APPENDIX H

Wetland Delineation Report
Driggs Reed Memorial Airport

August 2020

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Wetland Delineation Report

Driggs Reed Memorial Airport Expansion
Teton County, Idaho

INTRODUCTION

This wetland delineation report has been prepared for the proposed acquisition of a parcel of land located at the north end of the current runway at the Driggs Reed Memorial Airport. The City of Driggs is planning to lengthen the existing runway and taxiway as well as extending the existing safety buffers located at the Driggs Reed Memorial Airport, upon acquiring the parcel associated with the proposed land acquisition. The parcels are located within the city of Driggs boundaries in Teton County, Idaho (Figures 1 and 2). The parcels are located in Township 5N, Range 45E, Section 13 S1/2SE, a portion of the NENE of Section 24; Township 5N, Range 46E, Section 18 SW, and latitude 43.751878 N, longitude -111.080057 E (NAD 83). The elevation of the project area averages 6,264 feet above mean sea level (msl).

North Wind Resource Consulting (North Wind) was contracted to prepare a wetland delineation report as part of the land acquisition process for use by the Federal Aviation Administration (FAA). Jviation, Inc. is the engineering firm designing the proposed improvements associated with the proposed project.

Water in the irrigation structures located on the parcels is diverted from Teton Creek south east of the project area. The water which is diverted from the creek does not appear to flow back into any other stream or waterbody that is classified as Waters of the United States; the waters within the irrigation structures are presumed non-jurisdictional and are not regulated by Section 404 of the Clean Water Act (33 U.S.C. 1344), as administered by the U.S. Army Corps of Engineers (USACE). The wetlands associated with these waters are not presumed to be under the jurisdiction of the USACE. However, verification and concurrence of these assumptions by the USACE is recommended.

Field work was conducted on July 23, 2020 by Scott Webster and Mariah Porter of North Wind. Mr. Webster has completed a five-day combined field/lecture course on wetland delineation. He has more than 18 years of experience conducting wetland delineations within southeastern Idaho. Miss Porter acted as a technical assistant.

METHODS

The wetland delineation was performed using the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) routine method for five acres or less with onsite inspection. Due to the position of the airport on the valley floor the delineation was performed using a combination of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (USACE 2008) and the *Mountain, Valley, and Coastal Plain* regional supplement. Prior to the field visit, the U.S. Fish and Wildlife Service (FWS) National Wetland Inventory (NWI) Digital Data site was accessed to preview wetlands in the project area (USFWS NWI 2020). Also accessed were the Natural Resources Conservation Service (NRCS) web soil survey for soils information (USDA 2020) and the Federal Emergency Management Agency (FEMA) National Flood Insurance Program for floodplain delineation (FEMA 1984).

