

Midvalley Connector

Utah Transit Authority

Biological Resources and Wetlands Technical Report

December 2021

Jacobs

Biological Resources and Wetlands Technical Report

Executive Summary	
Summary of Results	2
Regulatory Environment	3
Methods	4
Findings	5
Vegetation	5
Special Status Species: Plants	6
General Wildlife and Habitat	6
Federally Listed Species	6
State of Utah Sensitive Wildlife Species	7
Raptors and Migratory Birds	
Waters of the U.S.	9
References	11

Executive Summary

The Federal Transit Administration (FTA) and the Utah Transit Authority (UTA)—in cooperation with project partners Taylorsville City, Murray City, West Valley City, the Utah Department of Transportation (UDOT), Salt Lake Community College (SLCC), Salt Lake County, and the Wasatch Front Regional Council (WFRC)—have prepared this Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA; 42 United States Code [U.S.C.] §§ 4321 *et seq.*) for the proposed Midvalley Connector Bus Rapid Transit (BRT) project. FTA is the federal lead agency for the project, with UTA as the project sponsor in cooperation with the aforementioned project partners.

The proposed project is a new BRT facility connecting the Murray Central TRAX and FrontRunner station to the SLCC Redwood campus in Taylorsville to the West Valley Central TRAX station. UTA, in cooperation with the project partners, analyzed the Locally Preferred Alternative (LPA) in the 2019 Midvalley Connector Environmental Study Report (ESR). Since completion of the 2019 ESR, potential federal funding sources have been identified for the project. These new funding sources require the FTA and project partners to complete an EA per NEPA requirements and to document conceptual engineering and cost estimates that have been further advanced since completion of the 2019 ESR.

The project includes dedicated BRT lanes and a complete street, urban designed corridor along 4500 South west of I-15 from approximately Atherton Drive to Redwood Road in Taylorsville City. The study area extends approximately 7 miles along the BRT route and includes a quarter-mile buffer from the BRT centerline. The study area spans three cities in Salt Lake County— Murray, Taylorsville, and West Valley City, and encompasses residential areas (including high-density and senior housing facilities), office parks, educational facilities, and various recreational and shopping areas.

This Natural Resources Technical Report has been prepared in support of the Midvalley Connector project and is intended to identify and analyze environmental resources in the study area. Resources to be assessed include:

- Vegetation
- Special Status Species: Plants
- General Wildlife and Habitat
- Federally Listed Species
- State of Utah Sensitive Wildlife Species
- Raptors and Migratory Birds
- Waters of the U.S.

Summary of Results

Jacobs biologists conducted a natural resource site review in late 2017 and early 2018. The findings are summarized below:

- Vegetation: Much, if not all, of the land within the study area is highly developed and has been previously disturbed, and few areas with native vegetation are present. The project shall comply with Executive Order 13112 Invasive Species and follow the recommendations and objectives described in the National Invasive Species Management Plan to prevent the introduction of invasive species and provide for their control and minimization. It will also comply with Rule R68-9-4 of the Utah Noxious Weed Act to prevent dissemination of noxious weed seeds or such parts of noxious weed plants that could cause new growth by contaminated articles. Any clearing of vegetation should be performed using appropriate best management practices to ensure that weed seeds and/or other portions of plant (such as a buds or offshoots, which can be used to reproduce the plant) are not transported.
- Federally Listed Threatened and Endangered Species: A finding of no effect with no conservation measures are recommended.
- State of Utah Sensitive Wildlife Species: No impacts are identified with no conservation measures recommended.
- Raptors and Migratory Birds: No nests were observed within the project study area; however, the survey was conducted outside of the typical migratory bird nesting season. If any active nests are located during project construction, the species-specific spatial and temporal buffer found in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS 2002) should be applied. In order to comply with the Migratory Bird Treaty Act, vegetation (i.e., trees, shrubs, and herbaceous plants) should not be removed during the bird breeding season (April 1 to July 31), depending on the species of concern and weather in a given year). If construction is to occur during this time, bird nest clearance surveys should be done by a qualified biologist to verify the absence of nests prior to vegetation removal. If nests are found, further coordination with USFWS is required to comply with both the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Construction activities occurring completely outside the nesting season do not necessitate surveys
- Waters of the U.S.: Previous surveys have identified six wetlands within the project study area:
 - Wetland 1 (0.074 acre) is located within a drainage swale that flows into the Brighton Canal. It is a palustrine emergent (PEM) wetland that appears to receive

most of its hydrology from storm water outflow through a culvert at the 2700 South and West Atherton Drive intersection.

- Wetland 2 (0.013 acre and Wetland 3 (0.027 acre) are isolated depressions and appear to receive their hydrology from landscape irrigation, precipitation, and surface runoff from adjacent parking lots. They are both PEM wetlands.
- Wetland 4 (0.02 acre) The wetland area delineated is the only "daylighted" segment of the stormwater system near the project area. Immediately upslope and downslope, water is conveyed underground through pipes and culverts. Anecdotal evidence suggests that this stormwater system joins a large, east-west-running underground pipe on the north side of 4500 South and discharges into the Jordan River. The wetland vegetation near Wetland 4 appears to be supported hydrologically by runoff from 4500 South and adjacent turf grass over-irrigation.
- Wetland 5 is a PEM wetland located in an open field east of South 2700. The wetland is approximately 0.42 acre (18,295 square feet) and had areas of standing water. The wetland appears to be an isolated feature and the culvert present at the northern end of the wetland was damaged, above-grade, and a conveyance of flow was not observed.
- Wetland 6 (0.003 acre) is a PEM wetland, located at a culvert outflow. This area appears to have been previously excavated and is the beginning portion of a drainage swale that ultimately flows to a storm water detention basin east of the study area. Standing water was present around the culvert.
- Wetland 5 and Wetland 6 are not projected to be impacted as a result of the project. It is estimated approximately 0.08 acre of wetlands could be affected by the proposed project. Potential impacts to the North Jordan Canal and wetlands will be considered as the design process progresses. The USACE issued a preliminary jurisdictional delineation on November 12, 2021, which presumed jurisdiction over the wetlands in the study area. UTA will obtain Section 404 and all other necessary permits prior to commencement of any impacts to wetlands and waters of the U.S. The project will comply with all terms and condition of the Clean Water Act permit and certification.
- No additional impacts to surface waters are anticipated beyond what was is in the EA.

Regulatory Environment

This Natural Resources Technical Report has identified and analyzed resources in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality (CEQ) regulations, as well as other State regulations. These include:

- Executive Order 13112 Invasive Species: Executive Order 13112 Invasive Species protects against the introduction of invasive species and provides for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.
- Utah Noxious Weed Act Rule R68-9-4: The Utah Noxious Weed Act states that it is the duty of every property owner to control and prevent the spread of noxious weeds on any land in his possession or under his control.
- Endangered Species Act of 1973 (16 U.S.C. § 1531-1544): The Endangered Species Act of 1973 provides a program for the conservation of threatened and endangered plants, animals, and habitats. It prohibits federal agencies from authorizing, funding, or in this case, permitting (e.g., Department of Army Permit) a project that may "jeopardize the continued existence of" listed endangered or threatened species or cause "adverse modification" to designated critical habitat.
- Migratory Bird Treaty Act of 1978 (16 U.S.C. § 703-712): The Migratory Bird Treaty Act (16 U.S.C. § 703-712) makes it unlawful at any time, by any means, or in any manner, to pursue, hunt, take, capture, kill, or sell migratory birds, their parts, nests, or eggs in the United States.
- Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668c): The Bald and Golden Eagle Protection Act (originally enacted in 1940) prohibits the possession, taking, or selling of bald and golden eagles, their parts, eggs, or nests in the United States.
- Executive Order 11990 Protection of Wetlands: Executive Order 11990 (issued in 1977) requires federal agencies to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.
- USDOT Order 5660.1A Preservation of the Nation's Wetlands: USDOT Order 5660.1A requires USDOT agencies to make a formal wetland finding for major projects.
- Clean Water Act Section 404: Section 404 of the Clean Water Act of 1972 prohibits the discharge of dredged and fill material into jurisdictional Waters of the U.S. (including wetlands) without a permit.

Methods

Biologists with Jacobs conducted a field survey on November 28, 2017, and on February 1, 2018 to collect information on waters of the U.S. (including wetlands), vegetation, and wildlife habitat present within the study area. The study area, a quarter mile buffer around the proposed route, mainly consists of the existing roadway right-of-way (ROW), except for the approximate 1.4-mile section of 4500/4700 South between Atherton Drive to Redwood Road which slightly extends outside the ROW.

Federally listed threatened and endangered species potentially occurring within the study area were determined by using the U.S. Fish and Wildlife Service's (USFWS) online Information

Planning and Conservation (IPaC) tool. State of Utah sensitive species information (USFWS 2021) was reviewed through the Utah Division of Wildlife Resources' Utah Conservation Data Center and from the Utah Division of Wildlife Resources' (UDWR) Utah Sensitive Species List. A request was also made through the Utah Natural Heritage Program (UNHP) to obtain information on historical sensitive species occurrences within half-mile and two miles of the study area.

Jacobs conducted the wetland delineation in accordance with the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (USACE 2008). Prior to the field survey, the following information was reviewed to determine the presence of potential wetlands or waterways within the study area:

- Google Earth aerial imagery (6/17/2017)
- USFWS National Wetlands Inventory (NWI) mapping (10/1/2017)
- National Hydrologic Dataset
- U.S. Geological Survey (USGS) topographical maps
- Natural Resource Conservation Service soil survey
- SWCA Delineation of Wetlands and Other Waters of the U.S. for Taylorsville Murray Transit, Salt Lake County, Utah, April 2013 (SWCA 2013)

Findings

The following sections provide natural resources findings within the study area.

Vegetation

Much, if not all of land within the study area has been previously disturbed, and few areas with native vegetation are present. It is highly developed, and vegetation in the study area is dominated by residential lawns and horticultural plant species, with riparian vegetation along the Jordan River comprising primarily cottonwoods (*Populus* spp.), willows (*Salix* spp.), box elder (*Acer negundo*), Siberian elm (*Ulmus pumila*), Russian Olive (*Elaeagnus angustifolia*), and annual forbs and grasses. Dominant species in vacant lots and other fallow habitats mostly comprise weedy species such as prickly lettuce (*Lactuca serriola*), smotherweed (*Bassia scoparia*), cheatgrass (*Bromus tectorum*), and agricultural grasses (*Elymus* and *Agropyrum* spp.). Curlycup gumweed (*Grindelia squarrosa*) and other native forbs. These vacant lots also contain species on the Utah and Salt Lake County noxious weed list such as Scotch thistle (*Onopordum acanthium*), field bindweed (Convolvulus arvensis), puncture vine (*Tribulus terrestris*), Common reed (*Phragmites australiis*), and Tamarisk (*Tamarix ramosissima*). Other noxious weed species may be present, but because the field survey was conducted outside the growing season when most species are dormant the above list may not be a complete inventory of noxious weeds present in the study area.

