

FINAL AQUATIC RESOURCE DELINEATION REPORT

US-91, Park Lawn to Siphon Rd, Bannock Co
Project No. A021(860), Key No. 21860
December 14, 2023

Prepared by

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TABLE OF CONTENTS

Report Summary	3
Acronyms and Abbreviations	4
1.0 Introduction	5
2.0 Methods.....	5
3.0 Existing Conditions	6
4.0 Aquatic Resources.....	7
5.0 References	12
Appendix A Location Maps.....	13
Appendix B Aquatic Resource Maps.....	16
Appendix C Wetland Determination Data Forms.....	19
Appendix D Supplementary Maps.....	32
USFWS NWI Map.....	33
NRCS Soil Survey	34
Appendix E Supplementary Data.....	39
WETS Table	40
Climatological Data	42

TABLES

Table 1. Aquatic Resources Identified Within the Study Area.....	9
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Report Summary

On June 2, 2023, Bionomics Environmental, Inc. conducted an Aquatic Resource Delineation for the US-91, Park Lawn to Siphon Road project in Chubbuck, Idaho (see Appendix A, Location Maps). The Idaho Transportation Department (ITD) District 5 is proposing roadway widening along US-91 (Yellowstone Avenue) from Park Lawn Avenue to Southside Way. The project will widen the existing US-91 three-lane section to five lanes and the existing Siphon Road/New Day Parkway two-lane and three-lane sections to five lanes. The project also includes intersection capacity enhancements (including the additional through and turn lanes proposed at New Day/Siphon intersection), traffic signalization, Americans with Disabilities Act compliant curb ramps, and crosswalks at the intersection of Siphon Road/New Day Parkway and US-91. In addition, the project will pipe and bury the existing Chester Drain that parallels US-91 on the east side.

The study area was defined by the project actions, which extend along US-91 from 200 feet north of Park Lawn Avenue (milepost [MP] 81.2) northward to Southside Way (MP 81.72), and extend from US-91 westward approximately 400 feet along Siphon Road and eastward along New Day Parkway 2,680 feet to Whitaker Road. The study area is approximately 17 acres in size. After surveying the study area, Chester Drain, the Tyhee Wasteway Canal, an unnamed ditch and three palustrine emergent (PEM) wetlands were identified. A summary table of aquatic resources identified within the study area, including size (square feet and acres) and length (linear feet), can be found in Section 4.0, Aquatic Resources.

The dominant aquatic resource classifications within the study area are riverine and PEM wetland. Chester Drain, Tyhee Wasteway Canal, and the unnamed ditch are all excavated and irrigation related, with water quality being affected by irrigation return flows and agricultural pollution. The associated fringe wetlands delineated within the study area have been disturbed and modified through irrigation system maintenance.

No navigable or Section 10 waters were identified in the study area.

Acronyms and Abbreviations

AC	Acres
FAC	Facultative
IDEQ	Idaho Department of Environmental Quality
ITD	Idaho Transportation Department
LF	Linear Feet
MP	Milepost
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High-Water Mark
PEM	Palustrine Emergent
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 Introduction

The purpose of the US-91, Park Lawn to Siphon Rd, Bannock County, Idaho aquatic resource delineation is for use in a preliminary jurisdictional determination. In addition, Idaho Transportation Department (ITD) will use the aquatic resource information from the delineation for a U.S Army Corps of Engineers (USACE) Joint Section 404 Permit Application.

1.0.1 Contact Information

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1.0.2 Survey Area Location

When entering Chubbuck, Idaho by Interstate 86, take Exit 61 and travel north along US-91 for approximately one mile to the Park Lawn Avenue intersection (milepost [MP] 81.2). The survey area begins 200 feet north of the intersection and extends northward to Southside Way (MP 81.72). The latitude and longitude of the center point of the survey area is 42.934969, -112.466508. See the location map (Appendix A, Location Maps) which clearly identifies the area surveyed.

2.0 Methods

Aquatic resources, including special aquatic sites such as wetlands, were identified and evaluated through field investigation, literature search, professional knowledge, and experience. Prior to initiating the fieldwork, existing data was reviewed to determine potential aquatic resource locations and conditions within the study area. Data sources used in this study include the following:

- **Aerial Photographs** – Aerial photographs of the study area from Google Earth, dated 2021, and the U.S. Department of Agriculture (USDA) National Agricultural Imagery Program website, dated 2021, were reviewed for potential locations of aquatic resources including wetlands and relation of aquatic resources and wetlands to the proposed study area.
- **Topographic Maps** – U.S. Geological Survey (USGS) 7.5 Minute Topographic Map of Pocatello North, Idaho, dated 1971, was reviewed to identify locations of possible aquatic resources, including wetlands in the study area. In addition, adjacent quadrangles were reviewed to determine hydrological connectivity to traditional navigable waters.
- **National Hydrography Dataset** – USGS's National Hydrography Dataset was reviewed to identify locations of possible aquatic resources, including wetlands in the study area, as well as determine hydrological connectivity to traditional navigable waters.
- **National Wetland Plant List** – The USACE's National Wetland Plant List was

utilized to determine the wetland indicator status ratings and rating categories of plant species identified during the delineation.

- **National Wetland Inventory Maps** – U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps were reviewed for the study area to assist in identifying potential aquatic resource locations. Further description of NWI maps can be found in Section 4.0.4.
- **Soil Survey and Hydric Soils List** – The USDA Natural Resource Conservation Service (NRCS) Soil Survey of Bannock County Area, Idaho (including the Hydric Rating) was reviewed for the study area. Further description of soils can be found in Section 4.0.5.

The investigation was conducted in accordance with the USACE Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE, 2008a), and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE, 2008b).

Within the wetland areas, dominant vegetation was assessed visually and identified using well known plant identification field guides (see Section 5.0, References). Wetland boundaries were determined by the distinct demarcation between hydrophytic and non-hydrophytic vegetation species. Throughout the study area, a clear distinction between hydrophytic and non-hydrophytic species is common and apparent. Hydric soil evaluations were made using the soil survey maps, hydric soils list and field observations for characteristics. Soil chroma was assessed using a Munsell Soil Color Chart. Soils were sampled in wetland areas to confirm hydric conditions. Field observations for each wetland area were recorded on field data sheets. The estimated wetland boundaries were surveyed using a Trimble GeoXH Global Position System unit. Mapping was conducted using ArcView Geographic Information System.

Deviations from standard USACE methodology: A portion of the study area contained significantly disturbed soil due to a layer of roadfill. In this area, soils were assumed hydric based on the predominance of hydrophytic vegetation and hydrology. Wetland boundaries were determined by the distinct demarcation between hydrophytic and non-hydrophytic vegetation species. Throughout the study area, a clear distinction between hydrophytic and non-hydrophytic species is common and apparent.

3.0 Existing Conditions

The project is located within Bannock County on US-91, within the city of Chubbuck, Idaho (see Appendix A, Location Maps). The study area was defined by the project actions, which extend along US-91 from 200 feet north of Park Lawn Avenue (MP 81.2) northward to Southside Way (MP 81.72), and extend from US-91 westward approximately 400 feet along Siphon Road and eastward along New Day Parkway 2,680 feet to Whitaker Road. The study area is approximately 17 acres in size. The legal description is as follows: Section 3, Township 6 South, Range 34 East, and Section 34, Township 5 South, Range 34 East, Boise Meridian.

The study area is located within the nearly level Upper Snake River Plain, which contains cropland, pastureland, cities, suburbs, and industries. Extensive surface-irrigated small grain,

sugar beet, potato, and alfalfa farming occur. Frost-free season is shorter and crop variety is less than downstream in the Treasure Valley and Magic Valley ecoregions. The Upper Snake River Plain ecoregion is lower and less rugged than the Dissected Plateaus and Teton Basin and Semiarid Hills and Low Mountains ecoregions. Aquatic resources have been degraded by irrigation diversions, channelization, dams, sewage treatment, nonpoint pollution, food processing, and phosphate processing (USEPA, 2000).