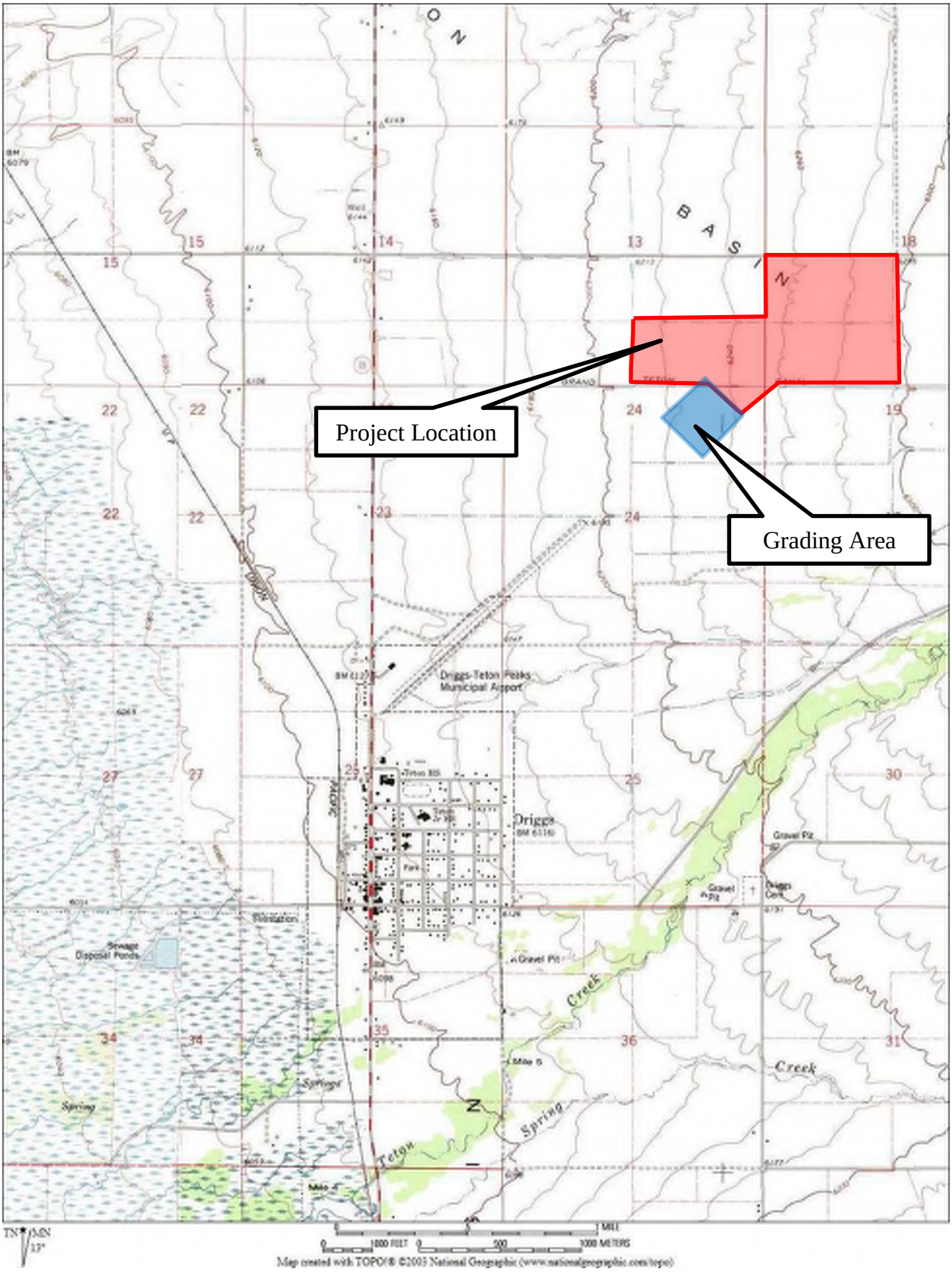

Figure 1. Project location.
T5N; R45E, Sec 13 T5N, R 46 E, Sec 18

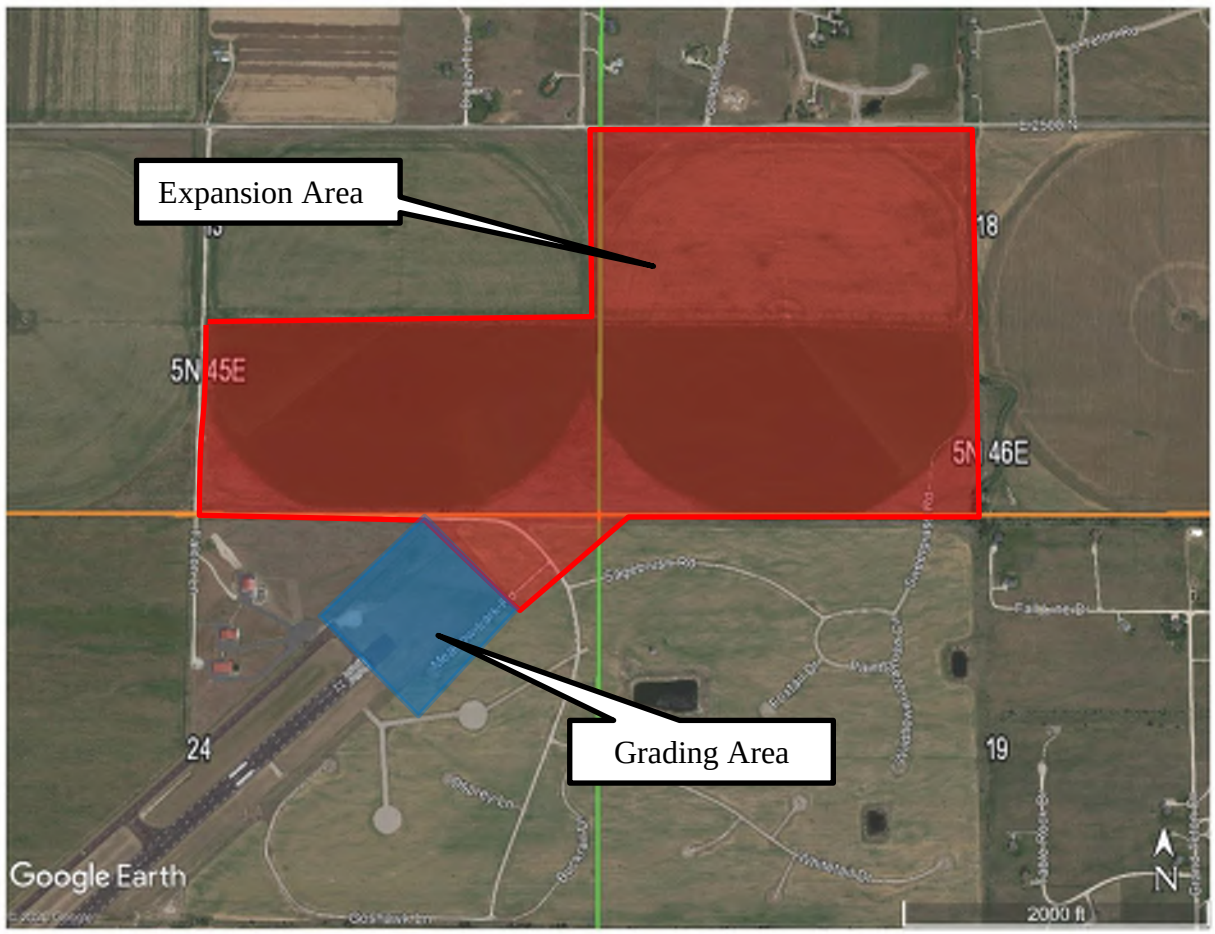

Figure 2. Aerial map of the project area.

The survey area is limited to the boundaries of the proposed parcels and grading area at the end of the existing runway. This Area of Potential Effect (APE) was surveyed for the presence of normal circumstances, atypical situations, or problem areas. During the initial scan, locations with wetland indicators were noted and delineated. Characteristics identified included a predominance of vegetation typically adapted for life in saturated soil conditions (hydrophytic), soils formed under saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions (hydric), and inundation of the area or soil saturated to the ground surface during all or a portion of the growing season (hydrology) (Environmental Laboratory 1987).

The boundaries of each wetland feature, the three-parameter data points (vegetation, soil, hydrology), and various relational locations were collected. Field collection was accomplished using a Trimble GeoXH GPS capable of sub-meter accuracy (NAD 83 projection). The maps were then converted to a digital wetland figure using ArcGIS software (Figure 3).

During the delineation of the project area it was determined that wetland indicators were present along each of the banks of the Teton Canal which runs along the eastern boundary of the parcels and along two secondary lateral irrigation ditches that flow from east to west and are diverted from the Teton Canal. Most wetland characteristics were clearly defined by a transition between upland and wetland vegetation, as well as a change in topography of the area associated with the

banks of the irrigation structures. Wetland Determination Data Forms - Arid West Region (Arid West - Version 2.0) were completed and are included in Appendix A.

The scientific names of plants used in this report follow the Integrated Taxonomic Information System (ITIS) nomenclature accepted by taxonomic specialists for plants. The names were reviewed from the ITIS on-line database (ITIS 2020). When scientific names used in this report differ from the FWS NWI 1988 Region 9 List of Vascular Plant Species that Occur in Wetlands (USFWS 1988) and 1993 Supplement (USFWS 1993), it is noted in the table in Appendix B.

