge over Tutuilla Creek. Paired with Plot 34.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus rigidus	15%	☐	NL
2. Elymus glaucus	5%	☐	FACU
3. Phalaris arundinacea	80%	☒	FACW
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community in narrow margin affected by high flows.

SOIL

Sampling Point: 33

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☒ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Wetland margin subject to occasional flooding from high flows above OHW.

Cowardin : PEMC

HGM: Riverine Flow-Through

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	34
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek @ Hailey Ave.	Local relief (concave, convex, none)	Concave	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	39A: Hermiston silt loam, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed from bridge at Hailey Avenue. Site 40. Paired with Plot 33

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus tectorum	60%	☒	NL
2. Galium aparine	20%	☒	FACU
3. Elymus glaucus	5%	☐	FACU
4. Lotus sp.	5%	☐	FAC
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	90% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 10%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	25	x 4 =	100
UPL species	60	x 5 =	300
Column Totals	90		415

Prevalence Index = B/A = 4.61

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Terrace community

SOIL

Sampling Point: 34

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): N/A

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Above area subject to occasional high flows.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	35
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Creek @ interchange	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	129A: Yakima-Urban Land, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed from interchange, southeast quadrant of I-84 and Highway 395. Part of site 123. Paired with Plot 36.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sp.	10%	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	10% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	50%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	50% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100%	☒	FACW
2. Epilobium sp.	T	☐	FAC
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community in narrow margin affected by high flows. Tree willow species difficult to discern at that distance; may be S. lucida (FACW)

SOIL

Sampling Point: 35

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☒ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Most areas meeting the three criteria for wetland determination lie within the OHWM as defined by visible wrack lines. Small areas above the OHW may also be subject to occasional flooding from high flows above OHW.

Cowardin : PEMC, R3UBH

HGM: Riverine Flow-Through

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	36
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	123A: Yakima-Urban Land, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed from southeast quadrant of I-84-Highway 295 interchange. Site 123, plot paired with Plot 35.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Elymus glaucus	90%	☒	FACU
2. large thistle	5	☐	FACU?
3. Lapsana communis	5	☐	FAC
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals	100		395

Prevalence Index = B/A = 3.95

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community on steep hillslope leading down to south bank ofTutuilla Creek / Umatilla River. Large thistle may be Onopordum acanthium. Occasional trees present, including Ulmus, Acer negundo, ornamental maples.

SOIL

Sampling Point: 36

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken above influence of water in creek, river. No evidence of seepage in hillslope.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	37
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Tutuilla Crk	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	123A: Yakima-Urban Land, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed from Burger King at interchange (Southgate Road and I-84). Plot taken in Site 123.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	15%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	15% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100%	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community in narrow margin along Tutuilla Creek. Floodplain is a little wider here and exhibits less erosion than in upstream reaches.

SOIL

Sampling Point: 37

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Plot taken in area of overbank flow adjacent to OHWL. OHWL estimated as upper extent of drift deposits. Based on topographic position, vegetation community, proximity to Tutuilla Creek and evidence of overbank flow, prolonged saturation in the upper part of the soil profile in the early part of the growing season is likely at this location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	38
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope above Tutuilla Crk	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed from Southgate Road/I-84 interchange.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus tectorum	60%	☒	NL
2. Elymus glaucus	10	☐	FACU
3. Dipsacus fullonum	5	☐	NI
4. Bromus rigidus	5	☐	NL
5. Conium maculatum	5	☐	FAC+
6. Other forbs	15	☐	mixed
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	10	x 4 =	40
UPL species	65	x 5 =	325
Column Totals	95		425

Prevalence Index = B/A = 4.47

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community on steep hillslope leading down to south bank of Tutuilla Creek / Umatilla River. Large thistle may be Onopordum acanthium. Few trees present, including Ulmus, Acer negundo, ornamental maples.

SOIL

Sampling Point: 38

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken above influence of water in creek, river. No evidence of seepage in hillslope.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	39
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Umatilla River corridor	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	water	NWI Classification:	R3UBH, PFOC, PSSC, PEMC		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Umatilla River corridor just downstream of confluence with Tutuilla Creek, viewed from development along River View Drive. Typical of sites 54, 96, 101, 102, 137, and 140.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	5	☒	FAC+
2. Populus balsamifera v. trichocarpa	5	☒	FAC
3. Robinia pseudoacacia	5	☒	FACU
4. _____	_____	☐	_____
	15% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	25%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	25% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100%	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community in wet margin along Umatilla River. Most features lie below OHW.