Topographic maps of the study area indicate the topography is relatively flat. The elevation within the project area is 4,465 feet above sea level.

Trace amounts of precipitation occurred on the day of the survey, with three quarters of an inch occurring during the week prior (see Appendix E, Supplementary Data).

Land use in the vicinity of the project is primarily residential, agricultural and commercial.

4.0 Aquatic Resources

On June 2, 2023, Bionomics Environmental, Inc. conducted an Aquatic Resource Delineation within the study area (see Appendix A, Location Maps). After surveying the study area, Chester Drain, the Tyhee Wasteway Canal (also known as Tyhee Wasteway Drain), an unnamed ditch and three palustrine emergent (PEM) wetlands were identified. The Aquatic Resources Maps (see Appendix B) illustrate the locations of the aquatic resources and wetlands identified, and the Wetland Determination Data Forms (see Appendix C) includes wetland data forms for the wetlands described below.

The **Chester Drain** was identified flowing south to north along the east side of US-91 (see Appendix B, Aquatic Resource Maps 1 and 2 and Photograph 1) within the study area. Chester Drain is an excavated irrigation drain that flows intermittently within the study area. It crosses diagonally under US-91 where it flows into the Tyhee Wasteway Canal. The wasteway extends seven miles to northwest of Tyhee, Idaho, where it empties into Ross Fork. Ross Fork then flows west, where it empties into Clear Creek which then empties into the American Falls Reservoir. Within the study area, the drain is approximately five feet in width and on average two feet in depth. The OHWM was defined by a clear natural vegetation line and the bank slope. The drain supports the three wetland communities identified below.



Photograph 1. Chester Drain. Site photograph taken just south of the US-91 and Siphon Road intersection, looking south toward the drain.

Wetland 1 is a PEM wetland identified along Chester Drain within the study area (see Appendix B, Aquatic Resource Map 2 and Photograph 2). The wetland is 1,567 square feet/0.04 acres in size within the study area. The wetland community is dominated by reed canary grass (*Phalaris arundinacea*). The NRCS soil survey indicates soils in the area are mapped as Bahem silt loam, 0 to 2 percent slopes. This soil complex is not considered a hydric soil complex. Soils were sampled within the wetland community, which exhibited a matrix color of 10YR 3/2 and

2.5Y 3/1 with concentrations along pore linings. Wetland hydrology was apparent due to the presence of soil saturation, high water table, and vegetation passing the facultative (FAC)-neutral test.



Photograph 2. Wetland 1. Site photograph taken along US-91 looking north toward Chester Drain and Wetland 1.



Photograph 3. Wetland 2. Site photograph taken along US-91 looking south toward Chester Drain and Wetland 2.

Wetland 2 is a PEM wetland identified along Chester Drain within the study area (see Appendix B, Aquatic Resource Map 2 and Photograph 3). The wetland is 2,758 square feet/0.06 acres in size within the study area. The wetland community is dominated by reed canary grass. The NRCS soil survey indicates soils in the area are mapped as Bahem silt loam, 0 to 2 percent slopes. This soil complex is not considered a hydric soil complex. Soils were sampled within the wetland community, which exhibited a matrix color of 10YR 2/1, 10YR 3/2, and 10YR 5/1 with concentrations within the matrix. Wetland hydrology was apparent due to the presence of soil saturation, high water table, aquatic invertebrates and vegetation passing the FAC-neutral test.

Wetland 3 is a PEM wetland identified along Chester Drain within the study area (see Appendix B, Aquatic Resource Maps 1 and 2 and Photograph 4). The wetland is 5,269 square feet/0.12 acres in size within the study area. The wetland community is dominated by broadleaf cattail (*Typha latifolia*) and madwort (*Asperugo procumbens*). The NRCS soil survey indicates soils in the area are mapped as Bahem silt loam, 0 to 2 percent slopes. This soil complex is not considered a hydric soil complex. Soils were sampled within the wetland community, which exhibited a matrix color of 10YR 4/2. The soil was road fill and was assumed to be hydric based on hydrophytic vegetation and hydrology. Wetland hydrology was apparent due to the presence of a high water table and soil saturation.



Photograph 4. Wetland 3. Site photograph taken the US-91 and Siphon Road intersection looking northwest toward Chester Drain and Wetland 3.

The **Tyhee Wasteway Canal** (also known as Tyhee Wasteway Drain) was identified flowing south to north along the west side of US-91 (see Appendix B, Aquatic Resource Map 1 and Photograph 5) outside of the study area. Tyhee Wasteway Canal is an excavated irrigation wasteway that is used to drain excess irrigation water. The channel originates at the US-91 and Siphon Road intersection. The wasteway flows intermittently and extends seven miles from its origin to northwest of Tyhee, Idaho, where it empties into Ross Fork. Ross Fork then flows west, where it empties into Clear Creek which then empties into the American Falls Reservoir.



Photograph 5. Tyhee Wasteway Canal. Site photograph taken north of the US-91 and Siphon Road intersection, looking south toward the wasteway.



Photograph 6. Unnamed Ditch. Site photograph taken at the US-91 and Siphon Road intersection, looking east toward the ditch.

An **Unnamed Ditch** was identified flowing east to west along New Day Parkway (see Appendix B, Aquatic Resource Map 1 and Photograph 6) within the study area. The unnamed ditch is an abandoned excavated field drainage that flows intermittently into the Chester Drain, and then the Tyhee Wasteway Canal. The Tyhee Wasteway Canal flows in a generally northwest direction until it empties into Ross Fork. Ross Fork then flows west, where it empties into Clear Creek which then empties into the American Falls Reservoir. Within the study area, the ditch is approximately two feet in width and on average one foot in depth. The OHWM was defined by the bank slope.

4.0.1 Aquatic Resources Table

Table 1. Aquatic Resources Identified within the Study Area.

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acres) For all aquatic resource features	Aquatic Resource Length (linear feet) For ditches, canals stream, river features
	Cowardin*	Location (lat/long)		
Chester Drain	R4SBCx	42.932673, -112.466360	0.13 AC	1,803 LF
Wetland 1	PEM	42.930045, -112.466295	0.04 AC	-
Wetland 2	PEM	42.931228, -112.466356	0.06 AC	-

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acres) For all aquatic resource features	Aquatic Resource Length (linear feet) For ditches, canals stream, river features
	Cowardin*	Location (lat/long)		
Wetland 3	PEM	42.934864, -112.466354	0.12 AC	-
Tyhee Wasteway Canal	R4SBCx	42.938281, -112.466747	0.00 AC (outside of study area)	0 LF (outside of study area)
Unnamed Ditch	R4SBCx	42.934882, -112.465666	0.01 AC	258 LF
Total			0.36 AC	2,061 LF

***PEM:** Palustrine emergent, **R4SBCx:** Riverine, intermittent, streambed, seasonally flooded, excavated

4.0.2 Hydrology

The study area is within the Portneuf River Subbasin (Hydrologic Unit Code 17040208) which lies in southeast Idaho. The Portneuf River is approximately 100 miles long and drains an area of roughly 1,360 square miles. The subbasin is primarily in Bannock and Caribou Counties but has small portions in Bingham, Power, and Oneida Counties as well. Marsh Creek is the only major tributary to the Portneuf River (IDEQ 2010).

Within the study area, Chester Drain and an unnamed ditch were identified. The Tyhee Wasteway Canal was identified flowing adjacent to the study area. All of these features are irrigation related with water flowing intermittently, typically from April to October.

The Tyhee Lateral Canal is piped through the study area along the north side of New Day Parkway/Siphon Road. The Tyhee Lateral Canal resides entirely underground while within the study area; and therefore, it is below the limits of work and will not be affected by the project.