The delineated wetlands are shown in Figure 3. The waters are labeled as per National Hydrologic Dataset (NHD) data management standards. Maps showing the Flood Insurance Rate Map (FIRM), soils, and NWI information are provided in Appendix B.

Additional sources of existing information used for this delineation include:

- *Classification of Wetlands and Deep Water Habitat of the United States* (Cowardin et al. 1979)
- Federal Emergency Management Agency, National Flood Insurance Program; Flood Insurance Rate Map, Teton County Idaho and Incorporated Areas; Community-Panel Number 16081C092C and 16081C100C, Effective Date: August 4,1988 (FEMA 1988)
- *Field Indicators of Hydric Soils in the United States* (USDA NRCS 2010)
- *Flora of the Pacific Northwest* (Hitchcock and Cronquist 1973)
- Integrated Taxonomic Information System on-line database (ITIS 2020)
- *Munsell® Soil Color Charts* (Munsell® 2000)
- Hydrogeomorphic Wetland Classification System: An Overview and Modification to Better Meet the Needs of the Natural Resources Conservation Service (USDA 2008)
- Natural Resources Conservation Service. Web Soil Survey (USDA 2020)
- *Plants of the Rocky Mountains* (Kershaw et al. 1998)
- U.S. Fish and Wildlife Service National Wetland Inventory 1988 Region 9 List of Vascular Plant Species that Occur in Wetlands (USFWS 1988)
- U.S. Fish and Wildlife Service National Wetland Inventory 1993 Supplement (USFWS 1993)
- U.S. Fish and Wildlife Service National Wetland Inventory Digital Data for the project area (USFWS 2020)
- *Weeds of the West, 9th Ed.* (Burrill et al. 2000)

RESULTS AND DISCUSSION

The following sections provide information concerning observations made in the field during the wetland delineation as well as information gathered during the preliminary work. No wetland characteristics were observed within the grading area at the end of the existing runway. Figure 3 notes the wetland locations within the project area. Three locations were assessed within the project area. Of the areas delineated, all three were determined to have all three wetland characteristics.

Vegetation within the project area is made up primarily of grass species with a shrub canopy covering approximately 35 percent of the area. The dominant species in the upland areas include similar grasses but the hydrology characteristics of a wetland were missing. The dominant

species in the wetlands include smooth brome (*Bromus inermis*) and baltic rush (*Juncus balticus*), with the shrub overstory dominated by coyote willow (*Salix exigua*) with pockets of

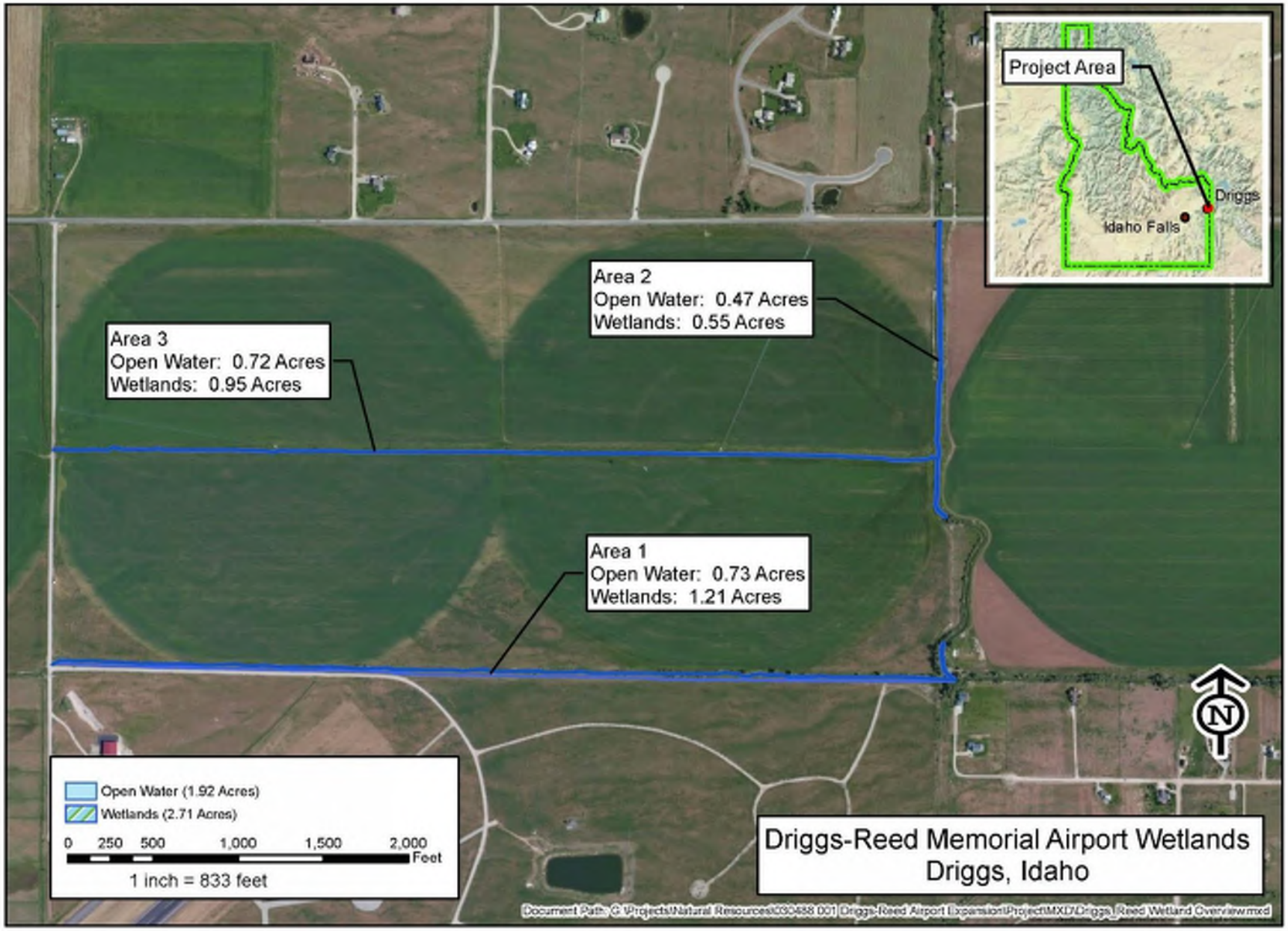

Figure 3. Wetland locations.