Required and Recommended Actions: Vegetation

The project shall comply with Executive Order 13112 Invasive Species and follow the recommendations and objectives described in the National Invasive Species Management Plan to prevent the introduction of invasive species and provide for their control and minimization. It will also comply with Rule R68-9-4 of the Utah Noxious Weed Act to prevent dissemination of noxious weed seeds or such parts of noxious weed plants that could cause new growth by contaminated articles. Any clearing of vegetation should be performed using appropriate best management practices to ensure that weed seeds and/or other portions of plant (such as a buds or offshoots, which can be used to reproduce the plant) are not transported. Mitigation measures for potential impacts to vegetation resources beyond what are included in the EA are not warranted.

Special Status Species: Plants

No federally listed or state sensitive plant species were identified within the study area based on the current conditions and lack of suitable habitat (see Table 1). Therefore, there would be no effect to federally listed plant species and no impact to state sensitive plant species as a result of the project.

General Wildlife and Habitat

Native wildlife species capable of adapting to urbanized environments have the potential to occur in the study area; these include red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), other migratory raptors, and resident and migratory songbirds. Urban development has also likely facilitated the expansion of non-native predators such as raccoons, striped skunks, domestic dogs and cats, non-native bird species, and rodent species into the study area. The study area and surrounding landscape contain little to no natural wildlife habitat due to the widespread commercial and residential development that has occurred.

Federally Listed Species

No federally listed species, nor their designated critical habitats, were identified in the study area due to the lack of suitable habitat (see Table 1). Therefore, there would be no effect to federally listed species as a result of the project.

Table 1. Threatened, Endangered, and Candidate Species with the Potential to Occur in Salt Lake County

Common Name	Scientific Name	Status	Habitat Requirements*	Potential to Occur in the Study Area?
Ute Ladies'-tresses	Spiranthes diluvialis	Threatened	Moist to wet meadows, stream banks and meanders springs, seeps and lakeshores	No
Yellow-billed cuckoo	Coccyzus americanus	Threatened	Large tracts of riparian habitat with dense shrub understory	No
June sucker	Chasmistes liorus	Threatened	Utah Lake and tributaries	No

Source: (USFWS 2020).

* Data from Bosworth (2003).

The Ute Ladies'-tresses (*Spiranthes diluvialis*), Yellow-billed cuckoo (*Coccyzus americanus*), and June sucker (*Chasmistes liorus*) were the only species included on the USFWS official species list that was developed for the project through the IPaC online system (USFWS 2020, Appendix X).

Previous reconnaissance-level field surveys were done by SWCA in the study area on September 13, 2012. No potential threatened and endangered species' habitats were identified in the survey area. The study area is dominated by urban and commercial land cover, with a few isolated pockets of poor-quality disturbed vegetation along rights-of-way, stream ways, and in vacant lots. Given the limited size and low quality of habitats in this urban landscape, there is very limited potential for the occurrence of any threatened and endangered species in the study area, and no potentially suitable habitat was identified.

State of Utah Sensitive Wildlife Species

A review of the UDWR Utah Sensitive Species List for Salt Lake County (UDWR 2017) was conducted and of the 23 state-listed wildlife species known to occur in Salt Lake County, seven have a low potential to occur in the study area and one has a moderate potential for occurrence. Those with a low potential are northern goshawk (*Accipiter gentilis*), American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), bobolink (*Dolichonyx oryzivorus*), ferruginous hawk (*Buteo regalis*), Lewis's woodpecker (*Melanerpes lewis*), and short-eared owl (*Asio flammeus*).

These species may occur briefly in the study area for activities such as roosting, foraging, or wintering. The spotted bat (*Euderma maculatum*) is the only species with a moderate potential to be found in the study area. This species is rare, but has been documented in many habitats throughout Utah, and it may roost in or on buildings. Given the nature of this project, it is unlikely that there would be any impacts to spotted bat habitat and therefore no need for mitigation. The Columbia spotted frog is a Conservation Agreement species and was identified in

historical records of occurrence within two miles of the study area (UNHP 2018; Appendix B). However, habitat for this species is not present within the study area.

An Executive Order (EO/2015/001) for Implementing the Utah Conservation Plan for Greater Sage-grouse was signed into effect on February 10, 2015 (State of Utah 2015). The greater sage-grouse (*Centrocercus urophasianus*) is also listed as a wildlife species of concern with potential to occur within Salt Lake County. However, no suitable habitat occurs within the study area, and thus no effects are expected to occur.

Raptors and Migratory Birds

No bird nests or raptors were observed in the study area during field investigations. Because the field surveys were conducted outside of the typical nesting season for raptors and migratory birds, few migratory birds were observed. Bird species common in residential areas were observed during field investigations and include rock pigeon (*Columba livia*), European starling (*Sturnus vulgaris*), and mallard (*Anas platyrhynchos*). The Jordan River riparian habitat likely has the highest diversity of bird species, and additional species such as the American robin (*Turdus migratorius*), black-capped chickadee (*Poecile atricapillus*), and yellow-rumped warbler (*Setophaga coronata*) were observed there. There is a high potential for bird species to nest in domestic landscaping vegetation, power poles and other human-made structures, and the riparian habitat of the Jordan River.

The Bald Eagle (*Haliaeetus leucocephalus*) and Golden Eagle (*Aquila chrysaetos*) were identified in the USFWS official species list developed for the project through the IPaC online system (USFWS 2020, Appendix A) as having a probability of presence in the study area primarily during the months of December-May. While no nests or raptors were observed in the study area during field investigations, mitigation will be implemented during construction to comply with the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c).

Required and Recommended Actions: Wildlife

If any active nests are located during project construction, the species-specific spatial and temporal buffer found in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (Romin and Muck 2002) should be applied.

In order to comply with the Migratory Bird Treaty Act, vegetation (i.e., trees, shrubs, and herbaceous plants) should not be removed during the bird breeding season (April 1 to July 31, depending on the species of concern and weather in a given year). If construction is to occur during this time, bird nest clearance surveys should be done by a qualified biologist to verify the absence of nests prior to vegetation removal. If nests are found, further coordination with USFWS is required to comply with both the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Construction activities occurring completely outside the nesting season do not necessitate surveys.

Mitigation measures for potential impacts to wildlife resources beyond what are included in the EA are not warranted.

Waters of the U.S.

No National Wetland Inventory wetlands are present within the study area. According to the National Hydrologic Dataset and confirmed during the field surveys, the North Jordan Canal crosses the project in two locations. The first location is under 2700 West (Constitution Boulevard) near the intersection with 4100 South in the northern part of the study area, with this waterway considered a water of the U.S. No impacts to this feature at this location is anticipated as a result of the project. However, there will be a minor impact at the second location where the North Jordan Canal crosses 4700 South and Redwood Road.

The study area also includes two natural water courses, the Jordan River and Little Cottonwood Creek, and the Brighton Canal, a perennial irrigation canal. No impacts would occur to any of these other surface waters as a result of the project. Field surveys from 2013, 2017, and 2018 field identified six wetlands within the study area:

- Wetland 1 (0.074 acre) is located within a drainage swale that flows into the Brighton Canal. It is a PEM wetland dominated by inland saltgrass and appears to receive most of its hydrology from storm water outflow through a culvert at the 2700 South and West Atherton Drive intersection. The soil was saturated and had redox concentrations that were present in approximately 25% of the soil profile between three and twelve inches.
- Wetland 2 (0.013 acre) and Wetland 3 (0.027 acre) are isolated depressions and appear to receive their hydrology from landscape irrigation, precipitation, and surface runoff from adjacent parking lots. They are both PEM wetlands dominated by cattails (*Typha* sp.), common reed (*Phragmites australis*), and inland saltgrass (*Distichlis spicata*). Soils had a clay texture below a depth of four inches with a dark chroma and prominent redox concentrations.
- Wetland 4 (0.02 acre) is a dense stand of common reed interspersed with narrowleaf willow in a stormwater conveyance channel. The wetland area delineated is the only "daylighted" segment of the stormwater system near the study area. Immediately upslope and downslope, water is conveyed underground through pipes and culverts. Anecdotal evidence suggests that this stormwater system joins a large, east-west-running underground pipe on the north side of 4500 South and discharges into the Jordan River. The wetland vegetation near Wetland 4 appears to be supported hydrologically by runoff from 4500 South and adjacent turf grass over-irrigation.
- Wetland 5 is a PEM wetland located in an open field east of South 2700 West. The wetland is approximately 0.42 acre (18,295 square feet) and had areas of standing water along with a large stand of common reed and narrow-leaf willow (*Salix exigua*). Soils displayed a depleted matrix with a dark chroma and redox concentrations. The wetland

appears to be an isolated feature and the culvert present at the northern end of the wetland was damaged, above-grade, and a conveyance of flow was not observed. Wetland 6 (0.003 acre) is a PEM wetland, located at a culvert outflow. This area appears to have been previously excavated and is the beginning portion of a drainage swale that ultimately flows to a storm water detention basin east of the study area. Standing water was present around the culvert and was likely due to rainfall that occurred the night before the delineation. Soils were dark and exhibited a sulfurous odor. The wetland was dominated by broad-leaf cattail (*Typha latifolia*).

Wetland 5 and Wetland 6 based on the current design are not projected to be impacted as a result of the project. It is estimated approximately 0.08 acre of wetlands could be affected by the proposed project. Potential impacts to the North Jordan Canal and wetlands will be considered as the design process progresses. The USACE issued a preliminary jurisdictional delineation on November 12, 2021. The preliminary jurisdictional delineation identified the four surface water features and six wetlands in the study area. The USACE concurred with these findings. UTA will obtain Section 404 and all other necessary permits prior to commencement of any impacts to wetlands and waters of the U.S. The project will comply with all terms and condition of the Clean Water Act permit and certification.

Wetland data sheets are located in Appendix C and photographs are located in Appendix D. No additional impacts to surface waters are anticipated beyond what was outlined in the EA.

References

Environmental Laboratory. 1987. Corp of Engineers Wetlands Delineation Manual, Technical Report YL-87-1, U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS, 1987.

State of Utah. 2015. Executive Order (EO/2015/001) Implementing the Utah Conservation Plan for Greater Sage-Grouse. Available at: https://rules.utah.gov/execdocs/2015/ExecDoc156016.htm

SWCA Environmental Consultants (SWCA). 2012. Natural Resources Technical Memorandum for the Taylorsville Murray Transit Environmental Study. Prepared for: Utah Transit Authority. November 2012.

SWCA Environmental Consultants (SWCA). 2013. Delineation of Wetlands and Other Waters of the U.S. for Taylorsville Murray Transit, Salt Lake County, Utah. Prepared for; Utah Transit Authority. April 2013.