SOIL

Sampling Point: 39

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Based on vegetation, the wetland margin fringing the Umatilla River varies from negligible to approximately 25 feet in width.

Cowardin: The margin is a mosaic of PFOC, PSSC, PEMC, varying with the abundance of tree and shrub cover. The Umatilla River is R3UBH

HGM: Riverine Flow-Through

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	40
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Hillslope above Umatilla R	Local relief (concave, convex, none)	none	Slope (%)	20%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	115D: Walla Walla silt loam, 12-25%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - viewed from River View Drive, just below confluence of Umatilla River and Tutuilla Creek. Typical of steep slopes leading down to the Umatilla River. Paired with Plot 39.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus tectorum	25%	☒	NL
2. Elymus glaucus	25%	☒	FACU
3. Bromus rigidus	40%	☒	NI
4. Phalaris arundinacea	10%	☐	FACW
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	25	x 5 =	125
Column Totals	60		245

Prevalence Index = B/A = 4.08

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community on steep hillslope leading down to south bank of Umatilla River.

SOIL

Sampling Point: 40

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot taken above influence of water in creek, river. No evidence of seepage in hillslope.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	41
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	McKay Creek @ park	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	29A: Freewater very cobbly loam, 0-3%	NWI Classification:	R3UBH, PFOC, PEMC		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Viewed site from path along McKay Creek. Site is Pendleton Community Park (Kirk Avenue/37th Street), developedfor recreational uses except for a margin along McKay Creek. The margin varies in width from negligible to 25 feet. Narrow fringing wetlands are mostly RFT/PFOC, but a few small enclosed RI basins were also observed on the school side of the creek. The creek is also braided, with sand/gravel bars supporting sparse vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera v. trichocarpa	80%	☒	FAC
2. Prunus virginiana	5	☒	FACU
3. Acer platanoides	5	☒	NI
4. _____	_____	☐	_____
	90% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Populus balsamifera v. trichocarpa	5%	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	5% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	5%	☐	FACW
2. Dactylis glomerata	5%	☐	FACU
3. Bromus sterilis	40%	☒	NI
4. Arctium sp.	50%	☒	NI
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. Clematis ligusticifolia	5	☒	FAC-
2. _____	_____	☐	_____
	5 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Plant community in small impounded wetland along McKay Creek. Wetland separated from creek by a low berm of alluvial material.

SOIL

Sampling Point: 41

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☒ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): to 2" deep

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Cowardin: PFOC (McKay Creek itself is R3UBH)

HGM: Riverine Impounding

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	42
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	McKay Creek @ park - lawn	Local relief (concave, convex, none)	none	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: Viewed site from path along south bank of McKay Creek in Pendleton Community Park. Area outside McKay Creek corridor is developed - walking paths, lawn grasses, structures. Site 26, paired with Plot 41.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Lawn grasses (mowed)	100%	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Lawn grasses mowed and not identifiable to species. Presume typical blend of turf grasses, which are generaly rated FAC.

SOIL

Sampling Point: 42

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

The terrace exhibits no indication that high flows escape into the managed landscaped part of the property.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	43
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Umatilla River	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	water	NWI Classification:	R3UBH		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒
Hydric Soil Present?	Yes ☐	No ☐
Wetland Hydrology Present?	Yes ☒	No ☐

Is the Sampled Area within a Wetland? **Yes** ☐ **No** ☒

Remarks: Umatilla River at the Main Street Bridge below the Performing Arts building - 214 Main Street. Site 81.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus sp.	80%	☒	NI
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Lapsana communis	T	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 100%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	80	x 5 =	400
Column Totals	80		400

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Elms not identifiable to species. About 12 inches below upper extent of debris lines. Fine material swept free, minimal herbaceous and shrubby vegetation below OHWL. TUplands much more heavily vegetated, with elms and Robinia pseudoacacia

SOIL

Sampling Point: 43

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): Plot at edge of water

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Umatilla River has experienced exceptionally high flows recently due to heavy rainfall on an above-average snowpack. Newspaper reports 10,000 CFS in the river through Pendleton; annual peak flows typically range up to 5,000 CFS.