4.0.3 Vegetation

The wetland vegetation found within the study area consists of the following:

- Broadleaf cattail,
- Reed canary grass, and
- Wooly sedge (*Carex pellita*).

The upland vegetation found within the study area consists of the following:

- Cheatgrass (*Bromus tectorum*),
- Common dandelion (*Taraxacum officinale*),
- Creeping thistle (*Cirsium arvense*),
- Field pennycress (*Thlaspi arvense*),
- Lamb's quarters (*Chenopodium album*),
- Madwort,
- Prickly lettuce (*Lactuca serriola*),
- Purple mustard (*Chorispora tenella*),

- Smooth brome grass (*Bromus inermis*),
- Virginia creeper (*Parthenocissus quinquefolia*),
- Western wheat grass (*Elymus smithii*), and
- Yellow salsify (*Tragopogon dubius*).

4.0.4 National Wetland Inventory Maps

NWI maps reviewed for the project revealed Tyhee Wasteway Canal outside of the study area along US-91, north of Siphon Road, which was coded as riverine, intermittent, streambed, seasonally flooded, excavated (see Appendix D, Supplementary Maps). During field survey, the above feature was confirmed to reside outside of the study area. Additionally, an unnamed ditch and Chester Drain with associated fringe wetland communities were identified within the study area.

4.0.5 Soils

According to the USDA NRCS Soil Survey of Bannock County Area, Idaho, the soils in the study area consist of Bahem silt loam, 0 to 2 percent slopes, Broxon silt loam, 2 to 4 percent slopes, and Urban land-Bahem-Broxon complex, 0 to 3 percent slopes. Review of the hydric soil list identified none of these soils as hydric (NRCS, 2021) (see Appendix D, Supplementary Maps).

4.0.6 Wetland Determination Data Forms

Wetland determination data forms from the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE, 2008a) for the wetlands identified are included in Appendix C.

5.0 References

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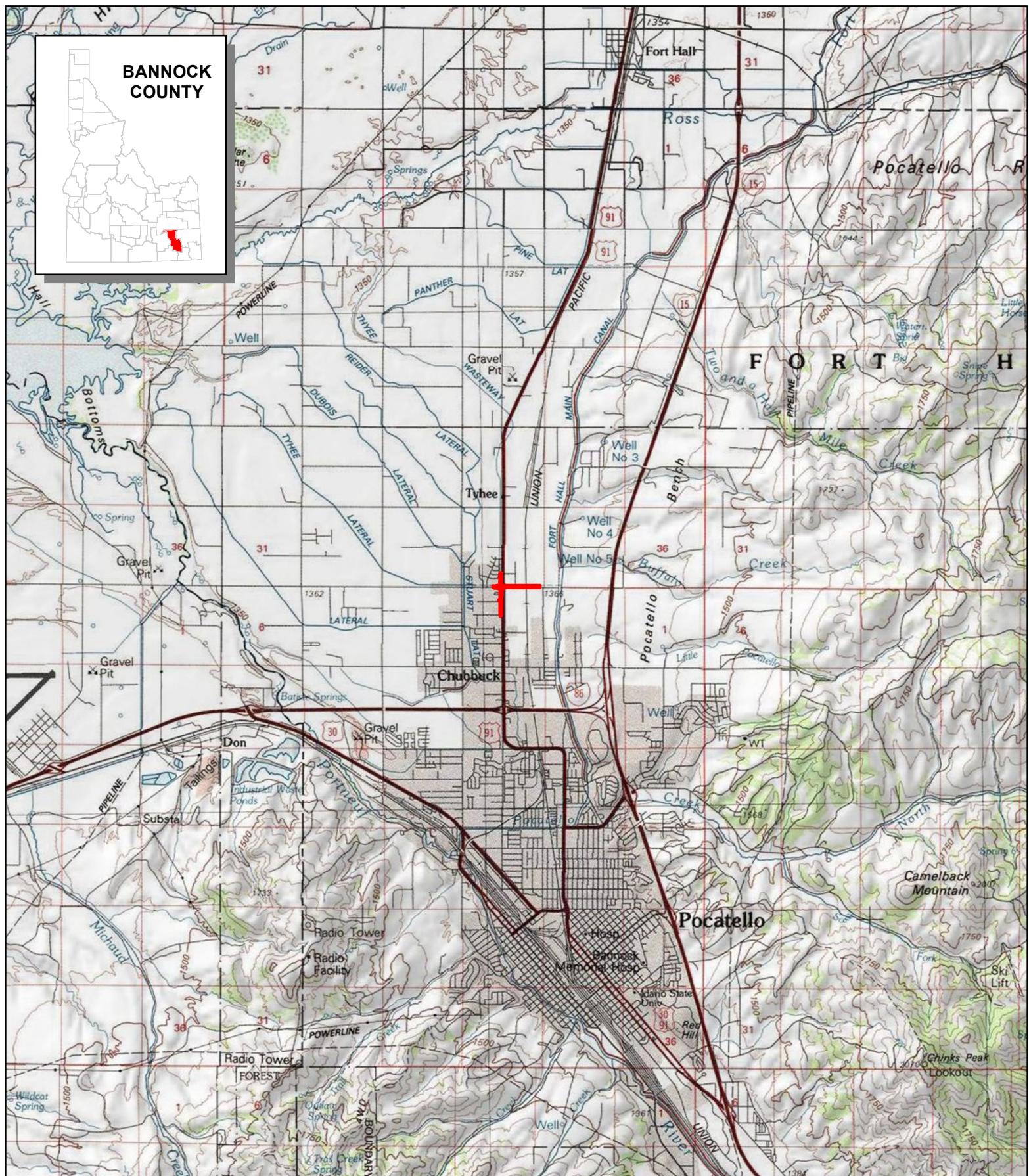
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Appendix A

Location Maps



BANNOCK
COUNTY

Vicinity Map for
US-91, Park Lawn to Siphon Rd
Project No. A021(860), Key No. 21860