narrowleaf cottonwood (*Populus angustifolia*). The FWS NWI website (USFWS NWI 2008) identifies wetland areas along the banks of all three irrigation structures within the project area. These wetlands are classified as Riverine (R), Lower Perennial (2), Unconsolidated Bottom (UB), Permanently Flooded (H), Excavated (x) wetlands (R2UBHx) for the Teton Canal (Area 2) and Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Seasonally Flooded (F), Excavated (x) wetlands (R5UBFx) for the secondary irrigation ditches (Areas 1 and 3), which was field verified. The NWI map is located in Appendix B.

The soils in the project area have been officially mapped by the NRCS (USDA 2019). The dominant soil within the project area is Alpine-Driggs complex, 0 to 2 percent slopes with a secondary soil of Snyderville gravelly loam, 0 to 4 percent slopes (See Appendix C). This soil consists of deep, well drained soils derived from mixed alluvium.

The hydrology within the APE is derived from water diverted from Teton Creek into the Teton Canal which carries water to the two secondary irrigation structures. Even though Teton Creek is connected to Waters of the U.S., the water which is diverted does not flow back into either Teton Creek or the Teton River and the irrigation structures terminate in the agricultural fields in the Teton Valley. The Teton Canal and secondary irrigation structures in the project area are not classified as Waters of the U.S., and are not regulated by Section 404 of the Clean Water Act (33 U.S.C. 1344), as administered by the USACE. The wetlands associated with these waters are also presumed to not be under the jurisdiction of the USACE.

According to the FIRM for the project location the wetlands are located in Zone C. Zone C consists of areas of minimal flooding (FEMA 1982). The FIRM for the project area is located in Appendix C.

FINDINGS

The three irrigation structures within the project area were analyzed during the field survey. These areas were associated with the Teton Canal, the secondary irrigation structure which runs along the southern boundary of the project area, and the secondary irrigation structure which divides the agricultural fields. The delineated sites consist of both banks of the irrigation structures and the open water area between the banks. Wetland characteristics (i.e., vegetation, soils, and hydrology) observed within the survey area is discussed in this section. The source of hydrology characteristics associated with the wetlands is the same for each area.

Area 1

Area 1 consists of two parallel irrigation ditches (north and south ditch) that consist of steep banks which extend up from the ordinary high-water mark within the channels. On the south irrigation ditch the wetlands vegetation extends out from the banks of the ditch two feet and the open water channel was approximately four feet in width for the length of the ditch for a total delineated width of eight feet. The delineated wetland boundaries on the adjacent north ditch extend out from the edge of the banks three feet on each bank. The open water portion of the channel averages six feet in width for a total width of the delineated area for the north ditch of 12 feet wide. The two ditches are separated by approximately 10 feet which is comprised of upland habitat. Photos 1 and 2 show the delineated areas.

Photo 1. Area 1 south ditch facing east.

Photo 2. Area 1 north ditch facing west.

Vegetation

Table 1 documents the dominant vegetation observed in delineated Area 1. Because the dominant species are FAC and OBL, the vegetation in the delineated area is determined to be hydrophytic. In the areas outside of the delineation boundaries the dominant vegetation is upland grass species.

Table 1. **Dominant vegetation identified along the banks of Area 1.**

Common Name	Scientific Name	Indicator*
Smooth brome	*Bromus inermis*	FAC
Baltic rush	*Juncus balticus*	OBL
Canada thistle	*Cirsium arvense*	FACU
Prickly lettuce	*Lactuca serriola*	FAC
Timothy	*Phleum partense*	FAC
Canada goldenrod	*Solidago canadensis*	FACU
Coyote willow	*Salix exigua*	OBL

***** Categories were originally developed and defined by the USFWS National Wetlands Inventory and subsequently modified by the National Plant List Panel. The three facultative categories are subdivided by (+) and (-) modifiers.

OBL - Obligate Wetland Plants: Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability<1 percent) in nonwetlands.

FACW - Facultative Wetland Plants: Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in nonwetlands.

FAC - Facultative Plants: Plants with a similar likelihood (estimated probability 33 percent to 67 percent) of occurring in both wetlands and nonwetlands. This includes FAC+ and FAC- plants.

FACU - Facultative Upland Plants: Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in nonwetlands.

Hydrology

The hydrology within this area derives from the Teton Canal at a headgate diversion located just east of the project area. Flow is regulated separately to each of the ditches at the same diversion

structure. Water is diverted into the irrigation structures as needed to water the adjacent agricultural fields to the west of the project area. The ditches are primarily used between May and September each year. There is a clear transition between upland and wetland vegetation based on elevation above the flow.

Soils

No soil test pits were dug. Following the protocol for Difficult Wetland Situations in the Arid West Problematic Hydric Soils, Step 4(e), the soils along the banks of the canal are considered hydric when the canal contains water for more than 14 days during the growing season in most years (at least 5 in 10 or higher). Additionally, the dominant species is FACW and the wetland upland boundary is distinct.

Area 2

Area 2 is associated with the banks of the Teton Canal as it flows from south to north along the eastern boundary of the project area. The banks of the canal are steep and are vegetated from the ordinary high-water mark within the canal channel. The open water portion of the channel averages ten feet in width with vegetated banks extending out approximately six feet on each bank for a total width of the delineated area of 22 feet wide. Photos 3 and 4 show the delineated areas.

Photo 3. Area 2 Teton Canal facing south from north property boundary.

Photo 4. Area 2 Teton Canal facing south from diversion point for Area 3.