U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Fish and Wildlife Service (USFWS). 2013. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellowbilled Cuckoo (*Coccyzus americanus*). Federal Register Vol. 78, No. 192. Dated October 3, 2013.

United States Fish and Wildlife Service (USFWS). 2021. Information for Planning and Conservation (IPaC) online search. Available at: https://ecos.fws.gov/ipac/ Report dated: January 19, 2021.

Utah Department of Agriculture and Food (UDAF). 2020. Utah Noxious Weed Act. Rule R68-9. Available at: https://rules.utah.gov/publicat/code/r068/r068-009.htm

Utah Division of Wildlife Resources (UDWR). 2017. State of Utah Department of Natural Resources Utah Sensitive Species List. Updated November 1, 2017. Available at: https://dwrcdc.nr.utah.gov/ucdc/

Utah Natural Heritage Program (UNHP). 2018. Letter received from the UNHP dated February 1, 2018, Sarah Lindsay, UNHP, to Dan Soucy, Jacobs.



Appendix A. USFWS Official Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE Utah Ecological Services Field Office 2369 West Orton Circle, Suite 50 West Valley City, UT 84119-7603 Phone: (801) 975-3330 Fax: (801) 975-3331 <u>http://www.fws.gov</u> http://www.fws.gov/utahfieldoffice/



In Reply Refer To: Consultation Code: 06E23000-2018-SLI-0054 Event Code: 06E23000-2021-E-00463 Project Name: Midvalley Connector January 19, 2021

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

http://

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Utah Ecological Services Field Office

2369 West Orton Circle, Suite 50 West Valley City, UT 84119-7603 (801) 975-3330

Project Summary

Consultation Code:06E23000-2018-SLI-0054Event Code:06E23000-2021-E-00463Project Name:Midvalley ConnectorProject Type:TRANSPORTATIONProject Description:Bus Rapid Transit route with expanded lanesProject Location:Vertice Content of the section of the se

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@40.67546263917968,-111.95790216799483,14z</u>



Counties: Salt Lake County, Utah

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus	Threatened
Population: Western U.S. DPS	
There is proposed critical habitat for this species. The location of the critical habitat is not available.	
Species profile: <u>https://ecos.fws.gov/ecp/species/3911</u>	
Fishes	
NAME	STATUS
June Sucker <i>Chasmistes liorus</i>	Threatened
There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/4133</u>	
*	
Species profile: https://ecos.fws.gov/ecp/species/4133 Flowering Plants	STATUS
Species profile: https://ecos.fws.gov/ecp/species/4133 Flowering Plants NAME	STATUS Threatened
Species profile: <u>https://ecos.fws.gov/ecp/species/4133</u>	

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The <u>Migratory Birds Treaty Act</u> of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.
- 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the <u>USFWS</u> <u>Birds of Conservation Concern</u> (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ <u>below</u>. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data</u> <u>mapping tool</u> (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <u>https://ecos.fws.gov/ecp/species/1626</u>	Breeds Dec 1 to Aug 31
Brewer's Sparrow <i>Spizella breweri</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/9291</u>	Breeds May 15 to Aug 10

NAME	BREEDING SEASON
Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
Golden Eagle Aquila chrysaetos This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Green-tailed Towhee <i>Pipilo chlorurus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <u>https://ecos.fws.gov/ecp/species/9444</u>	Breeds May 1 to Aug 10
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9679</u>	Breeds elsewhere
Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9408</u>	Breeds Apr 20 to Sep 30
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9481</u>	Breeds elsewhere
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/3914</u>	Breeds May 20 to Aug 31
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9420</u>	Breeds Feb 15 to Jul 15
Virginia's Warbler Vermivora virginiae This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9441</u>	Breeds May 1 to Jul 31
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

	BREEDING
NAME	SEASON
Willow Flycatcher <i>Empidonax traillii</i>	Breeds May 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions	to Aug 31
(BCRs) in the continental USA	0
https://ecos.fws.gov/ecp/species/3482	

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

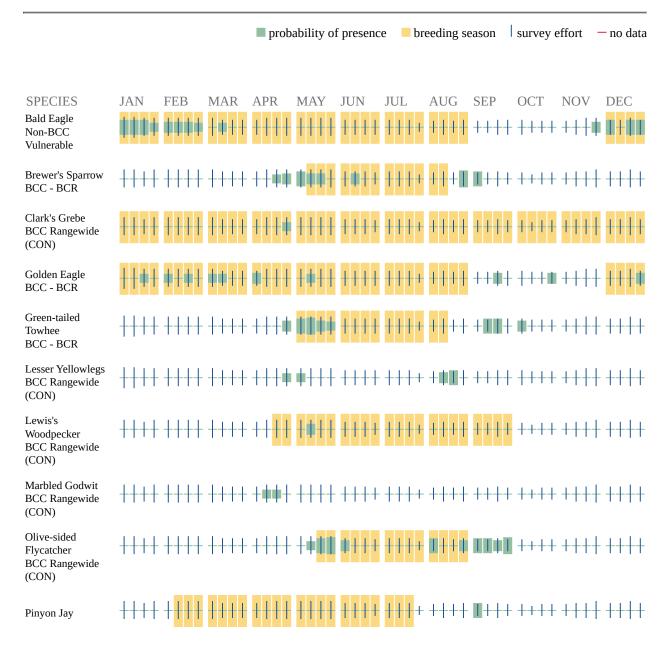
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <u>http://www.fws.gov/birds/management/managed-species/</u> <u>birds-of-conservation-concern.php</u>
- Measures for avoiding and minimizing impacts to birds <u>http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php</u>
- Nationwide conservation measures for birds <u>http://www.fws.gov/migratorybirds/pdf/</u> management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern</u> (<u>BCC</u>) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian</u> <u>Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>AKN Phenology Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: <u>The Cornell Lab</u> of <u>Ornithology All About Birds Bird Guide</u>, or (if you are unsuccessful in locating the bird of interest there), the <u>Cornell Lab of Ornithology Neotropical Birds guide</u>. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical</u> <u>Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic</u> <u>Outer Continental Shelf</u> project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.



Appendix B. UNHP Sensitive Species Letter



State of Utah DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER Executive Director

Governor SPENCER J. COX Lieutenant Governor

Division of Wildlife Resources MICHAL D. FOWLKS

Division Director

February 1, 2018

Dan Soucy Jacobs 707 17th Street, Suite 2400 Denver, CO 80202

Subject: Species of Concern Near the Proposed Mid-Valley Project, Salt Lake County, Utah

Dear Dan Soucy:

I am writing in response to your request dated January 25, 2018 regarding information on species of special concern proximal to the proposed Mid-Valley Project, a bus rapid transit system located in Section 33 of Township 1 South, Range 1 West and Sections 1-4 and 9-12 of Township 2 South, Range 1 West, SLB&M, in Murray, Taylorsville and West Valley, Utah.

Within a ½-mile radius of the project area, the Utah Division of Wildlife Resources (UDWR) has recent records of occurrence for short-eared owl, and historical records of occurrence for spotted bat. In addition, within a two-mile radius there are recent records of occurrence for burrowing owl, and historical records of occurrence for California floater, Columbia spotted frog and western pearlshell. All of the aforementioned species are included on the *Utah Sensitive Species List*.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's habitat manager for the central region, Mark Farmer, at (801) 491-5653 if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Sarah Lindsey Information Manager Utah Natural Heritage Program

cc: Mark Farmer





Appendix C. Wetland Data Sheets

WETLAND	DETERM	INATION DAT	A FORM – Aric	West Region		
Project/Site: Taylorsville Murray Transit		City/County:	Taylorsville / Salt	Lake	Sampling Date: 4/5/	/2013
Applicant/Owner: private parcels			State	Utah	Sampling Point:	P1
Investigator(s): Brian Nicholson		Section	, Township, Range	: T2S R1W, Sec.2, N	WSE	
Landform (hillslope, terrace, etc.):	oncave		Local relief (cor	icave, convex, none)none Slope	(%): 0
Subregion (LRR): D		Lat: 40.6737	Long	-111.9154	Datum: NA	D 1983
Soil Map Unit Name: Loamy Borrow Pits				NWI classification:	UPL	
Are climatic / hydrologic conditions on the site typica	I for this time	of year?	Yes	x No	(If no, explain i	in Remarks)
Are Vegetation,Soil, o	or Hydrology	sig	nificantly disturbed	I? Are "Norm	nal Circumstances" pr	esent?
				Yes	x No	
Are Vegetation, Soil, o			turally problematic		explain any answers in F	,
SUMMARY OF FINDINGS – Attach site	e map sho	wing sampling	g point locatio	ons, transects,	important featur	es, etc.
Hydrophytic Vegetation Present? Ye	s <u>X</u>	No				
Hydric Soil Present? Ye	s	No <u>X</u>	Is the Sampled A			
Wetland Hydrology Present? Ye	s <u>X</u>	No	within a Wetland	l? Yes	<u>No X</u>	
Remarks: NA means Not Applicable (used on p	plowed and pl	lanted agricultural c	prop sites in referen	ce to the vegetatic		
Precipitation prior to fieldwork: depression next to irrigated turf						
VEGETATION - Use scientific names of p	olants.			I		
	Absolute	Dominant	Indicator	Dominance Test w		
<u>Tree Stratum</u> (Plot size: <u>30' r</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina	nt Species	
1				That Are OBL, FAC	CW, or FAC: 2	(A)
2.						
3				Total Number of Do	ominant	
4				Species Across All	Strata: 2	(B)
Total Cove	r: <u>0%</u>					
Sapling/Shrub Stratum (Plot size: <u>10' r</u>)				Percent of Domina	nt Species	
1				That Are OBL, FAC	CW, or FAC: <u>100%</u>	<u>é</u> (A/B)
2.				Prevalence Index		
3				Total % Cover	r of: <u>Multiply by:</u>	
4				OBL species	<u>70 x 1 = 7</u>	0
5				FACW species	<u>30 x 2 = 6</u>	60
Total Cove	r: 0%			FAC species	0 x 3 =	0
<u>Herb Stratum</u> (Plot size: <u>5' r</u>)				FACU species	0 x 4 =	0
1. Typha latifolia	60%	Yes	OBL	UPL species	0 x 5 =	0
2. Phragmites australis	30%	Yes	FACW	Column Totals:		30 (B)
3. Carex spp	5%	No	OBL	Prevalence Inde		
4. Juncus spp	5%	No	OBL	Hydrophytic Vege	tation Indicators:	
5				X Dominand	ce Test is >50%	
6				X Prevalence	ce Index is≤3.0 ¹	
7				Morpholog	gical Adaptation ¹ (Pro	vide
8				supporting data in I	Remarks or on a sepa	arate sheet)
Total Cove	r: <u>100%</u>			Problema	tic Hydrophytic Veget	atioh
Woody Vine Stratum (Plot size: <u>10' r</u>)				(Explain)		
1				-	c soil and wetland hyd	••
2.				must be present, u	nless disturbed or pro	blematic.
Total Cove	r: 0%	_		Hydrophytic Vege	tation	
% Bare Ground in Herb Stratum 0%	% C	Cover of Biotic Crust	t	Present? Yes	χ_Νο	
Remarks: *identifies indicator status is tentative	9			Ent	tered by: btn QC	by: Is