Cowardin: R3UBH

HGM: Riverine Flow-Through

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	44
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	Umatilla River flood terrace	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	Water	NWI Classification:	PFOC, R3UBH (river)		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Umatilla River at 10th Street bridge, northwest quadrant. Near Lincoln Primary School. Site 145. Paired with Plot 45.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Elaeagnus angustifolia	5%	☒	FAC
2. Salix lucida v. lasiandra	10%	☒	FACW
3. Populus balsamifera v. trichocarpa	5%	☒	FAC
4. _____	_____	☐	_____
	20% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Populus balsamifera v. trichocarpa	5%	☒	FAC
2. Syringa sp.	T	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	60%	☒	FACW
2. Bromus rigidus	30%	☒	NI
3. annual forbs	10%	☐	FAC
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Viewed from 10th Street near bridge.

SOIL

Sampling Point: 44

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Landscape position, proximity to river, and vegetation community strongly suggests the presence of saturated soil conditions for extended periods in the early growing season.

Cowardin: PFOC

HGM: unclear due to vegetation cover. Likely sources are groundwater support and occasional overbank flows from river plus runoff from adjacent developed areas. Did not see inundation during the site visit.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	45
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	roadway embankment	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	126A: Xerofluvents, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Umatilla River at 10th Street bridge, northwest quadrant. Near Lincoln Primary School. Site 145. Paired with Plot 44.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus tectorum	10%	☐	NI
2. Bromus rigidus	90%	☒	NI
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	0		0

Prevalence Index = B/A = N/A

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Viewed from 10th Street near bridge. Community on roadway embankment leading down to the terrace described in Plot 44.

SOIL

Sampling Point: 45

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	46
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	low terrace	Local relief (concave, convex, none)	none	Slope (%)	2%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	PFOC, R3UBH (river)		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Umatilla River northeast of the 10th Street bridge, near Lincoln Primary School. Plot taken on low terrace within OHWL. Plot paired with Plot 47. Site 64.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ornamental maple	35%	☒	NL
2. Ornamental pine	10%	☒	NL
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	45% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	100%	☒	FACW
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	45	x 5 =	220
Column Totals	145		420

Prevalence Index = B/A = 2.89

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Viewed from 10th Street near bridge. Community below OHWL.

SOIL

Sampling Point: 46

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☒ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Based on high water marks seen at Area 81, this area may have flooded during peak river volumes. If not, saturation levels were likely at or near the surface.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	47
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	hillslopes	Local relief (concave, convex, none)	none	Slope (%)	20%
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	126A: Xerofluvents, 0-3% slopes	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Umatilla River northeast of the 10th Street bridge, near Lincoln Primary School. Plot taken hillslope between adjacent development and river. Paired with Plot 46. Site 64.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus sp.	65%	☒	NL
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	65% = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus rigidus	70%	☒	NI
2. Bromus tectorum	15%	☐	NI
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	85% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 15%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	65	x 5 =	325
Column Totals	0		0

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Viewed from 10th Street near bridge. Slope is well above the OHWL.

SOIL

Sampling Point: 47

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Plot is well above hydrologic influence of river. No evidence of overland flow or seepage from the hillslope.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	48
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	depression	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	_____	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

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

Remarks: OFFSITE - Viewed area from I-84. Depression that receives flow from two unnamed streams entering from the north. Hemi marsh with good interspersion of PEM and open water. Typcial of areas 44, 45, 46, 71, 142, 152. Paired with Plot 49. UR-1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera v. trichocarpa	5%	☒	FAC
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	5% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. Salix geyeriana	10%	☒	FACW+
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	10% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Phalaris arundinacea	20%	☒	FACW
2. Typha latifolia	25%	☒	OBL
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	45% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Elaeagnus angustifolia and Ulmus sp. also present around marsh.