Vegetation

Table 2 documents the dominant vegetation observed on both sides of the bridge. Because the dominant species is FACW, the vegetation in the delineated area is determined to be hydrophytic. In the areas outside of the delineation boundaries the dominant vegetation is upland grass species.

Table 2. Dominant vegetation identified along the banks of Area 2.

Common Name	Scientific Name	Indicator*
Coyote willow	*Salix exigua*	OBL
Smooth brome	*Bromus inermis*	FAC
Canada goldenrod	*Solidago canadensis*	FACU
Timothy	*Phleum partense*	FAC
Baltic rush	*Juncus balticus*	OBL

* see notes on Table 1.

Hydrology

The hydrology within this area is associated with the Teton Canal where flow is regulated at a headgate diversion located just east of the project area. Water is diverted into the irrigation structures as needed to water the adjacent agricultural fields to the north and west of the project area. The Teton Canal is primarily used between May and September each year. There is a clear transition between upland and wetland vegetation based on elevation above the flow.

Soils

No soil test pits were dug. Following the protocol for Difficult Wetland Situations in the Arid West Problematic Hydric Soils, Step 4(e), the soils along the banks of the canal are considered hydric when the canal contains water for more than 14 days during the growing season in most years (at least 5 in 10 or higher). Additionally, the dominant species is OBL and FAC.

Area 3

Area 3 consists of a single irrigation ditch comprised of steep banks that extend up from the ordinary high-water mark within the channel. The delineated wetland boundaries on the irrigation ditch associated with Area 3 extend out from the edge of the banks four feet on each bank. The open water portion of the channel averages six feet in width for a total width of the delineated area of 14 feet. Photos 5 and 6 show the delineated areas.

Photo 5. Area 3 irrigation ditch overview facing east.

Photo 6. Area 3 irrigation ditch overview facing west.

Vegetation

Table 3 documents the dominant vegetation observed on delineated Area 3. Because the dominant species are FAC and OBL, the vegetation in the delineated area is determined to be hydrophytic. In the areas outside of the delineation boundaries the dominant vegetation is upland grass species.

Table 3. **Dominant vegetation identified along the banks of Area 3.**

Common Name	Scientific Name	Indicator*****
Coyote Willow	*Salix exigua*	OBL
Smooth Brome	*Bromus inermis*	FAC
Canada goldenrod	*Solidago canadensis*	FACU
Baltic rush	*Juncus balticus*	OBL
Timothy	*Phleum partense*	FAC
Canada thistle	*Cirsium arvense*	FACU
Indian paintbrush	*Castillia* sp.	FACU

***** See Table 1.

Hydrology

The hydrology within this area is diverted from the Teton Canal at a headgate diversion located where Areas 2 and 3 intersect. Flow is regulated to the ditch at this location. Water is diverted into the irrigation structures as needed to water the adjacent agricultural fields to the west of the project area. The ditches are primarily used between May and September each year. There is a clear transition between upland and wetland vegetation based on elevation above the flow.

Soils

No soil test pits were dug. Following the protocol for Difficult Wetland Situations in the Arid West Problematic Hydric Soils, Step 4(e), the soils along the banks of the canal are considered hydric when the canal contains water for more than 14 days during the growing season in most years (at least 5 in 10 or higher). Additionally, the dominant species is OBL and FAC.

CONCLUSIONS

All three areas delineated within the project area were found to contain greater than 50 percent hydrophytic vegetation. The soils along the banks of the river were determined to contain hydric indicators using the protocols outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008) for Difficult Wetland Situation in Arid West-Problematic hydric soils, Step 4(B) 3 and 4(e). Hydrology indicators were present in all three areas because flowing water was present in the northern ditch of Area 1, Area 2, and Area 3. Water flow is regulated to the southern ditch within Area 1 and was not in use during the field survey. Water diverted from Teton Creek does not flow back into a Waters of the U.S., but terminates in agricultural fields in the Teton Valley, therefore it is determined to not be Waters of the U.S.

The banks of the irrigation structures at all three delineation locations are determined to be wetlands since they possess all three wetland indicators (USACE 2008). Areas 1 and 3 match the Cowardin Classifications of Wetlands and Deepwater Habitats of the United States presented on

the NWI map. Areas 1 and 3 are classified as R5UBFx. Area 2 also matches the Cowardin classification presented on the NWI map as a R2UBHx wetland habitat.

Because the delineated wetland habitats were determined to not be Waters of the U.S., but were irrigation structures, it is anticipated that they would be outside of the USACE Jurisdiction; however, formal concurrence of this determination would need to be acquired prior to any activities which would result in fill or disruption of wetland habitats. If the delineated areas are determined to be under USACE Jurisdiction, any potential disturbance of greater than 0.5 acres of these wetlands and waters will require a 404 permit prior to the initiation of any activities.

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APPENDIX A
DELINEATION FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Driggs Reed Memorial Airport City/County: Driggs/Teton Sampling Date: 7/23/2020

Applicant/Owner: Jviation State: ID Sampling Point: Area 1

Investigator(s): Scott Webster, Mariah Porter Section, Township, Range: T5N; R45E, Sec 13 T5N, R 46 E, Sec 18

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRRB Lat: 43.751878 N Long: -111.080057 E Datum: merridean

Soil Map Unit Name: 13441- Alpine-Driggs Complex, 0 to 2 percent slopes NWI classification: R5UBHx

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? 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: Area is comprised of two irrigation structures which have an open water area approximately four to 6 feet wide and hydrophytic vegetation is approximately 3 to 4 feet wide on each side of the ditch with a 10 ft strip of upland habitat between the ditches..