Source: USGS 7.5 Minute Topographic Map of Pocatello North, Idaho 1971

Legend

 Study Area

N

0

1.75

3.5 Miles



Site Map for
US-91, Park Lawn to Siphon Rd
Project No. A021(860), Key No. 21860

Legend

 Study Area



0 500 1,000 Feet

Appendix B

Aquatic Resource Maps

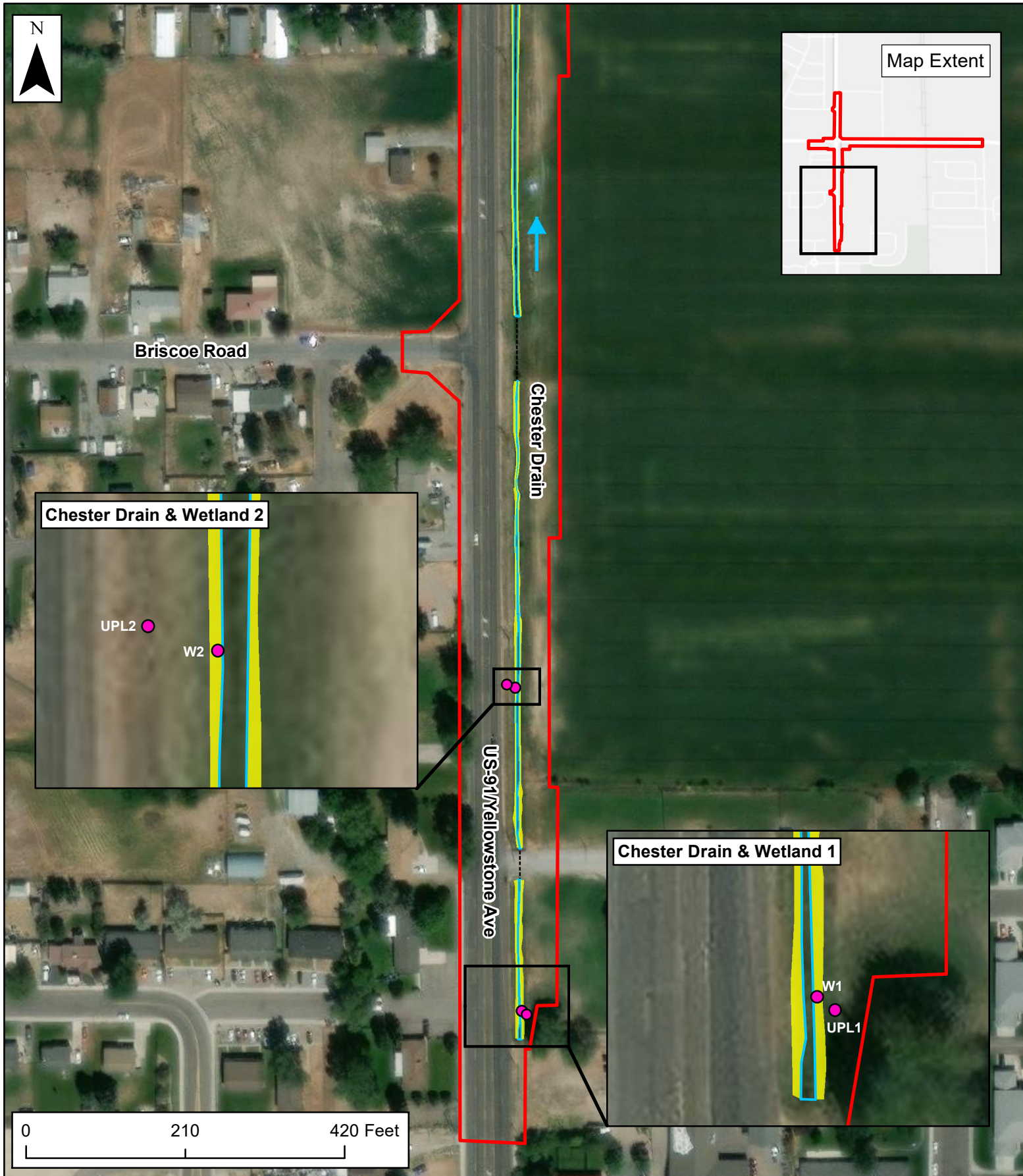


Aquatic Resource Map 1 for
US-91, Park Lawn to Siphon Rd
Project No. A021(860), Key No. 21860

Delineation Conducted By:
Bionomics Environmental, Inc.

Legend

- | | | |
|---|--|--|
| Study Area | Emergent Wetland | Culverts |
| ● Soil Pits | OHWM | Adjacent Open Water |
| | ← Directional Flow | |



Aquatic Resource Map 2 for
US-91, Park Lawn to Siphon Rd
Project No. A021(860), Key No. 21860

Delineation Conducted By:
Bionomics Environmental, Inc.

Legend

Study Area

● Soil Pits

Emergent Wetland

OHWM

← Directional Flow

----- Culverts

----- Adjacent Open Water

Appendix C
Wetland Determination Data
Forms

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Arid West Region See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: <u>US-91, Park Lawn to Siphon Rd</u>	City/County: <u>Bannock</u>	Sampling Date: <u>06/02/2023</u>
Applicant/Owner: <u>Idaho Transportation Department</u>	State: <u>ID</u>	Sampling Point: <u>Upl1</u>
Investigator(s): <u>N. Parks, K. Carr</u> Section, Township, Range: <u>Section 3, Township 6 South, Range 34 East</u>		
Landform (hillside, terrace, etc.): <u>Terrace</u>	Local relief (concave, convex, none): <u>None</u>	Slope (%): <u>0</u>
Subregion (LRR): <u>LRR B</u>	Lat: <u>42.930045</u>	Long: <u>-112.466295</u> Datum: <u>NAD 83</u>
Soil Map Unit Name: <u>Bahem silt loam, 0 to 2 percent slopes</u>		NWI classification: <u>N/A</u>

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 1 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B)																
1. <u> </u>																					
2. <u> </u>																					
3. <u> </u>																					
4. <u> </u>																					
=Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u> </u>)				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 15 </u></td> <td>x 2 = <u> 30 </u></td> </tr> <tr> <td>FAC species <u> 70 </u></td> <td>x 3 = <u> 210 </u></td> </tr> <tr> <td>FACU species <u> 7 </u></td> <td>x 4 = <u> 28 </u></td> </tr> <tr> <td>UPL species <u> 3 </u></td> <td>x 5 = <u> 15 </u></td> </tr> <tr> <td>Column Totals: <u> 95 </u> (A)</td> <td><u> 283 </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u> 2.98 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 15 </u>	x 2 = <u> 30 </u>	FAC species <u> 70 </u>	x 3 = <u> 210 </u>	FACU species <u> 7 </u>	x 4 = <u> 28 </u>	UPL species <u> 3 </u>	x 5 = <u> 15 </u>	Column Totals: <u> 95 </u> (A)	<u> 283 </u> (B)	Prevalence Index = B/A = <u> 2.98 </u>	
Total % Cover of:	Multiply by:																				
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																				
FACW species <u> 15 </u>	x 2 = <u> 30 </u>																				
FAC species <u> 70 </u>	x 3 = <u> 210 </u>																				
FACU species <u> 7 </u>	x 4 = <u> 28 </u>																				
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3. <u> </u>																					
4. <u> </u>																					
5. <u> </u>																					
=Total Cover																					
Herb Stratum	(Plot size: <u> 5 </u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u> </u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Pascopyrum smithii</u>		<u>70</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Phalaris arundinacea</u>		<u>15</u>	<u>No</u>	<u>FACW</u>																	
3. <u>Bromus tectorum</u>		<u>3</u>	<u>No</u>	<u>UPL</u>																	
4. <u>Lactuca serriola</u>		<u>3</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Taraxacum officinale</u>		<u>2</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Cirsium arvense</u>		<u>2</u>	<u>No</u>	<u>FACU</u>																	
7. <u> </u>																					
8. <u> </u>																					
<u>95</u> =Total Cover																					
Woody Vine Stratum	(Plot size: <u> </u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
1. <u> </u>																					
2. <u> </u>																					
=Total Cover																					
% Bare Ground in Herb Stratum <u> 5 </u>		% Cover of Biotic Crust <u> </u>																			
Remarks:																					

SOIL

Sampling Point: Up11

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Water Marks (B1) (Riverine)	
☐ High Water Table (A2)	☐ Biotic Crust (B12)	☐ Sediment Deposits (B2) (Riverine)	
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Drift Deposits (B3) (Riverine)	
☐ Water Marks (B1) (Nonriverine)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Sediment Deposits (B2) (Nonriverine)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3) (Nonriverine)	☐ Presence of Reduced Iron (C4)	☐ Crayfish Burrows (C8)	
☐ Surface Soil Cracks (B6)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	☐ Shallow Aquitard (D3)	
☐ Water-Stained Leaves (B9)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

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

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> X </u>	No <u> </u>
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>			
Remarks:					

Tree Stratum		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
			=Total Cover	
Sapling/Shrub Stratum		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Phalaris arundinacea</i>	100	Yes	FACW
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		100	=Total Cover	
Woody Vine Stratum		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
			=Total Cover	
% Bare Ground in Herb Stratum		% Cover of Biotic Crust		
Remarks:				

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: 100.0% (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 0	x 5 = 0
Column Totals: 100 (A)	200 (B)
Prevalence Index = B/A = 2.00	