SOIL

Depth	Matrix	X		Redox Fea				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-24	10YR 3/2	100					clay loam	
						_		
	· ·					_		
			· · · · · · · · · · · · · · · · · · ·					
	· ·							
ype: C=Cond	centration, D=Depletic	on, RM=Redu	ced Matrix, CS=cove	ered or Coated S	and Grains.	² Location: PL:	=Pore Lining, M=Matr	ix.
	licators: (Applicable						Problematic Hydric	
Histosol (A			Sandy Redox (S				k (A9) (LRR C)	
Histic Epipe			Stripped Matrix (k (A10) (LRR B)	
Black Histic	. ,		Loamy Mucky M	、 ,			Vertic (F18)	
	. ,							
Hydrogen S			Loamy Gleyed N				nt Material (TF2)	
	ayers (A5) (LRR C)		Depleted Matrix	· · ·		Other (Ex	plain in Remarks)	
	(A9) (LRR D)		Redox Dark Sur					
	elow Dark Surface (A	.11)	Depleted Dark S	· · ·		³ Indiactors of I	udrophytic vegetation	and
	Surface (A12)		Redox Depressi				nydrophytic vegetation	
-	ky Mineral (S1)		Vernal Pools (F9)		-	rology must be preser	nt,
_Sandy Gley	ed Matrix (S4)					unless distru	bed or problematic.	
Type: Depth (inch		: clav: I = loan	n or loamy: co = coa	rse: f = fine: vf =	verv fine: +	Hydric Soil P		
Type: Depth (inch		: clay; I = loar	n or loamy; co = coar	rse; f = fine; vf =	very fine; +	-		
Type: Depth (inch emarks:	nes): s = sand; si = silt; c =	: clay; l = loan	n or loamy; co = coar	rse; f = fine; vf =	very fine; +	-		
Type: Depth (inch emarks: IYDROLOC /etland Hydro	nes): s = sand; si = silt; c = GY plogy Indicators:		n or loamy; co = coar	rse; f = fine; vf =	very fine; +	-		
Type: Depth (inch emarks: YDROLOC	nes): s = sand; si = silt; c = GY		n or loamy; co = coar	rse; f = fine; vf =	very fine; +	= heavy (more		ay)
Type: Depth (inch emarks: YDROLOC etland Hydro imary Indicate	nes): s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator		n or loamy; co = coar		very fine; +	= heavy (more	clay); - = light (less cl	ay) quired)
Type: Depth (inch emarks: YDROLOC etland Hydro imary Indicate	nes): s = sand; si = silt; c = GY Diogy Indicators: ors (any one indicator ater (A1)				very fine; +	= heavy (more	clay); - = light (less	ay) guired) (Riverine)
Type: Depth (inch emarks: YDROLOC etland Hydro imary Indicate Surface Wa High Water	nes): s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator ater (A1) Table (A2)		Salt Crust (B11)	2)	very fine; +	= heavy (more	clay); - = light (less clay); - = light (less clay); licators (2 or more reconstructions) Water Marks (B1)	ay) quired) (Riverine) s (B2) (Riverine)
Type: Depth (inch emarks: YDROLOC etland Hydro imary Indicato Surface Wa High Water Saturation	nes): s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator ater (A1) Table (A2)	is sufficient)	Salt Crust (B11) Biotic Crust (B12	2) rates (B13)	very fine; +	= heavy (more	clay); - = light (less clay); licators (2 or more red Water Marks (B1) Sediment Deposit	ay) quired) (Riverine) s (B2) (Riverine)) (Riverine)
Type: Depth (inch emarks: YDROLOC /etland Hydro rimary Indicate (Surface Wa High Water (Saturation Water Mark	s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3)	is sufficient)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb	2) vrates (B13) e Odor (C1)		= heavy (more Secondary Inc	clay); - = light (less clay); - = light (less clay); licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3	ay) guired) (Riverine) s (B2) (Riverine)) (Riverine) s (B10)
Type: Depth (inch emarks: YDROLOC etland Hydro rimary Indicate Surface Wa High Water Saturation Water Mark Sediment D	s = sand; si = silt; c = GY Diogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (s (B1) (Nonriverine)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid	2) rates (B13) e Odor (C1) :pheres along Li		= heavy (more Secondary Inc	clay); - = light (less clay); - = light (less clay); licators (2 or more red Water Marks (B1) Sediment Deposits Drift Deposits (B3 Drainage Patterns	ay) (<u>quired</u>) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2)
Type: Depth (inch emarks: IYDROLOO retland Hydro rimary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos	s = sand; si = silt; c = GY Dology Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (s (B1) (Nonriverine) Deposits (B2) (Nonriverine)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos	2) rrates (B13) e Odor (C1) pheres along Li duced Iron (C4)	ving Roots (= heavy (more Secondary Inc	clay); - = light (less clay); - = light (less clay); licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows	ay) (<u>quired</u>) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2)
Type: Depth (inch emarks: IYDROLOC /etland Hydro rimary Indicate X Surface Wa High Water X Saturation Water Mark Sediment D Drift Depos Surface So	s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (S (B1) (Nonriverine) Deposits (B2) (Nonriverine) Sits (B3) (Nonriverine)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec	2) prates (B13) e Odor (C1) pheres along Li duced Iron (C4) luction in Tilled S	ving Roots (= heavy (more Secondary Inc	clay); - = light (less clay); - = light (less clay); licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows	ay) <u>quired</u>) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery ((
Type: Depth (inch emarks: YDROLOO retland Hydro rimary Indicato Surface Wa Gaturation Water Mark Sediment D Drift Depos Surface So Inundation	s = sand; si = silt; c = GY Diogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (A3) (Ka)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red	2) rates (B13) e Odor (C1) pheres along Li duced Iron (C4) luction in Tilled S ice (C7)	ving Roots (= heavy (more Secondary Inc	licators (2 or more red Water Marks (B1) Sediment Deposits Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible	ay) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (((D3)
Type: Depth (inch emarks: YDROLOC /etland Hydro rimary Indicate (Surface Wa High Water (Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stain	s = sand; si = silt; c = GY biogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (A3) (S (B1) (Nonriverine) Deposits (B2) (Nonriverine) Deposits (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imag ned Leaves (B9)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa	2) rates (B13) e Odor (C1) pheres along Li duced Iron (C4) luction in Tilled S ice (C7)	ving Roots (= heavy (more Secondary Inc	licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	ay) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (((D3)
Type: Depth (inch emarks: YDROLOO etland Hydro rimary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stair eteld Observat	s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (K) (Nonriverine) Deposits (B2) (Nonriverine) Deposits (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imagened Leaves (B9) tions:	is sufficient) erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain ir	2) rates (B13) e Odor (C1) pheres along Li duced Iron (C4) luction in Tilled S ice (C7) in Remarks)	ving Roots (Soils (C6)	= heavy (more Secondary Inc	licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	ay) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (((D3)
Type: Depth (inch emarks: IYDROLOO /etland Hydro rimary Indicate X Surface Wa High Water X Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stain ield Observat	s = sand; si = silt; c = GY Diogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (S (B1) (Nonriverine) Deposits (B2) (Nonriverine) il Cracks (B6) Visible on Aerial Imagened Leaves (B9) tions: Present? Yes	erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain ir	2) orates (B13) e Odor (C1) opheres along Li duced Iron (C4) luction in Tilled S ince (C7) in Remarks)	ving Roots (= heavy (more <u>Secondary Inc</u> - - - C3) - - - - - - - - - - - - -	clay); - = light (less clay);	ay) <u>quired</u>) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (C (D3) (D5)
Type: Depth (inch emarks: IYDROLOC /etland Hydro rimary Indicate X Surface Wa High Water X Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stair ield Observat Surface Water Vater Table Pu	s = sand; si = silt; c = GY blogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (S (B1) (Nonriverine) Deposits (B2) (Nonrive sits (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imagened Leaves (B9) tions: Present? Yes	erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain ir No D	2) rrates (B13) e Odor (C1) pheres along Lid duced Iron (C4) luction in Tilled S ince (C7) in Remarks) epth (inches): epth (inches):		= heavy (more <u>Secondary Inc</u> - - - C3) - - - - - - - - - - - - -	Licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	ay) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (C (D3) (D5)
Type: Depth (inch emarks: IYDROLOO /etland Hydro rimary Indicate X Surface Water Water Mark Sediment D Drift Depos Surface So Inundation Water-Stain ield Observat Saturation Pres includes capill	s = sand; si = silt; c = GY Dogy Indicators: ors (any one indicator ater (A1) Table (A2) (A3) (A3) (S (B1) (Nonriverine) Deposits (B2) Nonrive its (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imagened Leaves (B9) tions: Present? Yes resent? Yes sent? Yes lary fringe)	erine)) gery (B7) X	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain ir No D No D	2) rates (B13) e Odor (C1) pheres along Li duced Iron (C4) luction in Tilled S ice (C7) in Remarks) repth (inches): repth (inches): repth (inches):		= heavy (more <u>Secondary Inc</u> - C3) - Wetland	Licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	ay) <u>quired</u>) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (((D3) (D5)
Type: Depth (inch emarks: IYDROLOO /etland Hydro rimary Indicate & Surface Water Water Mark Sediment D Drift Depos Surface So Inundation Water-Stain ield Observat Saturation Pres includes capill	s = sand; si = silt; c = GY Dogy Indicators: <u>ors (any one indicator</u> ater (A1) Table (A2) (A3) (Ka)	erine)) gery (B7) X	Salt Crust (B11) Biotic Crust (B12 Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain ir No D No D	2) rates (B13) e Odor (C1) pheres along Li duced Iron (C4) luction in Tilled S ice (C7) in Remarks) repth (inches): repth (inches): repth (inches):		= heavy (more <u>Secondary Inc</u> - C3) - Wetland	Licators (2 or more red Water Marks (B1) Sediment Deposit Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	ay) (Riverine) s (B2) (Riverine)) (Riverine) s (B10) r Table (C2) (C8) on Aerial Imagery (((D3) (D5)