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus angustifolia	5		FACW
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix exigua	15	X	FACW
2. Salix boothii	>1		FACW
3. Prunus virginiana	>1		FAC
4. Rosa woodsii	<1		FACU
5.			
	17 = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Bromus inermis*	50	X	FACW
2. *Solidago canadensis*	15	X	FACU
3. *Juncus balticus*	10		OBL
4. *Phleum partense*	15	X	FAC
5. *Cirsium arvensis*	3		FACU
6. *Tragopogon dubius*	2		FACU
7. *Lactuca serriola*	2		FACU
8. *Lepidium pinnatisectum*	2		FACU
	99 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 10	x 1 = 10
FACW species 65	x 2 = 130
FAC species 15	x 3 = 45
FACU species 15	x 4 = 60
UPL species	x 5 =
Column Totals: 105 (A)	245 (B)

Prevalence Index = B/A = 2.3

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)

☐ 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: Area 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 Features %	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)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ 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: Due to the steep nature of the banks of the ditches a soil test hole was not done. Following the protocol for Difficult Wetland Situation in Arid West-Problematic hydric soils, Step 4(e) the soils along the banks of the canal are considered hydric if the canal contains water for more than 14 days during the growing season and has done so for more than 5 years.

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) (**Non riverine**)
- ☐ Sediment Deposits (B2) (**Non riverine**)
- ☐ Drift Deposits (B3) (**Non riverine**)
- ☐ 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): 10 inches

Water Table Present? Yes ☐ No ☒ Depth (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 diverted from the Teton Canal just east of the project boundary.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Driggs Reed Memorial Airport City/County: Driggs/Teton Sampling Date: 7/23/2020

Applicant/Owner: Jviation State: ID Sampling Point: Area 2

Investigator(s): Scott Webster, Mariah Porter Section, Township, Range: T5N, R 46 E, Sec 18

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRRB Lat: 43.756398 N Long: -111.071009 E Datum: merridean

Soil Map Unit Name: 13441- Alpine-Driggs Complex, 0 to 2 percent slopes 13409-Snyderville gravelly Loam NWI classification: R2UBFx

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? 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: Teton Canal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus angustifolia	2		FACW
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix exigua	30	X	FACW
2. Prunus virginiana	1		FAC
3.			
4.			
5.			
	31	= Total Cover	
Herb Stratum (Plot size: _____)			
1. *Bromus inermis*	65	X	FACW
2. *Solidago canadensis*	25	X	FACU
3. *Phleum partense*	10		FAC
4. *Cirsium arvensis*	2		FACU
5.			
6.			
7.			
8.			
	102	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 = 0
FACW species 95	x 2 = 190
FAC species 0	x 3 = 0
FACU species 25	x 4 = 100
UPL species	x 5 =
Column Totals: 120 (A)	290 (B)

Prevalence Index = B/A = 2.4

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)

☐ 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: State listed noxious weeds present including: Hounds tounge, bull thistle, and Canada thistle.

SOIL

Sampling Point: Area 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	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)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ 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: Due to the steep nature of the banks of the canal a soil test hole was not done. Following the protocol for Difficult Wetland Situation in Arid West-Problematic hydric soils, Step 4(e) the soils along the banks of the canal are considered hydric if the canal contains water for more than 14 days during the growing season and has done so for more than 5 years.

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) (**Non riverine**)
- ☐ Sediment Deposits (B2) (**Non riverine**)
- ☐ Drift Deposits (B3) (**Non riverine**)
- ☐ 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): 30 inches

Water Table Present? Yes ☐ No ☒ Depth (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 diverted from the Teton Creek just east of the project boundary.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Driggs Reed Memorial Airport City/County: Driggs/Teton Sampling Date: 7/23/2020

Applicant/Owner: Jviation State: ID Sampling Point: Area 3

Investigator(s): Scott Webster, Mariah Porter Section, Township, Range: T5N; R45E, Sec 13 T5N, R 46 E, Sec 18

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): LRRB Lat: 43.755077 N Long: -111.081078 E Datum: merridean

Soil Map Unit Name: 13441- Alpine-Driggs Complex, 0 to 2 percent slopes NWI classification: R5UBHx

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? 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: Area is comprised of two irrigation structures which have an open water area approximately four to 6 feet wide and hydrophytic vegetation is approximately 3 to 4 feet wide on each side of the ditch with a 10 ft strip of upland habitat between the ditches..

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix exigua	25	X	FACW
2. Populus angustifolia	2		FACW
3. Prunus virginiana	>1		FAC
4.			
5.			
	28 = Total Cover		
Herb Stratum (Plot size: _____)			
1. *Bromus inermis*	65	X	FACW
2. *Solidago canadensis*	15	X	FACU
3. *Juncus balticus*	10		OBL
4. *Phleum partense*	10		FAC
5. *Cirsium arvensis*	3		FACU
6. *Castillia sp*	5		FACU
7.			
8.			
	108 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 90	x 2 = 180
FAC species _____	x 3 = _____
FACU species 15	x 4 = 60
UPL species _____	x 5 = _____
Column Totals: 105 (A)	240 (B)

Prevalence Index = B/A = 2.3

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)

☐ 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: Area 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	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)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ 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: Due to the steep nature of the banks of the ditches a soil test hole was not done. Following the protocol for Difficult Wetland Situation in Arid West-Problematic hydric soils, Step 4(e) the soils along the banks of the canal are considered hydric if the canal contains water for more than 14 days during the growing season and has done so for more than 5 years.

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) (**Non riverine**)
- ☐ Sediment Deposits (B2) (**Non riverine**)
- ☐ Drift Deposits (B3) (**Non riverine**)
- ☐ 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): 10 inches

Water Table Present? Yes ☐ No ☒ Depth (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 diverted from the Teton Canal just east of the project boundary.