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					Loamy/Clayey	
6-15	2.5Y 3/1	95	5YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 1 cm Muck (A9) (LRR C)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ 2 cm Muck (A10) (LRR B)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1)	☐ Iron-Manganese Masses (F12) (LRR D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5) (LRR C)	☐ Depleted Matrix (F3)	☐ Red Parent Material (F21)
☐ 1 cm Muck (A9) (LRR D)	☒ Redox Dark Surface (F6)	☐ Very Shallow Dark Surface (F22)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if observed):	Hydric Soil Present?
Type: _____	Yes ☒ No ☐
Depth (inches): _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Water Marks (B1) (Riverine)	
☒ High Water Table (A2)	☐ Biotic Crust (B12)	☐ Sediment Deposits (B2) (Riverine)	
☒ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Drift Deposits (B3) (Riverine)	
☐ Water Marks (B1) (Nonriverine)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Sediment Deposits (B2) (Nonriverine)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3) (Nonriverine)	☐ Presence of Reduced Iron (C4)	☐ Crayfish Burrows (C8)	
☐ Surface Soil Cracks (B6)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	☐ Shallow Aquitard (D3)	
☐ Water-Stained Leaves (B9)	☐ Other (Explain in Remarks)	☒ FAC-Neutral Test (D5)	

Field Observations:			
Surface Water Present?	Yes ☐ No ☒	Depth (inches):	
Water Table Present?	Yes ☒ No ☐	Depth (inches):	8
Saturation Present?	Yes ☒ No ☐	Depth (inches):	6
(includes capillary fringe)			
Wetland Hydrology Present? Yes ☒ No ☐			

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

Remarks:
located along bank of irrigation ditch

SOIL

Sampling Point: Up12

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Water Marks (B1) (Riverine)	
☐ High Water Table (A2)	☐ Biotic Crust (B12)	☐ Sediment Deposits (B2) (Riverine)	
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Drift Deposits (B3) (Riverine)	
☐ Water Marks (B1) (Nonriverine)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Sediment Deposits (B2) (Nonriverine)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3) (Nonriverine)	☐ Presence of Reduced Iron (C4)	☐ Crayfish Burrows (C8)	
☐ Surface Soil Cracks (B6)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	☐ Shallow Aquitard (D3)	
☐ Water-Stained Leaves (B9)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)		Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Arid West Region See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: <u>US-91, Park Lawn to Siphon Rd</u>	City/County: <u>Bannock</u>	Sampling Date: <u>06/02/2023</u>
Applicant/Owner: <u>Idaho Transportation Department</u>	State: <u>ID</u>	Sampling Point: <u>W2</u>
Investigator(s): <u>N. Parks, K. Carr</u> Section, Township, Range: <u>Section 3, Township 6 South, Range 34 East</u>		
Landform (hillside, terrace, etc.): <u>Bank of Irrigation Ditch</u>	Local relief (concave, convex, none): <u>Concave</u>	Slope (%): <u>5</u>
Subregion (LRR): <u>LRR B</u>	Lat: <u>42.931228</u>	Long: <u>-112.466356</u> Datum: <u>NAD 83</u>
Soil Map Unit Name: <u>Bahem silt loam, 0 to 2 percent slopes</u>		NWI classification: <u>N/A</u>

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 1 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B)																
1. <u> </u>																					
2. <u> </u>																					
3. <u> </u>																					
4. <u> </u>																					
=Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u> </u>)				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 100 </u></td> <td>x 2 = <u> 200 </u></td> </tr> <tr> <td>FAC species <u> 0 </u></td> <td>x 3 = <u> 0 </u></td> </tr> <tr> <td>FACU species <u> 0 </u></td> <td>x 4 = <u> 0 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 100 </u> (A)</td> <td><u> 200 </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u> 2.00 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 100 </u>	x 2 = <u> 200 </u>	FAC species <u> 0 </u>	x 3 = <u> 0 </u>	FACU species <u> 0 </u>	x 4 = <u> 0 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 100 </u> (A)	<u> 200 </u> (B)	Prevalence Index = B/A = <u> 2.00 </u>	
Total % Cover of:	Multiply by:																				
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																				
FACW species <u> 100 </u>	x 2 = <u> 200 </u>																				
FAC species <u> 0 </u>	x 3 = <u> 0 </u>																				
FACU species <u> 0 </u>	x 4 = <u> 0 </u>																				
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																				
Column Totals: <u> 100 </u> (A)	<u> 200 </u> (B)																				
Prevalence Index = B/A = <u> 2.00 </u>																					
1. <u> </u>																					
2. <u> </u>																					
3. <u> </u>																					
4. <u> </u>																					
5. <u> </u>																					
=Total Cover																					
Herb Stratum	(Plot size: <u> 5 </u>)				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% <u>X</u> Prevalence Index is ≤3.0 ¹ <u> </u> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Phalaris arundinacea</u>		<u> 100 </u>	<u> Yes </u>	<u> FACW </u>																	
2. <u> </u>																					
3. <u> </u>																					
4. <u> </u>																					
5. <u> </u>																					
6. <u> </u>																					
7. <u> </u>																					
8. <u> </u>																					
<u> 100 </u> =Total Cover																					
Woody Vine Stratum	(Plot size: <u> </u>)																				
1. <u> </u>																					
2. <u> </u>																					
=Total Cover																					
% Bare Ground in Herb Stratum <u> </u> % Cover of Biotic Crust <u> </u>																					
Remarks:																					

SOIL

Sampling Point: W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1	100					Loamy/Clayey	
4-6	10YR 3/2	100					Loamy/Clayey	
6-12	10YR 5/1	95	5YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 1 cm Muck (A9) (LRR C)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ 2 cm Muck (A10) (LRR B)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1)	☐ Iron-Manganese Masses (F12) (LRR D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5) (LRR C)	☒ Depleted Matrix (F3)	☐ Red Parent Material (F21)
☐ 1 cm Muck (A9) (LRR D)	☐ Redox Dark Surface (F6)	☐ Very Shallow Dark Surface (F22)
☒ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if observed):	Hydric Soil Present?
Type: _____ Depth (inches): _____	Yes ☒ No ☐

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Water Marks (B1) (Riverine)	
☒ High Water Table (A2)	☐ Biotic Crust (B12)	☐ Sediment Deposits (B2) (Riverine)	
☒ Saturation (A3)	☒ Aquatic Invertebrates (B13)	☐ Drift Deposits (B3) (Riverine)	
☐ Water Marks (B1) (Nonriverine)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Sediment Deposits (B2) (Nonriverine)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3) (Nonriverine)	☐ Presence of Reduced Iron (C4)	☐ Crayfish Burrows (C8)	
☐ Surface Soil Cracks (B6)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	☐ Shallow Aquitard (D3)	
☐ Water-Stained Leaves (B9)	☐ Other (Explain in Remarks)	☒ FAC-Neutral Test (D5)	

Field Observations:				Wetland Hydrology Present? Yes ☒ No ☐
Surface Water Present?	Yes ☐ No ☒	Depth (inches):	_____	
Water Table Present?	Yes ☒ No ☐	Depth (inches):	4	
Saturation Present?	Yes ☒ No ☐	Depth (inches):	1	

(includes capillary fringe)

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

Remarks: Located along banks of irrigation ditch

SOIL

Sampling Point: Upl3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/3	100					Sandy	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 1 cm Muck (A9) (LRR C)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ 2 cm Muck (A10) (LRR B)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1)	☐ Iron-Manganese Masses (F12) (LRR D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5) (LRR C)	☐ Depleted Matrix (F3)	☐ Red Parent Material (F21)
☐ 1 cm Muck (A9) (LRR D)	☐ Redox Dark Surface (F6)	☐ Very Shallow Dark Surface (F22)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Other (Explain in Remarks)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if observed):		Hydric Soil Present?	
Type: <u>rock</u>		Yes ☐	No ☒
Depth (inches): <u>6</u>			