WETLAND	DETERMI	NATION DATA	A FORM – Ario	I West Region	
Project/Site: Taylorsville Murray Transit		City/County:	Taylorsville / Salt	Lake	Sampling Date: 4/5/2013
Applicant/Owner: private parcels			State	Utah	Sampling Point: P2
Investigator(s): Brian Nicholson		Section	, Township, Range	: T2S R1W, Sec.2, NW	VSE
Landform (hillslope, terrace, etc.):	oncave		Local relief (cor	icave, convex, none) <u>n</u> e	one Slope (%): 0
Subregion (LRR): D		Lat: 40.6736	Long	-111.9155	Datum: NAD 1983
Soil Map Unit Name: Loamy Borrow Pits			-	NWI classification: P	'EM
Are climatic / hydrologic conditions on the site typica	al for this time	of year?	Yes	x No	(If no, explain in Remarks)
Are Vegetation, Soil,	or Hydrology	sig	nificantly disturbed	Are "Normal	I Circumstances" present?
				Yes	<u>x</u> No
Are Vegetation,Soil,			turally problematic		xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach sit	e map sho	wing sampling	g point locatio	ns, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Ye	es X	No			
Hydric Soil Present? Ye	es X	No	Is the Sampled		
Wetland Hydrology Present? Ye	es <u>X</u>	No	within a Wetland	l? Yes	XNo
Remarks: NA means Not Applicable (used on	plowed and pl	anted agricultural c	rop sites in referer	ce to the vegetatic	
Precipitation prior to fieldwork: Stormwater conveyance feature					
VEGETATION - Use scientific names of	plants.			Γ	
	Absolute	Dominant	Indicator	Dominance Test wo	
<u>Tree Stratum</u> (Plot size: <u>30' r</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant	Species
1				That Are OBL, FACW	V, or FAC: (A)
2					
3				Total Number of Dom	ninant
4				Species Across All St	trata: <u>2</u> (B)
Total Cove	er: 0%				
Sapling/Shrub Stratum (Plot size: 10' r)				Percent of Dominant	Species
^{1.} Salix exigua	30%	Yes	FACW	That Are OBL, FACW	V, or FAC: <u>100%</u> (A/B)
2.				Prevalence Index we	orksheet:
3.				Total % Cover o	of: Multiply by:
4.				OBL species	0 x 1 = 0
5.				FACW species 1	25 x 2 = 250
Total Cove	er: 30%			FAC species	0 x 3 = 0
<u>Herb Stratum</u> (Plot size: <u>5' r</u>)				FACU species	0 x 4 = 0
1. Phagmites australis	95%	Yes	FACW	UPL species	0 x 5 = 0
2.				Column Totals: 1	25 (A) 250 (B)
3.				Prevalence Index	= B/A = <u>2.00</u>
4.				Hydrophytic Vegeta	tion Indicators:
5.				X Dominance	Test is >50%
6.				X Prevalence	Index is≤3.0 ¹
7.				Morphologic	cal Adaptations (Provide
8.					emarks or on a separate sheet)
Total Cove	er: 95%				: Hydrophytic Vegetation
Woody Vine Stratum (Plot size: 10' r)				(Explain)	
1.				,	soil and wetland hydrology
2.				-	ess disturbed or problematic.
 Total Cove	er: 0%			Hydrophytic Vegeta	
% Bare Ground in Herb Stratum 5%		over of Biotic Crust	t		χ Νο
Remarks: *identifies indicator status is tentativ				—	red by: btn QC by: ls
	6			Enter	

SOIL

(inches)		x		Redox Fe	ealures			
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-	10YR 3/1	100					muck	greasy no fibers
1-10	10 YR 4/2	100	7.5 YR 5/8	3	С	М	clay loam	
10-24	10 YR 4/2	100					clay loam	
						·		
						·		
<u> </u>								
						·		
ype: C=Concer	ntration, D=Depletio	on, RM=Redu	ced Matrix, CS=cove	red or Coated	Sand Grains.	² Location: PL:	=Pore Lining, M=M	latrix.
//			unless otherwise n				Problematic Hyd	
Histosol (A1)			Sandy Redox (S				k (A9) (LRR C)	
Histic Epipede		-	Stripped Matrix (,			k (A10) (LRR B)	
Black Histic (/		-	Loamy Mucky Mi				Vertic (F18)	
Hydrogen Sul	,		Loamy Gleyed M	. ,			nt Material (TF2)	
	rers (A5) (LRR C)	-		. ,				
1 cm Muck (A		-	X Depleted Matrix (Redox Dark Surf				plain in Remarks)	
	ow Dark Surface (A			· · ·				
_ ·	,		Depleted Dark S	. ,		³ Indicators of h	hydrophytic vegeta	tion and
Thick Dark Su	. ,	•	Redox Depressio				, , , , , ,	
Sandy Mucky	/ Willeral (ST)		Vernal Pools (F9)		-	rology must be pre	
Canaly Clause	al Mathematics (CA)							
Type: Depth (inches	r (if present): s):	: clay; l = loan	n or loamy; co = coar	se; f = fine; vf	= very fine; + :	Hydric Soil P	-	X No
estrictive Layer Type: Depth (inches emarks: s	r (if present): s):	: clay; l = loan	n or loamy; co = coar	se; f = fine; vf	= very fine; + :	Hydric Soil P	resent? Yes	X No
estrictive Layer Type: Depth (inches emarks: s = o horizons	r (if present): s): = sand; si = silt; c =	- clay; I = loan	n or loamy; co = coar	se; f = fine; vf	= very fine; + :	Hydric Soil P	resent? Yes	X No
estrictive Layer Type: Depth (inches emarks: s horizons	r (if present): s): = sand; si = silt; c = Y	: clay; I = Ioan	n or loamy; co = coar	se; f = fine; vf	= very fine; + :	Hydric Soil P	resent? Yes	X No
estrictive Layer Type: Depth (inches emarks: s = horizons YDROLOGY etland Hydrolo	r (if present): s): = sand; si = silt; c = Y		n or loamy; co = coar	se; f = fine; vf	= very fine; + •	Hydric Soil P	resent? Yes	X No 3 clay)
estrictive Layer Type: Depth (inches emarks: s horizons YDROLOGY etland Hydrolo imary Indicators	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator		n or loamy; co = coar Salt Crust (B11)	se; f = fine; vf	= very fine; + :	Hydric Soil P	resent? Yes clay); - = light (less	X No s clay) required)
estrictive Layer Type: Depth (inches emarks: s horizons YDROLOGY etland Hydrolo imary Indicators	r (if present): s): = sand; si = silt; c = Y ogy Indicators: s (any one indicator er (A1)				= very fine; + :	Hydric Soil P	resent? Yes clay); - = light (less licators (2 or more Water Marks (E	X No s clay) required)
estrictive Layer Type: Depth (inches emarks: s horizons YDROLOGY etland Hydrolo imary Indicators Surface Wate	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2)		Salt Crust (B11)	2)	= very fine; + *	Hydric Soil P	resent? Yes clay); - = light (less licators (2 or more Water Marks (E	X No s clay) required) 31) (Riverine) posits (B2) (Riverine)
estrictive Layer Type: Depth (inchese emarks: s horizons YDROLOGY etland Hydrolo imary Indicators Surface Water High Water Ta Saturation (A	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2)	is sufficient)	Salt Crust (B11) Biotic Crust (B12	e) rates (B13)	= very fine; + :	Hydric Soil P	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo	X No s clay) required) 31) (Riverine) posits (B2) (Riverine) B3) (Riverine)
estrictive Layer Type: Depth (inches emarks: s horizons YDROLOGY etland Hydrolo imary Indicators Surface Wate High Water Ta Saturation (A: Water Marks	r (if present): s): = sand; si = silt; c = Y bgy Indicators: s (any one indicator er (A1) Table (A2) 3)	is sufficient)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr	e) rates (B13) e Odor (C1)		Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (X No s clay) s
estrictive Layer Type: Depth (inches emarks: s b horizons YDROLOGY etland Hydrolo imary Indicators Surface Wate High Water Ta Saturation (A: Water Marks Sediment Dep	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide	e) Pates (B13) e Odor (C1) pheres along L		Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa	X No s clay) s
estrictive Layer Type: Depth (inches emarks: s = b horizons (YDROLOG) (etland Hydrolog) (etland Hydrolog) (etland Hydrolog) (cimary Indicators (Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp	?) rates (B13) e Odor (C1) pheres along L luced Iron (C4)	iving Roots (C	Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow	X No s clay) s clay) 31) (Riverine) bosits (B2) (Riverine) B3) (Riverine) erns (B10) ater Table (C2) ws (C8)
estrictive Layer Type: Depth (inches emarks: s = b horizons (YDROLOGY (etland Hydrolo cimary Indicators (Surface Wate High Water Ta Saturation (A Water Marks Sediment Dep Drift Deposits Surface Soil (r (if present): s): = sand; si = silt; c = Y bgy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine c (B3) (Nonriverine Cracks (B6)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4) uction in Tilled	iving Roots (C	Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow Saturation Visil	X No s clay) s
estrictive Layer Type: Depth (inches emarks: s bhorizons YDROLOGY etland Hydrolo imary Indicators Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Surface Soil C Inundation Vis	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine) s (B3) (Nonriverine) Cracks (B6) sible on Aerial Image	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Red	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4) uction in Tilled ce (C7)	iving Roots (C	Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow	X No s clay) s clay) s clay) s clay) s clay) s clay s clay
estrictive Layer Type: Depth (inches emarks: s = horizons YDROLOGY etland Hydrolo imary Indicators Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Surface Soil (Inundation Vis Water-Stained	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine) posits (B2) (Nonriverine) s (B3) (Nonriverine) cracks (B6) sible on Aerial Imaged d Leaves (B9)	is sufficient) erine)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Thin Muck Surfac	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4) uction in Tilled ce (C7)	iving Roots (C	Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow Saturation Visil Shallow Aquita	X No s clay) s clay) s clay) s clay) s clay) s clay s clay
estrictive Layer Type: Depth (inches emarks: s = b horizons YDROLOGY etland Hydrolo imary Indicators (Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Surface Soil (Inundation Vis Water-Stained eld Observatio	r (if present): s): = sand; si = silt; c = Y pgy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine) posits (B2) (Nonriverine) cracks (B6) sible on Aerial Imaged d Leaves (B9) ms:	erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Thin Muck Surfac Other (Explain in	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4) uction in Tilled ce (C7) Remarks)	Living Roots (C) I Soils (C6)	Hydric Soil Pr = heavy (more of Secondary Ind - -	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow Saturation Visil Shallow Aquita	X No s clay) s clay) s clay) s clay) s clay) s clay s clay
estrictive Layer Type: Depth (inches emarks: s b horizons (YDROLOG) (etland Hydrolo rimary Indicators (Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Surface Soil (Inundation Vis Water-Stained Gurface Water Pr	r (if present): s): = sand; si = silt; c = Y pogy Indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine) posits (B2) (Nonriverine) cracks (B6) sible on Aerial Imaged d Leaves (B9) ons: resent? Yes	erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Thin Muck Surfac Other (Explain in	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4) uction in Tilled ce (C7) Remarks) epth (inches):	iving Roots (C) I Soils (C6) 4"	Hydric Soil Present of the second ary Indeed Sec	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow Saturation Visil Shallow Aquita FAC-Neutral Te	X No s clay) s clay) s clay) s clay) s clay) s clay s clay
estrictive Layer Type: Depth (inches emarks: s = o horizons IYDROLOGY /etland Hydrolo rimary Indicators X Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Surface Soil (Inundation Vis Water-Stained Surface Water Press Surface Water Press	r (if present): s): = sand; si = silt; c = Y y y y y y y s (any one indicators: s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine) (B3) (Nonriverine) cracks (B6) sible on Aerial Imaged d Leaves (B9) ons: resent? Yes sent? Yes	erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Thin Muck Surfac Other (Explain in No De	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4 uction in Tilled ce (C7) Remarks) epth (inches): epth (inches):	iving Roots (C) I Soils (C6) 4"	Hydric Soil Present of the second ary Indeed Sec	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow Saturation Visil Shallow Aquita FAC-Neutral Te Hydrology Preser	X No s clay) s clay
estrictive Layer Type: Depth (inches emarks: s = b horizons IYDROLOGY /etland Hydrolo rimary Indicators X Surface Water High Water Ta Saturation (A: Water Marks Sediment Dep Drift Deposits Surface Soil (Inundation Vis	r (if present): s): = sand; si = silt; c = Y y y y y y y y s (any one indicators: s (any one indicator s (any one indicator er (A1) Table (A2) 3) (B1) (Nonriverine) posits (B2) (Nonriverine) (B3) (Nonriverine) (B3) (Nonriverine) (B3) (Nonriverine) (B3) (Nonriverine) (B3) (Nonriverine) s (B3) (Nonriverine) cracks (B6) sible on Aerial Imaged d Leaves (B9) ons: resent? Yes sent? Yes	erine)) gery (B7)	Salt Crust (B11) Biotic Crust (B12 Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Presence of Red Recent Iron Redu Thin Muck Surfac Other (Explain in No De	e) rates (B13) e Odor (C1) pheres along L luced Iron (C4) uction in Tilled ce (C7) Remarks) epth (inches):	iving Roots (C) I Soils (C6) 4"	Hydric Soil Present of the second ary Indeed Sec	resent? Yes clay); - = light (less licators (2 or more Water Marks (E Sediment Depo Drift Deposits (Drainage Patte Dry-Season Wa Crayfish Burrow Saturation Visil Shallow Aquita FAC-Neutral Te	X No s clay) s clay