SOIL

Sampling Point: 48

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☒ Surface Water (A1)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): not measured

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

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

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

This is a large wetland complex fed by two intermittent streams. Unclear whether backflow from the Umatilla River also contributes hydrologic support.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	Pendleton	City/County:	Umatilla	Sampling Date:	5/19/2011
Applicant/Owner:	City of Pendleton	State:	OR	Sampling Point:	49
Investigator(s):	LW/ACS	Section, Township, Range:	_____		
Landform (hillslope, terrace, etc.):	depression	Local relief (concave, convex, none)	concave	Slope (%)	flat
Subregion (LRR):	Arid Lands	Lat: _____	Long: _____	Datum:	_____
Soil Map Unit Name:	28A: Freewater gravelly silt loam, 0-3%	NWI Classification:	_____		

Are climatic/hydrologic site conditions typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks")

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

Hydrophytic Vegetation Present?	Yes ☐	No ☒
Hydric Soil Present?	Yes ☐	No ☐
Wetland Hydrology Present?	Yes ☐	No ☒

Is the Sampled Area within a Wetland? **Yes** ☐ **No** ☒

Remarks: OFFSITE - Viewed area from I-84. Uplands adjacent to UR-1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 5' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
	0% = Total Cover		
Herb Stratum (Plot size: 5' r)			
1. Bromus rigidus	50	☐	NI
2. Bromus tectorum	50	☐	NI
3. _____	_____	☐	_____
4. _____	_____	☐	_____
5. _____	_____	☐	_____
6. _____	_____	☐	_____
7. _____	_____	☐	_____
8. _____	_____	☐	_____
9. _____	_____	☐	_____
10. _____	_____	☐	_____
11. _____	_____	☐	_____
	100% = Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1. _____	_____	☐	_____
2. _____	_____	☐	_____
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals	100		500

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

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

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

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

Remarks:

Difficult to determine species and coverages from freeway. The two Bromus were dominant.

SOIL

Sampling Point: 49

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ 2 cm Muck (A10)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: ---

Depth (inches): ---

Hydric Soil Present? **Yes** ☐ **No** ☐

Remarks:

OFFSITE - subsurface soil conditions not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): not observed

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

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

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

Based on changes in vegetation and topography, the area dominated by Bromus is unlikely to experience prolonged saturation in the upper part of the soil profile during the growing season.

Appendix D. OFWAM Answer Sheets and Locally Significant Wetland Determination

Pendleton Local Wetlands Inventory
Wetland Assessment Answer Sheet and LSW Determination

GENERAL INFORMATION

Wetland Code: MC-1	**Field date:** 4/17/2012
Wetland Class: PEM / PSS	**Investigators:** ACS, TB
Method: ☒ on-site ☐ off-site	**Observation point:** Data Plots 4, 5 and 6

FUNCTION AND CONDITION ASSESSMENT ANSWERS

OFWAM Question	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Education
1	A	C	A	A	
2	B	A	A	A	
3	C	B	A	B	
4	--	C	B	C	
5	A	B	B	B	
6	A	A	A	B	
7	C			A	
8	B				
9	A				
Descriptor	Some Species	Impacted	Intact	Impacted	N/A

LOCALLY SIGNIFICANT WETLAND (LSW) DETERMINATION

Exclusions. Wetland is not locally significant if one of the following conditions applies:	**Yes**	**No**
1. Wetland is artificially created entirely from upland AND is either: a) created for the purpose of controlling, storing, or maintaining stormwater; b) used for active surface mining or active log ponds; c) a ditch without free and open connection to natural waters of the state and no food or game fish; d) less than one acre in size and created unintentionally from irrigation or construction; or e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.	☐	☒
2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.	☐	☒
Exclusion criteria met?	☐	☒
LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland provides "diverse" wildlife habitat.	☐	☒
2. Wetland provides "intact" fish habitat.	☐	☒
3. Wetland provides "intact" water quality function.	☒	☐
4. Wetland provides "intact" hydrologic control function.	☐	☒
5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."	☒	☐
6. Wetland contains one or more rare plant communities.	☐	☒
7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.	☐	☒
8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.	☒	☐
LSW criteria met?	☒	☐
Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland represents a locally unique native plant community AND provides: a) "diverse habitat" or "habitat for some wildlife species"; b) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" water quality; or d) "intact" or "impacted or degraded" hydrologic control.	☐	☒
2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.	☐	☒
Optional LSW criteria met?	☐	☒
Determination: Wetland is locally significant		