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Water Marks (B1) (Riverine)	
☐ High Water Table (A2)	☐ Biotic Crust (B12)	☐ Sediment Deposits (B2) (Riverine)	
☐ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Drift Deposits (B3) (Riverine)	
☐ Water Marks (B1) (Nonriverine)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Sediment Deposits (B2) (Nonriverine)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3) (Nonriverine)	☐ Presence of Reduced Iron (C4)	☐ Crayfish Burrows (C8)	
☐ Surface Soil Cracks (B6)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	☐ Shallow Aquitard (D3)	
☐ Water-Stained Leaves (B9)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	

Field Observations:				Wetland Hydrology Present?	
Surface Water Present?	Yes ☐	No ☒	Depth (inches): <u> </u>	Yes ☐	No ☒
Water Table Present?	Yes ☐	No ☒	Depth (inches): <u> </u>		
Saturation Present?	Yes ☐	No ☒	Depth (inches): <u> </u>		
(includes capillary fringe)					

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

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Arid West Region See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: <u>US-91, Park Lawn to Siphon Rd</u>	City/County: <u>Bannock</u>	Sampling Date: <u>06/02/2023</u>
Applicant/Owner: <u>Idaho Transportation Department</u>	State: <u>ID</u>	Sampling Point: <u>W3</u>
Investigator(s): <u>N. Parks, K. Carr</u> Section, Township, Range: <u>Section 3, Township 6 South, Range 34 East</u>		
Landform (hillside, terrace, etc.): <u>Banks of Irrigation Ditch</u>	Local relief (concave, convex, none): <u>None</u>	Slope (%): <u>0</u>
Subregion (LRR): <u>LRR B</u>	Lat: <u>42.934864</u>	Long: <u>-112.466354</u> Datum: <u>NAD 83</u>
Soil Map Unit Name: <u>Bahem silt loam, 0 to 2 percent slopes</u>		NWI classification: <u>N/A</u>

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

Are Vegetation , Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.					
2.					
3.					
4.					
			=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
			=Total Cover		
Herb Stratum	(Plot size: <u>5</u>)				
1.	<u>Typha latifolia</u>	<u>70</u>	<u>Yes</u>	<u>OBL</u>	
2.	<u>Asperugo procumbens</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	
3.	<u>Parthenocissus quinquefolia</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
4.					
5.					
6.					
7.					
8.					
		<u>100</u>	=Total Cover		
Woody Vine Stratum	(Plot size: <u> </u>)				
1.					
2.					
			=Total Cover		
% Bare Ground in Herb Stratum <u> </u> % Cover of Biotic Crust <u> </u>					
Remarks:					

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: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>70</u>	x 1 = <u>70</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column Totals: <u>100</u> (A)	<u>200</u> (B)
Prevalence Index = B/A = <u>2.00</u>	

Hydrophytic Vegetation Indicators:

 Dominance Test is >50%

X Prevalence Index is ≤3.0¹

 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: W3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 4/2	100					Loamy/Clayey	roadfill

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 1 cm Muck (A9) (LRR C)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ 2 cm Muck (A10) (LRR B)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1)	☐ Iron-Manganese Masses (F12) (LRR D)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Reduced Vertic (F18)
☐ Stratified Layers (A5) (LRR C)	☐ Depleted Matrix (F3)	☐ Red Parent Material (F21)
☐ 1 cm Muck (A9) (LRR D)	☐ Redox Dark Surface (F6)	☐ Very Shallow Dark Surface (F22)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☒ Other (Explain in Remarks)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if observed):	Hydric Soil Present?
Type: _____	Yes ☒ No ☐
Depth (inches): _____	

Remarks:
Soils are assumed hydric based on the predominance of hydrophytic vegetation and hydrology

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Salt Crust (B11)	☐ Water Marks (B1) (Riverine)	
☒ High Water Table (A2)	☐ Biotic Crust (B12)	☐ Sediment Deposits (B2) (Riverine)	
☒ Saturation (A3)	☐ Aquatic Invertebrates (B13)	☐ Drift Deposits (B3) (Riverine)	
☐ Water Marks (B1) (Nonriverine)	☐ Hydrogen Sulfide Odor (C1)	☐ Drainage Patterns (B10)	
☐ Sediment Deposits (B2) (Nonriverine)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3) (Nonriverine)	☐ Presence of Reduced Iron (C4)	☐ Crayfish Burrows (C8)	
☐ Surface Soil Cracks (B6)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	☐ Shallow Aquitard (D3)	
☐ Water-Stained Leaves (B9)	☐ Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)	

Field Observations:				Wetland Hydrology Present? Yes ☒ No ☐
Surface Water Present?	Yes ☐ No ☒	Depth (inches):		
Water Table Present?	Yes ☒ No ☐	Depth (inches):	8	
Saturation Present?	Yes ☒ No ☐	Depth (inches):	2	

(includes capillary fringe)