APPENDIX B
MAPS

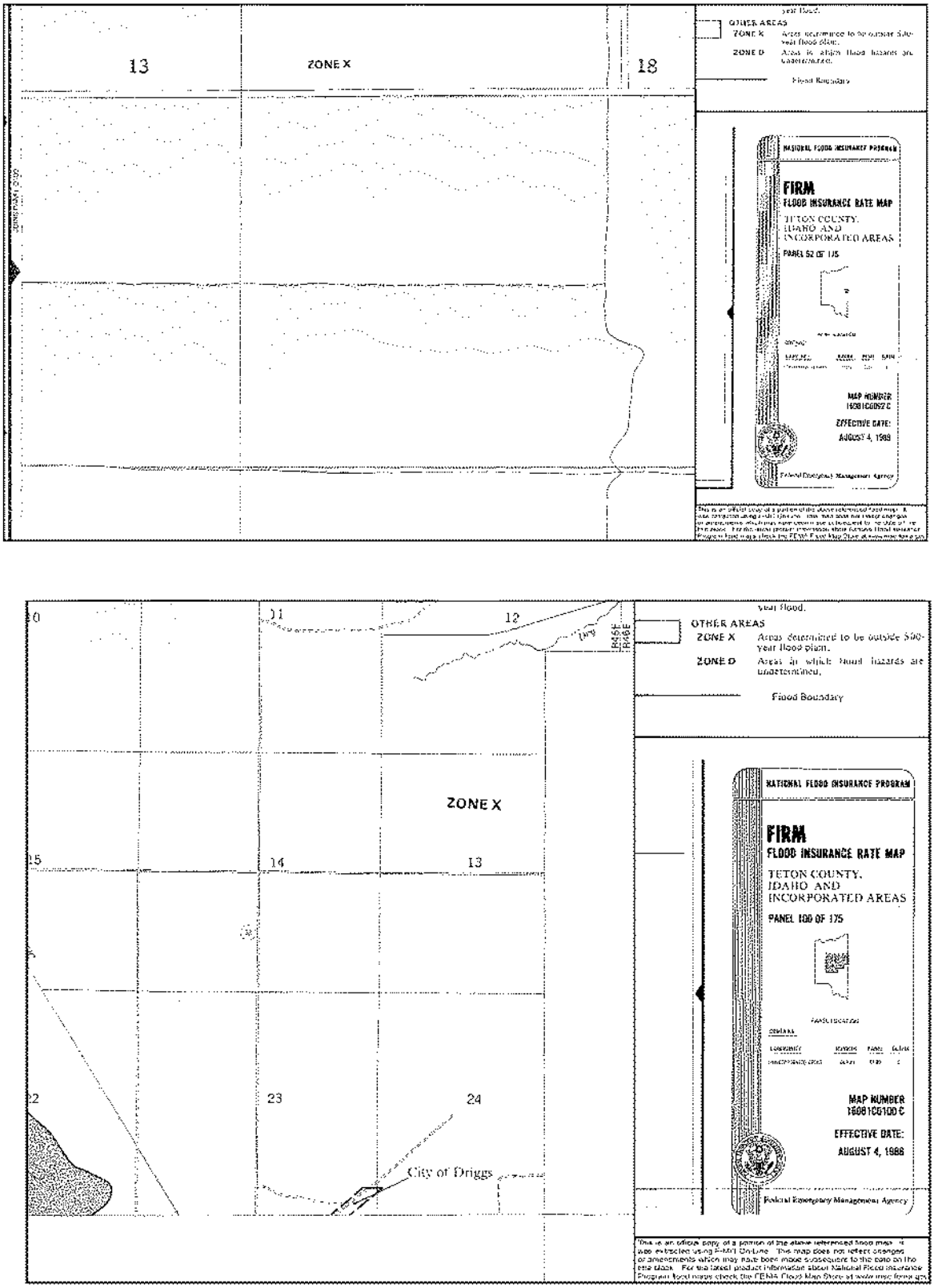

Figure 4. FIRM Community Panel Number 16081C0092C and 16081C0100C Effective Date August 4, 1988

Figure 5. Soil Map of Project Area

Soil Map—Teton Area, Idaho and Wyoming

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13409	Snyderville gravelly loam, 0 to 4 percent slopes	66.2	23.2%
13441	Alpine-Driggs complex, 0 to 2 percent slopes	218.6	76.8%
Totals for Area of Interest		**284.7**	**100.0%**