Pendleton Local Wetlands Inventory
Wetland Assessment Answer Sheet and LSW Determination

GENERAL INFORMATION

Wetland Code: UR-1	**Field date:** 4/18/2012
Wetland Class: PEM / PSS / PUB	**Investigators:** ACS, TB
Method: ☒ on-site ☐ off-site	**Observation point:** Data Plots 15 & 16

FUNCTION AND CONDITION ASSESSMENT ANSWERS

OFWAM Question	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Education
1	A	C	A	B	
2	B	B	A	A	
3	B	C	A	A	
4	A	C	A	B	
5	A	C	A	B	
6	A	A	B	A	
7	B			A	
8	C				
9	B				
Descriptor	Diverse	Impacted	Intact	Intact	N/A

LOCALLY SIGNIFICANT WETLAND (LSW) DETERMINATION

Exclusions. Wetland is not locally significant if one of the following conditions applies:	**Yes**	**No**
1. Wetland is artificially created entirely from upland AND is either: a) created for the purpose of controlling, storing, or maintaining stormwater; b) used for active surface mining or active log ponds; c) a ditch without free and open connection to natural waters of the state and no food or game fish; d) less than one acre in size and created unintentionally from irrigation or construction; or e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.	☐	☒
2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.	☐	☒
Exclusion criteria met?	☐	☒
LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland provides "diverse" wildlife habitat.	☒	☐
2. Wetland provides "intact" fish habitat.	☐	☒
3. Wetland provides "intact" water quality function.	☒	☐
4. Wetland provides "intact" hydrologic control function.	☒	☐
5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."	☒	☐
6. Wetland contains one or more rare plant communities.	☐	☒
7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.	☐	☒
8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.	☒	☐
LSW criteria met?	☒	☐
Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland represents a locally unique native plant community AND provides: a) "diverse habitat" or "habitat for some wildlife species"; b) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" water quality; or d) "intact" or "impacted or degraded" hydrologic control.	☐	☒
2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.	☐	☒
Optional LSW criteria met?	☐	☒
Determination: Wetland is locally significant		

Pendleton Local Wetlands Inventory
Wetland Assessment Answer Sheet and LSW Determination

GENERAL INFORMATION

Wetland Code: UR-2	**Field date:** 4/19/2012
Wetland Class: PEM / PUB	**Investigators:** ACS, TB
Method: ☒ on-site ☐ off-site	**Observation point:** Data Plots 20 & 21

FUNCTION AND CONDITION ASSESSMENT ANSWERS

OFWAM Question	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Education
1	A		B	B	B
2	B		A	A	B
3	C		C	B	B
4	--		B	A	B
5	B		B	B	C
6	B		A	B	B
7	C			B	
8	B				
9	A				
Descriptor	Some Species	N/A	Impacted	Impacted	Potential

LOCALLY SIGNIFICANT WETLAND (LSW) DETERMINATION

Exclusions. Wetland is not locally significant if one of the following conditions applies:	**Yes**	**No**
1. Wetland is artificially created entirely from upland AND is either: a) created for the purpose of controlling, storing, or maintaining stormwater; b) used for active surface mining or active log ponds; c) a ditch without free and open connection to natural waters of the state and no food or game fish; d) less than one acre in size and created unintentionally from irrigation or construction; or e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.	☐	☒
2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.	☐	☒
Exclusion criteria met?	☐	☒
LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland provides "diverse" wildlife habitat.	☐	☒
2. Wetland provides "intact" fish habitat.	☐	☒
3. Wetland provides "intact" water quality function.	☐	☒
4. Wetland provides "intact" hydrologic control function.	☐	☒
5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."	☒	☐
6. Wetland contains one or more rare plant communities.	☐	☒
7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.	☐	☒
8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.	☐	☒
LSW criteria met?	☒	☐
Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland represents a locally unique native plant community AND provides: a) "diverse habitat" or "habitat for some wildlife species"; b) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" water quality; or d) "intact" or "impacted or degraded" hydrologic control.	☐	☒
2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.	☐	☒
Optional LSW criteria met?	☐	☒
Determination: Wetland is locally significant		