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

Remarks:
located along banks of an irrigation ditch

Appendix D

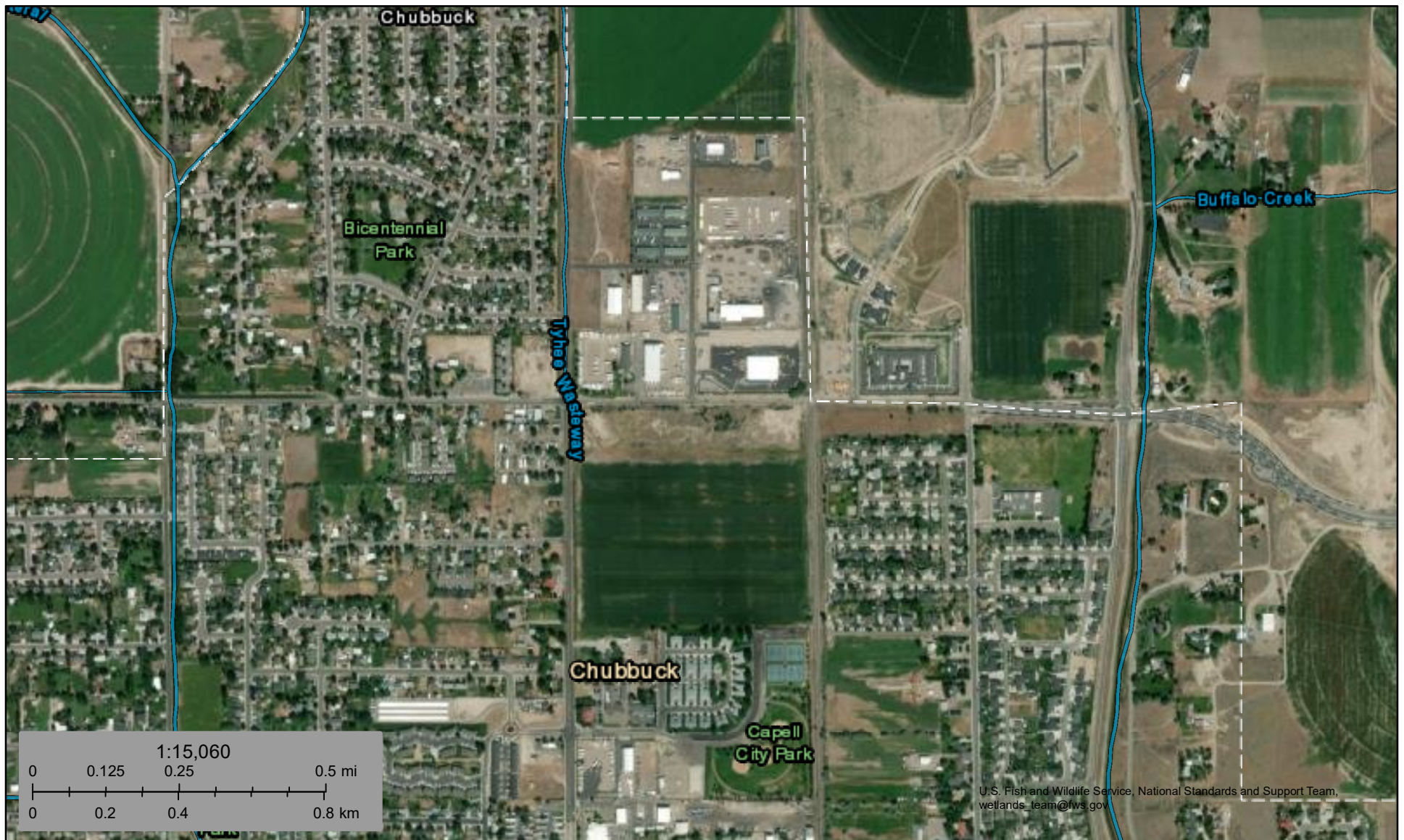
Supplementary Maps



U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



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

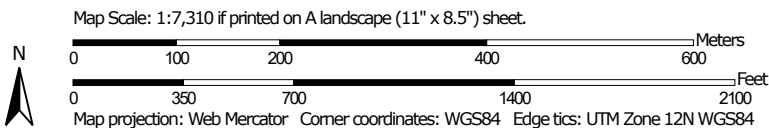
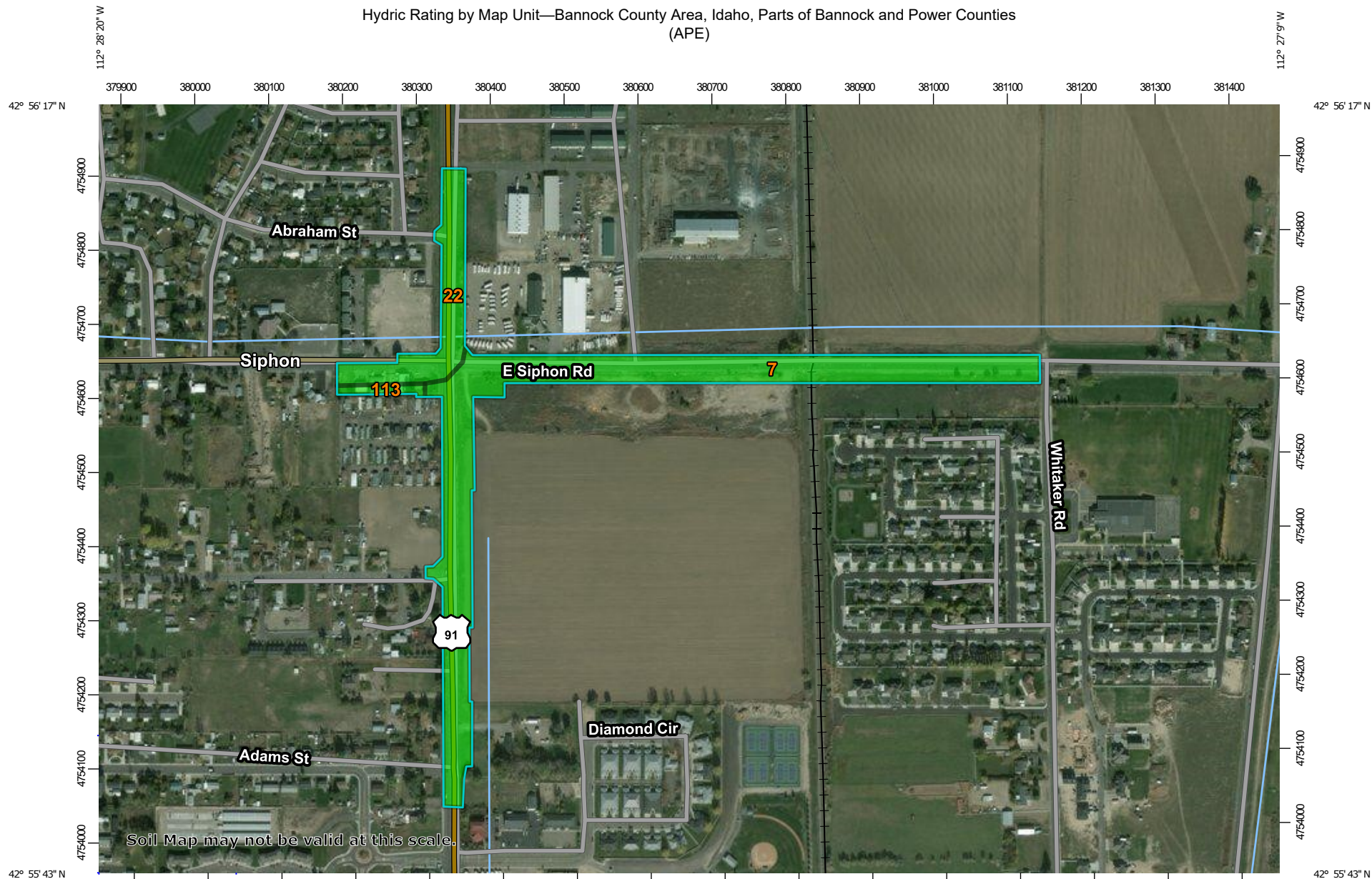
August 7, 2023

Wetlands

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

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

Hydric Rating by Map Unit—Bannock County Area, Idaho, Parts of Bannock and Power Counties (APE)



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

10/2/2023
Page 1 of 5

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Bannock County Area, Idaho, Parts of Bannock and Power Counties
Survey Area Data: Version 18, Sep 5, 2023

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

Date(s) aerial images were photographed: May 22, 2005—Nov 13, 2016

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

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
7	Bahem silt loam, 0 to 2 percent slopes	0	13.4	77.7%
22	Broxon silt loam, 2 to 4 percent slopes	0	3.5	20.0%
113	Urban land-Bahem-Broxon complex, 0 to 3 percent slopes	0	0.4	2.3%
Totals for Area of Interest			17.3	100.0%

Description

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

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

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

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

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

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

References:

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

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

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

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

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

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

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Appendix E

Supplementary Data

WETS Table

WETS Station: POCATELLO CITY, ID													
Requested years: 1971 - 2023													
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall					
Jan	35.5	20.5	28.0	0.95	0.60	1.14	3	6.3					
Feb	39.7	22.5	31.1	-	-	-	-	6.6					
Mar	51.1	30.4	40.7	-	-	-	-	-					
Apr	60.1	35.9	48.0	-	-	-	-	-					
May	70.7	44.3	57.5	1.52	1.00	1.82	-	0.1					
Jun	80.9	52.1	66.5	0.96	0.42	1.13	3	0.0					
Jul	-	-	-	0.45	0.20	0.54	-	-					
Aug	88.5	57.6	73.1	0.80	0.26	0.95	2	-					
Sep	79.2	49.6	64.4	-	-	-	-	-					
Oct	62.9	38.4	50.7	1.22	0.73	1.48	4	-					
Nov	48.1	28.8	38.4	-	-	-	-	-					
Dec	36.1	21.6	28.9	1.25	0.67	1.52	-	8.4					
Annual:					-	-							
Average	-	-	-	-	-	-	-	-					
Total	-	-	-	-			-	-					
GROWING SEASON DATES													
Years with missing data:	24 deg = 37	28 deg = 34	32 deg = 34										
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0										
Data years used:	24 deg = 16	28 deg = 19	32 deg = 19										
Probability	24 F or higher	28 F or higher	32 F or higher										
50 percent *	Insufficient data	Insufficient data	Insufficient data										
70 percent *	Insufficient data	Insufficient data	Insufficient data										
* Percent chance of the growing season occurring between the Beginning and Ending dates.													
STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
2001				M0.69	M0.48	M0.45	M0.34	M0.06	M0.68	M0.71	M0.95	M1.65	6.01
2002	M1.06	M0.27	M0.93	M1.74	M1.57	M0.08	M0.36	M0.15	M0.96	M0.26	MT	M0.35	7.73
2003	M0.50	M0.74	M0.85	M1.55	M0.52	M0.03	M0.17	M0.37	M0.67	MT	M0.51	M2.72	8.63
2004	M0.87	M1.20	M0.66	M0.40	M1.13	M0.71	M1.75	M0.70	M0.15	2.01	0.53	1.08	11.19
2005	1.11	0.87	1.12	2.09	3.50	1.65	0.12	1.35	M0.03	M0.98	M0.37	2.53	15.72
2006	1.70	1.11	2.14	M1.12	1.11	0.46	0.43	0.59	1.85	1.16	1.22	1.15	14.04
2007	M0.50	0.75	0.57	1.89	M0.25	2.22	0.27	0.61	M1.69	2.03	0.60	0.82	12.20
2008	0.33	0.80	1.23	0.21	1.33	0.63	0.05	0.13	0.34	1.14	1.21	1.47	8.87
2009	0.98	M0.47	M1.00	0.78	1.33	4.80	1.28	1.23	0.96	1.24	0.21	0.63	14.91
2010	0.78	0.53	0.94	1.38	0.88	M0.81	0.39	0.39	0.05	1.46	1.85	1.82	11.28