Soil Map Unit Legend

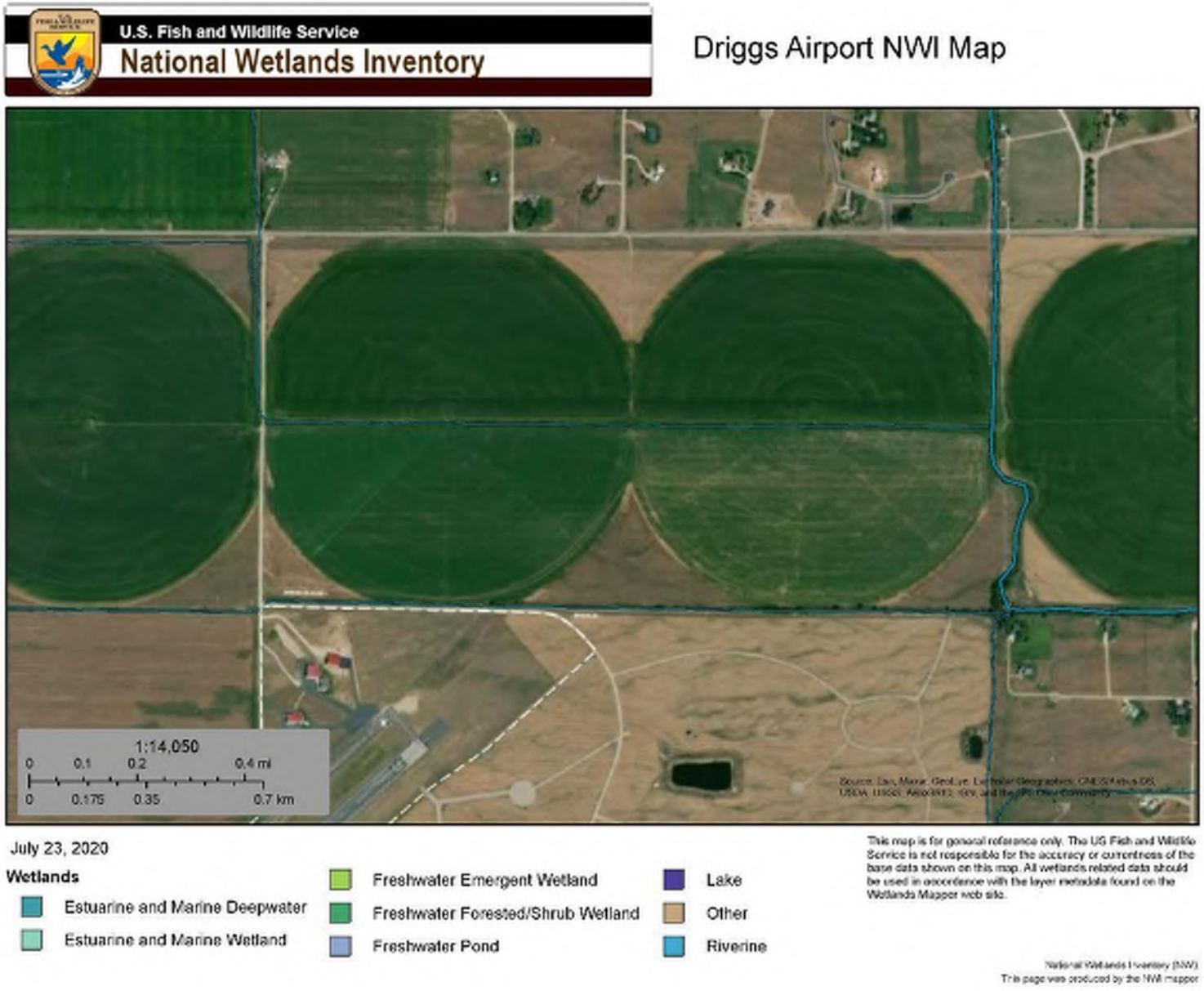

Figure 6. NWI map of proposed project area.

Classification code: R5UBFx

System **Riverine (R)**: The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

Subsystem **Unknown Perennial (5)**: This Subsystem designation was created specifically for use when the distinction between lower perennial, upper perennial, and tidal cannot be made from aerial photography and no data is available.

Class **Unconsolidated Bottom (UB)**: Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Water Regime **Semipermanently Flooded (F)**: Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.

Special Modifier **Excavated (x)**: This Modifier is used to identify wetland basins or channels that were excavated by humans.

(Cowardin et al. 1979)

Classification code: R2UBHx

System **Riverine (R)**: The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

Subsystem **Lower Perennial (2)**: This Subsystem is characterized by a low gradient. There is no tidal influence, and some water flows all year, except during years of extreme drought. The substrate consists mainly of sand and mud. Oxygen deficits may sometimes occur. The fauna is composed mostly of species that reach their maximum abundance in still water, and true planktonic organisms are common. The gradient is lower than that of the Upper Perennial Subsystem and the floodplain is well developed.

Class **Unconsolidated Bottom (UB)**: Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Water Regime **Permanently Flooded (H)**: Water covers the substrate throughout the year in all years.

Special Modifier **Excavated (x)**: This Modifier is used to identify wetland basins or channels that were excavated by humans.

(Cowardin et al. 1979)

Area 1 North ditch overview facing east from west property boundary.

Area 1 North ditch overview facing east.

Diversion structure for Area 1 and 2 just east of project boundary.

Willow cover along Area 2 facing northeast.

Wetland Area 3 facing East from West boundary.

Area 3 facing west. Rocky bottom of channel visible.

Figure 7. Additional photographs of delineated wetland areas.

APPENDIX C
SOILS INFORMATION

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Teton Area, Idaho and Wyoming

13409—Snyderville gravelly loam, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 1vggl
Elevation: 6,180 to 6,550 feet

Mean annual precipitation: 16 to 18 inches
Mean annual air temperature: 38 to 44 degrees F
Frost-free period: 50 to 90 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Snyderville and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Snyderville

Setting
Landform: Fan remnants, stream terraces
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium with loess influence

Typical profile
Ap1 - 0 to 4 inches: loam
Ap2 - 4 to 12 inches: loam
BA - 12 to 16 inches: loam
Bt1 - 16 to 20 inches: very gravelly loam
Bt2 - 20 to 30 inches: very gravelly sandy clay loam
2BC - 30 to 44 inches: very gravelly loamy sand
2C - 44 to 60 inches: very gravelly coarse sand

Properties and qualities
Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups
Land capability classification (irrigated): 4c
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: LOAMY 16-22 ARTRV/FEID (R043BY009ID)
Hydric soil rating: No

13441—Alpine-Driggs complex, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 20fv0

Elevation: 6,090 to 6,440 feet
Mean annual precipitation: 16 to 18 inches
Mean annual air temperature: 38 to 44 degrees F
Frost-free period: 50 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition
Alpine and similar soils: 50 percent
Driggs and similar soils: 45 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alpine

Setting
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile
A1 - 0 to 2 inches: gravelly loam
A2 - 2 to 11 inches: very gravelly loam
ABk - 11 to 17 inches: extremely gravelly loam
Bk - 17 to 25 inches: extremely gravelly sandy loam
Bkq - 25 to 31 inches: extremely gravelly loamy sand
Bk' - 31 to 35 inches: extremely gravelly sandy loam
Bkq' - 35 to 44 inches: extremely gravelly loamy sand
Bk1" - 44 to 51 inches: extremely gravelly sandy loam
Bk2" - 51 to 60 inches: gravel

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 75 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Very low (about 2.2 inches)

Interpretive groups
Land capability classification (irrigated): 4c
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: SHALLOW GRAVELLY 12-16 ARTRV/PSSPS (R013XY004ID)
Hydric soil rating: No

Description of Driggs

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium with loess influence

Typical profile

Ap1 - 0 to 3 inches: loam
Ap2 - 3 to 8 inches: silt loam
Bt1 - 8 to 15 inches: silt loam
Bt2 - 15 to 31 inches: clay loam
Bk1 - 31 to 35 inches: gravelly loam
2Bk2 - 35 to 45 inches: extremely gravelly coarse sand
2Bk3 - 45 to 57 inches: extremely gravelly coarse sand
2C - 57 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 4c
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Ecological site: LOAMY 16-22 ARTRV/FEID-PSSPS (R013XY005ID)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Teton Area, Idaho and Wyoming
Survey Area Data: Version 9, Jun 4, 2020