Pendleton Local Wetlands Inventory

Wetland Assessment Answer Sheet and LSW Determination

GENERAL INFORMATION

Wetland Code: UR-3	**Field date:** 4/20/2012
Wetland Class: PFO / PEM	**Investigators:** ACS, TB
Method: ☐ on-site ☒ off-site	**Observation point:** NW Reith Road

FUNCTION AND CONDITION ASSESSMENT ANSWERS

OFWAM Question	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Education
1	A	B	A	A	
2	A	A	A	A	
3	B	C	A	B	
4	--	C	B	C	
5	A	A	C	A	
6	A	A	A	C	
7	C			A	
8	A				
9	A				
Descriptor	Diverse	Impacted	Impacted	Intact	N/A

LOCALLY SIGNIFICANT WETLAND (LSW) DETERMINATION

Exclusions. Wetland is not locally significant if one of the following conditions applies:	**Yes**	**No**
1. Wetland is artificially created entirely from upland AND is either: a) created for the purpose of controlling, storing, or maintaining stormwater; b) used for active surface mining or active log ponds; c) a ditch without free and open connection to natural waters of the state and no food or game fish; d) less than one acre in size and created unintentionally from irrigation or construction; or e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.	☐	☒
2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.	☐	☒
Exclusion criteria met?	☐	☒
LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland provides "diverse" wildlife habitat.	☒	☐
2. Wetland provides "intact" fish habitat.	☐	☒
3. Wetland provides "intact" water quality function.	☐	☒
4. Wetland provides "intact" hydrologic control function.	☒	☐
5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."	☒	☐
6. Wetland contains one or more rare plant communities.	☐	☒
7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.	☐	☒
8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.	☒	☐
LSW criteria met?	☒	☐
Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:		
1. Wetland represents a locally unique native plant community AND provides: a) "diverse habitat" or "habitat for some wildlife species"; b) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" water quality; or d) "intact" or "impacted or degraded" hydrologic control.	☐	☒
2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.	☐	☒
Optional LSW criteria met?	☐	☒
Determination: Wetland is locally significant		

Appendix E. Wetland Assessment Summary Sheets

Pendleton Wetlands Inventory

OFWAM Functions and Conditions Summary Sheet

Wetland Assessment Unit: MC-1

Wildlife Habitat:	**Provides habitat for some wildlife species**	
Rationale:	More than one Cowardin class	Surface water connection to other wetland
	Dominated by emergent vegetation and ponding	One or more Water Quality limited streams
	Low interspersion	Adjacent land is primarily agriculture
	No unvegetated open water	Wetland buffer is greater than 40%
	Surface water connection to water body	
Fish Habitat:	**Impacted or degraded**	
Rationale:	Less than 25% of stream is shaded	One or more adjacent Water Quality limited streams
	Stream is in a natural channel	Adjacent land use is primarily agriculture
	10% to 25% of stream has instream structures	Salmon and/or trout present in stream
Water Quality:	**Intact**	
Rationale:	Primary water source is surface flow	Wetland is 0.5 to 5 acres, or <0.5 and connected
	Wetland floods or ponds	Adjacent land use is primarily agriculture
	High wetland vegetation cover	One or more adjacent Water Quality limited streams
Hydrologic Control:	**Impacted or degraded**	
Rationale:	Wetland is within 100 year floodplain	Dominated by emergent vegetation and ponding
	Wetland floods or ponds	Agriculture downslope of wetland
	Wetland is 0.5 to 5 acres, or <0.5 and connected	Urban uses upslope of wetland
	Water has unrestricted flow out of wetland	
Education:	**Not appropriate for educational uses**	