WETLANI	DETERM	INATION DAT	A FORM – Ario	d West Region		
Project/Site: Taylorsville Murray Transit		City/County:	Taylorsville / Salt	Lake	Sampling Date: 4/5/	2013
Applicant/Owner: private parcels			State	: Utah	Sampling Point:	P3
Investigator(s): Brian Nicholson		Section	n, Township, Range	: T2S R1W, Sec.2, N	IWSE	
Landform (hillslope, terrace, etc.):	convex		Local relief (cor	ncave, convex, none)none Slope ((%): 0
Subregion (LRR): D		Lat: 40.6736	Long	: -111.9155	Datum: NAI	D 1983
Soil Map Unit Name: Loamy Borrow Pits				NWI classification:	UPL	
Are climatic / hydrologic conditions on the site typic	al for this time	of year?	Yes	x No	(If no, explain i	n Remarks)
Are Vegetation, Soil,	or Hydrology	się	gnificantly disturbed	d? Are "Norm	nal Circumstances" pre	esent?
				Yes	x No	
Are Vegetation, Soil,			aturally problematic		explain any answers in R	,
SUMMARY OF FINDINGS – Attach si	te map sho	wing sampling	g point locatio	ons, transects, i	mportant featur	es, etc.
Hydrophytic Vegetation Present? Y	es <u>X</u>	No				
Hydric Soil Present? Y	es	No <u>X</u>	Is the Sampled			
,,	es	No <u>X</u>	within a Wetland		<u>No X</u>	
Remarks: NA means Not Applicable (used on	plowed and p	lanted agricultural of	crop sites in referer	nce to the vegetatic		
Precipitation prior to fieldwork: Turf Grass						
VEGETATION - Use scientific names of	plants.			1		
	Absolute	Dominant	Indicator	Dominance Test w		
<u>Tree Stratum</u> (Plot size: <u>30' r</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Domina		
1.				That Are OBL, FAC	CW, or FAC: 1	(A)
2.						
3.				Total Number of Do	ominant	
4				Species Across All	Strata: 1	(B)
Total Cov	er: 0%					
Sapling/Shrub Stratum (Plot size: 10' r)				Percent of Dominar	•	
1.				That Are OBL, FAC	CW, or FAC: <u>100%</u>	(A/B)
2.				Prevalence Index		
3				Total % Cover	r of: <u>Multiply by:</u>	_
4				OBL species	<u> </u>)
5				FACW species	0 x 2 = ()
Total Cov	er: 30%			FAC species	95 x 3 = 28	35
<u>Herb Stratum</u> (Plot size: <u>5' r</u>)				FACU species	0 x 4 = 0)
1. Poa pratensis	95%	Yes	FAC	UPL species	$0 \times 5 = 0$)
2				Column Totals:		35 (B)
3				Prevalence Index		
4				Hydrophytic Vege		
5					ce Test is >50%	
6					e Index is≤3.0 ¹	
7					gical Adaptations ¹ (Pro	
8					Remarks or on a sepa	
Total Cov	er: 95%				tic Hydrophytic Vegeta	ation
<u>Woody Vine Stratum</u> (Plot size: <u>10' r</u>)				(Explain)		
1				-	c soil and wetland hyd	•••
2					nless disturbed or prot	olematic.
Total Cov	er: 0%			Hydrophytic Vege	tation	
% Bare Ground in Herb Stratum 5%	<u> </u>	Cover of Biotic Crus	st	Present? Yes	<u>χ</u> Νο	
Remarks: *identifies indicator status is tentati	/e			Ent	ered by: btn QC	by: Is