2011	1.01	0.53	2.19	1.99	2.63	0.66	0.49	0.94	0.47	1.45	1.25	0.28	13.89
2012	1.11	0.76	M0.72	1.35	1.29	0.42	0.52	0.14	0.24	1.13	1.59	2.02	11.29
2013	0.63	0.50	0.74	1.10	0.81	0.17	0.78	2.60	2.90	M0.50	M0.29	0.45	11.47
2014	0.11	1.03	2.30	1.34	0.38	0.45	0.84	3.47	1.52	0.24	1.60	0.92	14.20
2015	0.50	0.61	M0.20	0.83	3.00	0.50	1.46	M1.06	1.32	1.04	1.30	M0.70	12.52
2016	1.76	0.21	3.29	1.07	1.66	0.32	0.37	0.10	1.80	3.61	0.44	3.27	17.90
2017	2.00	1.81	0.58	M2.57	0.64	0.97	0.04	0.22	2.84	0.43	1.53	0.86	14.49
2018	0.72	0.94	2.10	1.29	1.91	0.96	T	0.13	T	1.37	1.10	M0.12	10.64
2019	1.33	2.66	1.12	1.68	2.06	0.37	M0.05	0.08	1.60	0.41	0.28	0.80	12.44
2020	1.03	0.79	1.99	1.72	1.02	2.46	0.45	0.19	0.41	0.30	0.53	0.49	11.38
2021	0.32	0.93	1.64	0.93	0.71	0.00	0.63	1.41	0.25	2.36	0.55	1.07	10.80
2022	0.79	0.47	0.34	1.28	2.14	0.83	0.16	1.07	1.22	0.82	1.95	2.05	13.12
2023	1.58	0.96	1.56	1.52	1.94	M0.12							7.68

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2023-06-19

Climatological Data for POCA TELLO CITY, ID - May 2023

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2023-05-01	83	52	67.5	28	18	0.00	0.0	0
2023-05-02	75	54	64.5	25	15	0.00	0.0	0
2023-05-03	80	47	63.5	24	14	0.00	0.0	0
2023-05-04	71	53	62.0	22	12	T	0.0	0
2023-05-05	62	42	52.0	12	2	0.00	0.0	0
2023-05-06	60	34	47.0	7	0	0.29	0.0	0
2023-05-07	59	39	49.0	9	0	0.31	0.0	0
2023-05-08	60	36	48.0	8	0	0.14	0.0	0
2023-05-09	60	37	48.5	9	0	0.00	0.0	0
2023-05-10	60	41	50.5	11	1	0.00	0.0	0
2023-05-11	69	38	53.5	14	4	0.00	0.0	0
2023-05-12	72	41	56.5	17	7	0.00	0.0	0
2023-05-13	72	44	58.0	18	8	0.09	0.0	0
2023-05-14	74	47	60.5	21	11	0.03	0.0	0
2023-05-15	76	51	63.5	24	14	0.04	0.0	0
2023-05-16	80	46	63.0	23	13	0.00	0.0	0
2023-05-17	78	49	63.5	24	14	0.01	0.0	M
2023-05-18	78	51	64.5	25	15	0.00	0.0	0
2023-05-19	81	48	64.5	25	15	0.00	0.0	0
2023-05-20	85	51	68.0	28	18	0.00	0.0	0
2023-05-21	86	51	68.5	29	19	0.00	0.0	0
2023-05-22	81	57	69.0	29	19	0.00	0.0	0
2023-05-23	79	52	65.5	26	16	0.06	0.0	0
2023-05-24	70	51	60.5	21	11	0.20	0.0	0
2023-05-25	73	46	59.5	20	10	0.03	0.0	0
2023-05-26	68	48	58.0	18	8	0.24	0.0	0
2023-05-27	67	46	56.5	17	7	T	0.0	0
2023-05-28	73	52	62.5	23	13	T	0.0	0
2023-05-29	74	50	62.0	22	12	0.00	0.0	0
2023-05-30	77	51	64.0	24	14	0.50	0.0	0
2023-05-31	80	48	64.0	24	14	0.00	0.0	0
Average Sum	73.0	46.9	59.9	627	324	1.94	0.0	0.0

Climatological Data for POCA TELLO CITY, ID - June 2023

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2023-06-01	76	48	62.0	22	12	0.00	0.0	0
2023-06-02	72	49	60.5	21	11	T	0.0	0
2023-06-03	78	48	63.0	23	13	0.02	0.0	0
2023-06-04	78	48	63.0	23	13	0.02	0.0	0
2023-06-05	80	50	65.0	25	15	0.00	0.0	0
2023-06-06	85	53	69.0	29	19	0.00	0.0	0
2023-06-07	79	53	66.0	26	16	0.02	0.0	0
2023-06-08	77	55	66.0	26	16	T	0.0	0
2023-06-09	76	48	62.0	22	12	0.00	0.0	0
2023-06-10	78	50	64.0	24	14	0.00	0.0	0
2023-06-11	78	51	64.5	25	15	0.05	0.0	0
2023-06-12	74	50	62.0	22	12	0.01	0.0	0
2023-06-13	74	56	65.0	25	15	0.20	0.0	0
2023-06-14	72	58	65.0	25	15	0.03	0.0	0
2023-06-15	70	51	60.5	21	11	0.00	0.0	0
2023-06-16	74	44	59.0	19	9	0.00	0.0	0
2023-06-17	79	47	63.0	23	13	0.00	0.0	0
2023-06-18	69	55	62.0	22	12	0.00	0.0	0
2023-06-19	71	52	61.5	22	12	0.01	0.0	0
2023-06-20	66	46	56.0	16	6	0.00	0.0	0
2023-06-21	69	38	53.5	14	4	0.00	0.0	0
2023-06-22	81	38	59.5	20	10	0.00	0.0	0
2023-06-23	72	52	62.0	22	12	0.00	0.0	0
2023-06-24	79	45	62.0	22	12	0.00	0.0	0
2023-06-25	84	50	67.0	27	17	0.02	0.0	0
2023-06-26	79	48	63.5	24	14	0.00	0.0	0
2023-06-27	78	54	66.0	26	16	0.01	0.0	0
2023-06-28	78	49	63.5	24	14	0.00	0.0	0
2023-06-29	82	51	66.5	27	17	0.00	0.0	0
2023-06-30	87	55	71.0	31	21	0.00	0.0	0
Average Sum	76.5	49.7	63.1	698	398	0.39	0.0	0.0