Pendleton Wetland Inventory

OFWAM Functions and Conditions Summary Sheet

Wetland Assessment Unit: UR-1

Wildlife Habitat:	**Provides diverse habitat for wildlife**	
Rationale:	More than one Cowardin class	Surface water connection to other wetland
	Dominated by emergent vegetation and ponding	One or more moderate Water Quality streams
	Moderate interspersion	Adjacent land is primarily developed uses
	More than 1 acre of open water	Wetland buffer is between 10 and 40%
	Surface water connection to water body	
Fish Habitat:	**Impacted or degraded**	
Rationale:	Less than 25% of stream is shaded	One or more adjacent Water Quality limited streams
	Only portions of stream are modified	Adjacent land use is primarily developed uses
	<10% of stream has instream structures	Salmon and/or trout present in stream
Water Quality:	**Intact**	
Rationale:	Primary water source is surface flow	Wetland is more than 5 acres
	Wetland floods or ponds	Adjacent land use is primarily developed uses
	High wetland vegetation cover	One or more moderate Water Quality streams
Hydrologic Control:	**Intact**	
Rationale:	Wetland is not within 100 year floodplain	Dominated by emergent vegetation and ponding
	Wetland floods or ponds	Development downslope of wetland
	Wetland is more than 5 acres	Urban uses upslope of wetland
	Wetland has minor flow restrictions	
Education:	**Not appropriate for educational uses**	

Pendleton Wetlands Inventory

OFWAM Functions and Conditions Summary Sheet

Wetland Assessment Unit: UR-2

Wildlife Habitat:	**Provides habitat for some wildlife species**	
Rationale:	More than one Cowardin class	No surface connection, but wetlands w/in 3 miles
	Dominated by emergent vegetation and ponding	One or more Water Quality limited streams
	Low interspersion	Adjacent land is primarily agriculture
	No unvegetated open water	Wetland buffer is greater than 40%
	No surface connection, but waterbody w/in 1 mile	
Fish Habitat:	**N/A**	
Rationale:		
Water Quality:	**Impacted or degraded**	
Rationale:	Primary water source is precipitation	Wetland is 0.5 to 5 acres, or <0.5 and connected
	Wetland floods or ponds	Adjacent land use is primarily agriculture
	Low wetland vegetation cover	One or more adjacent Water Quality limited streams
Hydrologic Control:	**Impacted or degraded**	
Rationale:	Wetland is not within 100 year floodplain	Dominated by emergent vegetation and ponding
	Wetland floods or ponds	Agriculture downslope of wetland
	Wetland is 0.5 to 5 acres, or <0.5 and connected	Agriculture upslope of wetland
	Wetland has restricted outlet	
Education:	**Potential for education uses**	
Rationale:	Access allowed by permission only	Other habitats can be observed not accessed
	One or two visible hazards to public	No access point to wetland exists
	No intact fish or wildlife, but both functions not lost	Wetland is not limited mobility accessible

Pendleton Wetlands Inventory

OFWAM Functions and Conditions Summary Sheet

Wetland Assessment Unit: UR-3

Wildlife Habitat:	**Provides diverse habitat for wildlife**	
Rationale:	More than one Cowardin class	Surface water connection to other wetland
	Dominated by woody vegetation	One or more Water Quality limited streams
	Moderate interspersion	Adjacent land is primarily open space
	No unvegetated open water	Wetland buffer is greater than 40%
	Surface water connection to water body	
Fish Habitat:	**Impacted or degraded**	
Rationale:	Between 25% and 50% of stream is shaded	One or more adjacent Water Quality limited streams
	Stream is in a natural channel	Adjacent land is primarily open space
	<10% of stream has instream structures	Salmon and/or trout present in stream
Water Quality:	**Impacted or degraded**	
Rationale:	Primary water source is surface flow	Wetland is 0.5 to 5 acres, or <0.5 and connected
	Wetland floods or ponds	Adjacent land is primarily open space
	High wetland vegetation cover	One or more adjacent Water Quality limited streams
Hydrologic Control:	**Intact**	
Rationale:	Wetland is within 100 year floodplain	Dominated by woody vegetation
	Wetland floods or ponds	Open space downslope of wetland
	Wetland is 0.5 to 5 acres, or <0.5 and connected	Urban uses upslope of wetland
	Water has unrestricted flow out of wetland	
Education:	**Not appropriate for educational uses**	