SOIL

Sampling Point: P3

Depth	Matrix			Redox Fe	eatures			
(inches)	Color (moist)	% Color	(moist)	%	Type ¹	Loc ²	Texture	Remarks
0-24	10YR 3/2	100					clay loam	
,			·					
Vpe: C=Conc	entration, D=Depletion, R	M=Reduced Matrix	CS=cove	red or Coated	Sand Grains	² l ocation: Pl	=Pore Lining M=Mat	rix
	icators: (Applicable to a						r Problematic Hydrid	-
							ck (A9) (LRR C)	
Histosol (A1	,		/ Redox (St					
Histic Epipe			ed Matrix (ck (A10) (LRR B)	
Black Histic			y Mucky Mi				Vertic (F18)	
Hydrogen S			y Gleyed M	· · ·			ent Material (TF2)	
	ayers (A5) (LRR C)		ted Matrix (. ,		Other (E)	kplain in Remarks)	
	(A9) (LRR D)		x Dark Surfa					
	elow Dark Surface (A11)	Deple	ted Dark Su	urface (F7)		3		
Thick Dark	Surface (A12)	Redo	x Depressio	ons (F8)		Indicators of	hydrophytic vegetatio	n and
Sandy Muck	ky Mineral (S1)	Verna	I Pools (F9)		wetland hyd	Irology must be prese	nt,
Sandy Gley	ed Matrix (S4)					unless distri	ubed or problematic.	
Type: Depth (inch		r; I = loam or loamy	r; co = coars	se; f = fine; vf	= very fine; +	Hydric Soil P = heavy (more		
Type: Depth (inch emarks:	es): s = sand; si = silt; c = clay	; I = loam or loamy	r; co = coars	se; f = fine; vf	= very fine; +	-		
Type: Depth (inch emarks:	es): s = sand; si = silt; c = clay SY	; I = loam or loamy	r; co = coars	se; f = fine; vf	= very fine; +	-		
Type: Depth (inch emarks: IYDROLOG Vetland Hydro	es): s = sand; si = silt; c = clay SY logy Indicators:		r; co = coars	se; f = fine; vf	= very fine; +	= heavy (more	clay); - = light (less c	lay)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato	es): s = sand; si = silt; c = clay SY Hogy Indicators: prs (any one indicator is su	ufficient)		se; f = fine; vf	= very fine; +	= heavy (more	clay); - = light (less cl	lay) quired)
Type: Depth (inch emarks: YDROLOG /etland Hydro rimary Indicato Surface Wa	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is su	ufficient) Salt C	Crust (B11)		= very fine; +	= heavy (more	clay); - = light (less c dicators (2 or more re Water Marks (B1)	ay) quired)) (Riverine)
Type: Depth (inch emarks: YDROLOG etland Hydro rimary Indicato Surface Wa High Water	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is su tter (A1) Table (A2)	ufficient) Salt C Biotic	Crust (B11) Crust (B12	:)	= very fine; +	= heavy (more	clay); - = light (less c dicators (2 or more re Water Marks (B1) Sediment Deposi	quired)) (Riverine) ts (B2) (Riverine)
Type: Depth (inch emarks: IYDROLOG retland Hydro rimary Indicato Surface Wa High Water Saturation (es): s = sand; si = silt; c = clay SY Hogy Indicators: prs (any one indicator is su tter (A1) Table (A2) (A3)	ufficient) Salt C Biotic Aquat	Crust (B11) Crust (B12 cic Invertebr) rates (B13)	= very fine; +	= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3	ay) quired)) (Riverine) ts (B2) (Riverine) 8) (Riverine)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark	es): s = sand; si = silt; c = clay SY blogy Indicators: brs (any one indicator is su tter (A1) Table (A2) (A3) (Ss (B1) (Nonriverine)	ufficient) Salt C Biotic Aquat Hydro	Crust (B11) Crust (B12 ic Invertebr igen Sulfide) rates (B13) è Odor (C1)		= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3	quired)) (Riverine) ts (B2) (Riverine) 3) (Riverine) s (B10)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is su atter (A1) Table (A2) (A3) (A3) (Nonriverine) Deposits (B2) (Nonriverine)	ufficient) Salt C Biotic Aquat Hydrc)Oxidiz	Crust (B11) Crust (B12 ic Invertebr ogen Sulfide zed Rhizosp	rates (B13) e Odor (C1) oheres along L		= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate	quired)) (Riverine) ts (B2) (Riverine) 8) (Riverine) s (B10) er Table (C2)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi	es): s = sand; si = silt; c = clay SY logy Indicators: prs (any one indicator is su atter (A1) Table (A2) (A3) (s (B1) (Nonriverine) Deposits (B2) (Nonriverine) (B3) (Nonriverine)	ufficient) Salt C Biotic Aquat Hydro)Oxidiz Prese	Crust (B11) Crust (B12 ic Invertebr igen Sulfide zed Rhizosp ince of Red	r) rates (B13) e Odor (C1) oheres along L uced Iron (C4	iving Roots (= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Patterna Dry-Season Wate Crayfish Burrows	quired) (Riverine) (Riverine)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is sub- ter (A1) Table (A2) (A3) (s (B1) (Nonriverine) Deposits (B2) (Nonriverine) its (B3) (Nonriverine) it Cracks (B6)	ufficient) Salt C Biotic Aquat Hydro Prese Recei	Crust (B11) Crust (B12 ic Invertebr igen Sulfide zed Rhizosp ince of Red int Iron Redu	rates (B13) e Odor (C1) oheres along L uced Iron (C4) uction in Tilled	iving Roots (= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible	ay) <u>quired)</u> (Riverine) ts (B2) (Riverine) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Imagery (
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi	es): s = sand; si = silt; c = clay SY logy Indicators: prs (any one indicator is su atter (A1) Table (A2) (A3) (s (B1) (Nonriverine) Deposits (B2) (Nonriverine) (B3) (Nonriverine)	ufficient) Salt C Biotic Aquat Hydro Prese Recei	Crust (B11) Crust (B12 ic Invertebr igen Sulfide zed Rhizosp ince of Red	rates (B13) e Odor (C1) oheres along L uced Iron (C4) uction in Tilled	iving Roots (= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Patterna Dry-Season Wate Crayfish Burrows	ay) <u>quired)</u> (Riverine) ts (B2) (Riverine) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Imagery (
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation V	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is sub- ter (A1) Table (A2) (A3) (s (B1) (Nonriverine) Deposits (B2) (Nonriverine) its (B3) (Nonriverine) it Cracks (B6)	ufficient) Salt C Biotic Aquat Hydro Prese Recei (B7)Thin M	Crust (B11) Crust (B12 ic Invertebr igen Sulfide zed Rhizosp ince of Red int Iron Redu) rates (B13) e Odor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7)	iving Roots (= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible	quired)) (Riverine) ts (B2) (Riverine) 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Imagery ((D3)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation V Water-Stain	es): s = sand; si = silt; c = clay blogy Indicators: brs (any one indicator is su atter (A1) Table (A2) (A3) (S (B1) (Nonriverine) beposits (B2) (Nonriverine) its (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imagery (hed Leaves (B9)	ufficient) Salt C Biotic Aquat Hydro Prese Recei (B7)Thin M	Crust (B11) Crust (B12 ic Invertebr igen Sulfide zed Rhizosp ince of Red int Iron Redu Muck Surfac) rates (B13) e Odor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7)	iving Roots (= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	quired)) (Riverine) ts (B2) (Riverine) 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Imagery ((D3)
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation V Water-Stain ield Observati	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is sub- ter (A1) Table (A2) (A3) (s (B1) (Nonriverine) Deposits (B2) (Nonriverine) its (B3) (Nonriverine) it Cracks (B6) Visible on Aerial Imagery (ned Leaves (B9) ions:	ufficient) Salt C Biotic Aquat Hydro Prese Recen Recen Recen Recen Thin N Other	Crust (B11) Crust (B12 ic Invertebr ogen Sulfide zed Rhizosp ince of Red int Iron Redu Muck Surfac (Explain in) rates (B13) e Odor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7)	Living Roots () Soils (C6)	= heavy (more	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	quired)) (Riverine) ts (B2) (Riverine) 3) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Imagery ((D3)
Depth (inch temarks: IYDROLOG Vetland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation V	es): s = sand; si = silt; c = clay blogy Indicators: brs (any one indicator is sub- ter (A1) Table (A2) (A3) (S (B1) (Nonriverine) beposits (B2) (Nonriverine) its (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imagery (hed Leaves (B9) ions: Present? Yes	ufficient) Salt C Biotic Aquat Hydrc Oxidiz Prese Recei Recei Recei Other Other	Crust (B11) Crust (B12 ic Invertebr ogen Sulfide zed Rhizosp nce of Red nt Iron Redu Muck Surfac (Explain in	rates (B13) e Odor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7) Remarks)	iving Roots () Soils (C6)	= heavy (more Secondary Ind C3)	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard	quired) (Riverine) (Riverine
Type: Depth (inch temarks: IYDROLOG Vetland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation V Water-Stain ield Observati	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is sub- ter (A1) Table (A2) (A3) (s (B1) (Nonriverine) beposits (B2) (Nonriverine) its (B3) (Nonriverine) il Cracks (B6) Visible on Aerial Imagery (hed Leaves (B9) ions: Present? Yes	ufficient) Salt C Biotic Aquat Hydro Prese Recei Recei Recei Recei Thin f Other	Crust (B11) Crust (B12 iic Invertebr gen Sulfide zed Rhizosp ince of Red nt Iron Redu Muck Surfac (Explain in Explain in	c) rates (B13) e Odor (C1) oheres along L uced Iron (C4) uction in Tilled ce (C7) Remarks) epth (inches):	iving Roots () Soils (C6)	= heavy (more Secondary Ind C3)	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Patterna Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	quired) (Riverine) (Riverine
Type: Depth (inch temarks: IYDROLOG Vetland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation V Water-Stain ield Observat Surface Water Vater Table Pr	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is su ater (A1) Table (A2) (A3) (A3) (A3) (B1) (Nonriverine) (B2) (Nonriverine) (B3) (Nonriverine) (Cracks (B6) Visible on Aerial Imagery (hed Leaves (B9) ions: Present? Yes sent? Yes	ufficient) Salt C Biotic Aqual Hydro Hydro NoX (B7)Thin N Other NoX	Crust (B11) Crust (B12 iic Invertebr gen Sulfide zed Rhizosp ince of Red nt Iron Redu Muck Surfac (Explain in Explain in	a) ates (B13) codor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7) Remarks) epth (inches): epth (inches):	iving Roots () Soils (C6)	= heavy (more Secondary Ind C3)	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	quired) (Riverine) (River
Type: Depth (inch emarks: IYDROLOG /etland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation M Water-Stain ield Observat Surface Water Vater Table Pro Saturation Press includes capilla	es): s = sand; si = silt; c = clay SY logy Indicators: ors (any one indicator is su ater (A1) Table (A2) (A3) (A3) (A3) (B1) (Nonriverine) (B2) (Nonriverine) (B3) (Nonriverine) (Cracks (B6) Visible on Aerial Imagery (hed Leaves (B9) ions: Present? Yes sent? Yes	ufficient) Salt C Biotic Aquat Hydro Oxidiz Prese Recei Recei Recei NoX NoX NoX	Crust (B11) Crust (B12 ic Invertebr ogen Sulfide zed Rhizosp nce of Red nt Iron Redu Muck Surfac (Explain in Leplain in De De	2) rates (B13) e Odor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7) Remarks) epth (inches): epth (inches):	Living Roots () Soils (C6)	= heavy (more Secondary Ind C3)	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	quired) (Riverine) (River
Type: Depth (inch emarks: YDROLOG retland Hydro rimary Indicato Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Surface Soi Inundation W Water-Stain reld Observati Surface Water Vater Table Prisaturation Pres ncludes capilla	es): s = sand; si = silt; c = clay blogy Indicators: brs (any one indicator is sub- ors (any one indicator is sub- brs (any one indicator is sub- brs (any one indicator is sub- brs (any one indicator is sub- ors (any one indicator is sub- brs (A2) (A3) (A3) (S (B1) (Nonriverine) beposits (B2) (Nonriverine) its (B3) (Nonriverine) its (B3) (Nonriverine) id Cracks (B6) Visible on Aerial Imagery (hed Leaves (B9) ions: Present? Yes sent? Yes ary fringe)	ufficient) Salt C Biotic Aquat Hydro Oxidiz Prese Recei Recei Recei NoX NoX NoX	Crust (B11) Crust (B12 ic Invertebr ogen Sulfide zed Rhizosp nce of Red nt Iron Redu Muck Surfac (Explain in Leplain in De De	2) rates (B13) e Odor (C1) oheres along L uced Iron (C4 uction in Tilled ce (C7) Remarks) epth (inches): epth (inches):	Living Roots () Soils (C6)	= heavy (more Secondary Ind C3)	clay); - = light (less cl dicators (2 or more re Water Marks (B1) Sediment Deposi Drift Deposits (B3 Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Shallow Aquitard FAC-Neutral Test	quired) (Riverine) ts (B2) (Riverine) s (B10) er Table (C2) (C8) e on Aerial Imagery ((D3) t (D5) No

Project Site: Midvalley BRT			City/Count	y: <u>Taylorsville/Salt Lake</u> Samp	ling Date:	<u>2/1/18</u>	
Applicant/Owner: Private					ling Point:	Upland	<u>1</u>
Investigator(s): Dan Soucy			Section, To	ownship, Range: <u>Sec 04, T2S, R1W</u>			
Landform (hillslope, terrace, etc.): Field			cal relief (cor	ncave, convex, none): <u>none</u>	Slo	pe (%): <u>(</u>	<u>)</u>
Subregion (LRR): Interior deserts	Lat: <u>40.6</u>	73734		·	Datum: <u>N</u>	NAD 83	
Soil Map Unit Name: <u>Lo - Loamy Borrow Pits</u>			_	NWI classification:	<u>None</u>		
Are climatic / hydrologic conditions on the site typ		-	Yes 🗌	— 、 · · · · · ·		_	_
Are Vegetation , Soil , or Hydrology		antly disturbed		Normal Circumstances" present?	Yes	⊠ N	o 🗆
Are Vegetation \Box , Soil \Box , or Hydrology	☐ natura	lly problematic?	? (If ne	eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map s	howing sar	npling point	locations,	transects, important features, etc.			
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌					
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	pled Area within a Wetland?	Yes		o⊠
Wetland Hydrology Present?	Yes 🗌	No 🖂					
Remarks: Drier and warmer year than typical							
VEGETATION – Use scientific names of plant							
Tree Stratum (Plot size:)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1.	<u>% Cover</u>	Species?	Status	Number of Descinent One size			
2.				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>		(A)
3.				Tatal Number of Dominant			
4.				Total Number of Dominant Species Across All Strata:	<u>1</u>		(B)
50% = , 20% =		= Total Cover	r	Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:)				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1.				Prevalence Index worksheet:			
2.				Total % Cover of :	Multipl	y by:	
3				OBL species	x1 =		
4.				FACW species	x2 =		
5				FAC species <u>100</u>	x3 =	300	
50% =, 20% =		= Total Cover	r	FACU species	x4 =		
Herb Stratum (Plot size: <u>10x10</u>)				UPL species	x5 =		
1. <u>Poa pratensis</u>	<u>100</u>	<u>ves</u>	FAC	Column Totals: <u>100</u> (A)		<u>300</u> (B)	,
2.		<u> </u>		Prevalence Index = B/A	4 = 3.0	()	
3.				Hydrophytic Vegetation Indicators:	<u> </u>		
4.				Dominance Test is >50%			
5.				\square Prevalence Index is <3.0 ¹			
6.						orting	
7.				Morphological Adaptations ¹ (Product data in Remarks or on a separat		oning	
8.				Problematic Hydrophytic Vegeta	tion1 (Evr		
50% = 50,20% = 20	100	= Total Cover	r	Problematic Hydrophytic Vegeta	non. (Ext	nam)	
Woody Vine Stratum (Plot size:)	100			¹ Indicators of hydric soil and wetland hydrol			
1.				be present, unless disturbed or problematic.			
2.							
50% =, 20% =		= Total Cover	r	Hydrophytic Vegetation Yes	\boxtimes	No	
% Bare Ground in Herb Stratum	% Cover	of Biotic Crust		Present?			
Remarks: Irrigated turf grass between sidwa	and road						