Appendix F. DSL Wetland Determination Files

WetDet #	Site TRSQQ	Taxlot	Address/Location	Remarks	Status
WD1995-0196	02N32E09		SW Court Pl & 20th	Former mill pond, developed	No WL
WD2000-0382	02N32E09		500 SW Dorion Ave	Trail on dike, near baseball field	No WL
WD2001-0486	02N32E07	901	Off Reith Rd.	Small wetland, "<50cy threshold"	Filled
WD2002-0039	02N32E09	803,810,900	20th & Westgate Rd.	Water of the State (Umatilla)	Bridged
WD2003-0517	03N32E31	9900-part	Stage Gulch Rd.	See 06-0650 update	Updated
WD2003-0588	02N32E07A	100	Off Reith Rd.	See 06-0662 update	Updated
WD2006-0650	03N32E31	9900-part	Stage Gulch (airport)	Drainages but no wetlands noted	No WL
WD2006-0662	02N32E07A	100-part	Off Reith Rd.	Sm. drainage but no wetlands	No WL
WD2009-0150	02N32E10BD	200	10th St.	Roy Raley Park, no wetlands	No WL
WD2009-0369	02N32E08	700,1400	500 SW Dorion Ave	WLC in study area-new Outfall	Filled
WD2011-0095	02N32E15DD	400	Tutuilla Cr. Rd.	Tutuilla Cr. only	No WL

Appendix H. Technical Staff and Qualifications

Tim Brooks, ASLA: **Principal Environmental Planner**
Project Role: Project Manager
Project Responsibilities: Wetland inventory, assessment; agency coordination

Tim has more than 23 years of experience managing State Goal 5 natural resource inventory and planning projects for local communities in Oregon. Tim managed wetland inventories for the cities of Albany, Corvallis, Damascus, Gresham, Junction City, Newberg, Portland, Prineville, West Linn and Woodburn. In addition to project management, Tim has completed field investigations, wetland delineations and assessments, sensitive species surveys, and wildlife habitat assessments for both public and private clients throughout Oregon and Washington. Tim completed the DSL/Corps/USFWS Interagency Wetland Delineation Course in 1993. Beginning in 1995, Tim worked under the guidance of Andy Castelle and other professional wetland scientists, and has completed specialty courses in wetland science.

Anita Cate Smyth, PWS: **Wetland Scientist**
Project Role: Senior Wetland Scientist
Project Responsibilities: Wetland determinations and assessments, data compilation

Anita is a Professional Wetland Scientist with 15 years of experience in natural resource inventories, with emphasis on wetland delineation and permitting. She holds Professional Master's Degree in Environmental Sciences from Oregon State University. Anita has served as the senior wetland scientist on LWIs for the City's of Damascus, Junction City and Pendleton. During her nine years at a multidisciplinary civil engineering firm, she expanded that technical and project management expertise through execution of numerous wetland mitigation site design projects, natural resource inventories, and riparian and wetland functional assessments as stand-alone projects and as part of Joint Permit Applications for specific actions. She spent two years at Clackamas County's Department of Transportation and Development, Engineering Section as a program manager and a resource for wetland and other environmental expertise.

Loverna Wilson: **Wetland Scientist**
Project Role: Phase I Wetland Scientist and Plant Ecologist
Project Responsibilities: Wetland determinations and assessments

Loverna Wilson obtained her M.S. in botany from Oregon State University, specializing in plant ecology. She has extensive experience performing wetland inventories and assessments, including field delineations and determinations, functional assessments, rare plant surveys, mitigation design, and post-construction monitoring. In addition to individual project delineations, Loverna has prepared or assisted with Local Wetland Inventories for numerous cities throughout Oregon, including Corvallis, West Linn, Lowell, Rockaway Beach, Gearhart, Tillamook, and Bay City. Her LWI responsibilities included field determinations, descriptions, functional assessments, and mapping of wetlands. Loverna frequently teaches classes and workshops on wetland and upland plant identification. She also conducts field trips and gives presentations

about wetland characteristics, functional values and restoration strategies, including presentations for DSL and other agencies.

Jesse Winterowd:	**Project Planner**
Project Role:	GIS Analyst
Project Responsibilities:	Mapping

Jesse has over 10 years of GIS experience. He holds a Masters in Urban and Regional Planning from Portland State University. During his professional career he has prepared GIS maps and analysis supporting Goal 5 and 7 natural features, buildable lands inventories, and GIS-based analysis for clients and jurisdictions around the state, including work within The Dalles, Pendleton, Molalla, Scappoose, Cottage Grove, Woodburn, Newberg, and McMinnville.

Appendix I. References

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Additional references are listed in the Methods section.