US Army Corps of Engineers

SOIL						
Profile Desci	iption: (Describe to	the dept	h needed to docume	ent the indic	ator or confir	m the absend
Depth	Matrix			Redox F	eatures	
(inches)	Color (moist)	%	Color (Moist)	%	Type ¹	Loc ²

Profile Desci	ription: (Describe	to the dept	h need	ed to d	ocument the indicato	r or conf	irm the abs	sence o	f indica	itors.)				
Depth	Matrix				Redox Featu	ires								
(inches)	Color (moist)	<u>%</u>	<u>Co</u>	lor (Moi	<u>st) %</u>	Type ¹	Loc ²	2	Textu	ure <u>Remarks</u>				
<u>0-14</u>	<u>7.5 YR 3/2</u>	<u>100</u>						_	Clay/lo	bam				
								_						
								_						
								_						
								_						
				<u> </u>				_						
	-				ix, CS=Covered or Coa	ated Sand	d Grains. 2	Locatio						
-	ndicators: (Applica	able to all I	LRRs, u		•					licators for Problematic Hy		oils³:		
Histoso					Sandy Redox (S5)					1 cm Muck (A9) (LRR C	-			
	pipedon (A2)				Stripped Matrix (S6)					2 cm Muck (A10) (LRR I	B)			
	listic (A3)				Loamy Mucky Minera					Reduced Vertic (F18)				
Hydrog	en Sulfide (A4)				Loamy Gleyed Matrix	(F2)				Red Parent Material (TF	2)			
Stratifie	d Layers (A5) (LRF	ł C)			Depleted Matrix (F3)					Other (Explain in Remar	ˈks)			
□ 1 cm M	uck (A9) (LRR D)				Redox Dark Surface	(F6)								
Deplete	ed Below Dark Surfa	ace (A11)			Depleted Dark Surface	ce (F7)								
Thick D	ark Surface (A12)				Redox Depressions ((F8)				³ Indicators of hydrophytic	c veae	tation	and	
Sandy I	Mucky Mineral (S1)				Vernal Pools (F9)					wetland hydrology mu	•			
Sandy G	Gleyed Matrix (S4)									unless disturbed or	probler	natic.		
Restrictive L	ayer (if present):													
Туре:														
Depth (Inches	s):						Hydric So	oils Pre	sent?	Yes [No	\boxtimes	I
Remarks:	Rock at 14"													
HYDROLO	GY													
Wetland Hyd	rology Indicators:													
Primary Indica	ators (minimum of c	one require	d; check	all that	apply)				Seco	ondary Indicators (2 or more	require	ed)		
Surface	e Water (A1)				Salt Crust (B11)					Water Marks (B1) (Riverine	e)			
🔲 High W	/ater Table (A2)				Biotic Crust (B12)					Sediment Deposits (B2) (Ri	iverine))		
□ Saturat	tion (A3)				Aquatic Invertebrates	s (B13)				Drift Deposits (B3) (Riverin	ıe)			
U Water	Marks (B1) (Nonriv	erine)			Hydrogen Sulfide Od	or (C1)				Drainage Patterns (B10)				
Sedime	ent Deposits (B2) (N	Vonriverine	e)		Oxidized Rhizospher	es along	Living Root	s (C3)		Dry-Season Water Table (C	22)			
Drift De	eposits (B3) (Nonri	verine)			Presence of Reduced	d Iron (C4	-)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B6)				Recent Iron Reduction	on in Tilleo	d Soils (C6)			Saturation Visible on Aerial	Image	ery (CS)	
🔲 Inunda	tion Visible on Aeria	al Imagery	(B7)		Thin Muck Surface (0	C7)				Shallow Aquitard (D3)				
Water-	Stained Leaves (BS))			Other (Explain in Rer	marks)				FAC-Neutral Test (D5)				
Field Observ	ations:													
Surface Wate	r Present? Y	'es 🛛	No	\boxtimes	Depth (inches):									
Water Table F	Present? Y	′es 🛛	No	\boxtimes	Depth (inches):									
Saturation Pro	Y	'es 🛛	No	\boxtimes	Depth (inches):			Wetla	nd Hyd	rology Present?	Yes		No	\boxtimes
		aluae ma	onitoring	well, a	erial photos, previous i	nspection	s) if availa	ble:						

Project Site: Midvalley BRT			City/Count	ty: <u>Taylorsville/Salt Lake</u> Sa	ampling Date:	<u>2/1/18</u>	
Applicant/Owner: <u>Private</u>				State: <u>Utah</u> Sa	mpling Point:	Upland 2	2
Investigator(s): Dan Soucy			Section, T	ownship, Range: <u>Sec 04, T2S, R1W</u>			
Landform (hillslope, terrace, etc.): Field		Lo	cal relief (cor	ncave, convex, none): <u>none</u>	Slo	pe (%): <u>0</u>	<u>।</u>
Subregion (LRR): Interior deserts	Lat: 40.6	<u>673916</u>		Long: <u>-111.914710</u>	Datum: N	NAD 83	
Soil Map Unit Name: Lo - Loamy Borrow Pits				NWI classification	on: <u>None</u>		
Are climatic / hydrologic conditions on the site typ	ical for this ti	me of year?	Yes 🛛	No 🛛 (If no, explain in Remark	.s.)		
Are Vegetation □, Soil □, or Hydrology	signifi	cantly disturbed	? Are "	'Normal Circumstances" present?	Yes	🖾 No	□
Are Vegetation □, Soil □, or Hydrology	natura	ally problematic?	? (If ne	eeded, explain any answers in Remarks.)			
				(
SUMMARY OF FINDINGS – Attach site map sl Hydrophytic Vegetation Present?	Yes 🛛		locations,	transects, important features, etc.			
Hydric Soil Present?	Yes [Is the Sam	npled Area within a Wetland?	Yes		o 🛛
Wetland Hydrology Present?	Yes [
Remarks: Drier and warmer year than typical							
VEGETATION – Use scientific names of plant	Absolute	Dominant	Indicator				
Tree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Dominance Test Worksheet:			
1				Number of Dominant Species	<u>1</u>		(A)
2				That Are OBL, FACW, or FAC:	1		(~)
3				Total Number of Dominant	<u>1</u>		(B)
4				Species Across All Strata:	<u>+</u>		(D)
50% =, 20% =		= Total Cover	i	Percent of Dominant Species	<u>100</u>		(A/B)
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACW, or FAC:	100		(70)
1				Prevalence Index worksheet:			
2				Total % Cover of :	Multiply	<u>y by:</u>	
3				OBL species	x1 =		
4				FACW species	x2 =		
5				FAC species <u>100</u>	x3 =	<u>300</u>	
50% =, 20% =		= Total Cover	r I	FACU species	x4 =		
Herb Stratum (Plot size:10x10)				UPL species	x5 =		
1. <u>Poa pratensis</u>	<u>100</u>	ves	FAC	Column Totals: <u>100</u> (A)		<u>300</u> (B)	
2				Prevalence Index =	B/A = 3.0		
3.				Hydrophytic Vegetation Indicators:			
4.				Dominance Test is >50%			
5.				Prevalence Index is <3.0 ¹			
6.					(Duessiale essen		
7.				Morphological Adaptations ¹ (data in Remarks or on a separation		orting	
8.				Problematic Hydrophytic Vec	1 .=		
	100	= Total Cover		Problematic Hydrophytic Veg	jetation' (Exp	plain)	
50% = 50, 20% = 20	<u>100</u>			¹ Indicators of hydric soil and wetland hydric soil and wetland hydric soil and wetland hydric solution and be a soluti	drology must		
Woody Vine Stratum (Plot size:)				be present, unless disturbed or problema	atic.		
1							
2		- Total Carre		Hydrophytic Vegetation Ye	s 🛛	No	
50% =, 20% =	0/ 0	= Total Cover		Vegetation Ye Present?	- 2		-
% Bare Ground in Herb Stratum	% Cover	of Biotic Crust		<u> </u>			
Remarks: Irrigated turf grass between sidwa	alk and road						

US Army Corps of Engineers

SOI	L									Sa	ampling	Point: <u>L</u>	Jpland 2
Prof	ile Descr	iption: (Describe to	the depth	needed to d	ocument the inc	licator or confin	m the absence	of indic	ators.)				
D	epth	Matrix			Redox	Features							
<u>(in</u>	iches)	Color (moist)	%	Color (Moi	<u>st) %</u>	<u>Type¹</u>	Loc ²	Text	ure	<u>Remarks</u>			
<u>(</u>	<u>)-12</u>	<u>7.5 YR 3/2</u>	<u>100</u>					<u>Clay/</u>	oam				
-													
-			<u> </u>										
-			<u> </u>										
-			<u> </u>										
			. <u> </u>										
51		ncentration, D=Depl	,		,		Grains. ² Locat		Pore Lining, I				
-		dicators: (Applica	ble to all LF	· _						Problematic	-	Soils ³ :	
	Histosol				Sandy Redox (,				uck (A9) (LRF	-		
		pipedon (A2)			Stripped Matrix					uck (A10) (LF	-		
		istic (A3)			Loamy Mucky I	. ,				d Vertic (F18	,		
		en Sulfide (A4)			Loamy Gleyed	. ,				rent Material	` '		
		d Layers (A5) (LRR	C)		Depleted Matrix	. ,			Other (E	Explain in Rer	marks)		
		uck (A9) (LRR D)			Redox Dark Su	. ,							
		d Below Dark Surfa	ce (A11)		Depleted Dark								
		ark Surface (A12)			Redox Depress				³ Indicato	ors of hydroph	nytic veg	getation a	and
	-	/lucky Mineral (S1)			Vernal Pools (F	-9)				nd hydrology			,
	,	Gleyed Matrix (S4)				T			unle	ess disturbed	or probl	lematic.	
		ayer (if present):											
Туре											_		-
-	h (Inches):					Hydric Soils P	resent?		Yes		No	\boxtimes
Rem	arks:												
HYD	ROLOG	θY											
Wetl	and Hyd	rology Indicators:											
Prim	ary Indica	ators (minimum of or	ne required;	check all that	apply)			Sec	ondary Indica	ators (2 or mo	ore requ	ired)	
	Surface	e Water (A1)			Salt Crust (B11)			Water Marl	ks (B1) (Rive	rine)		
	High W	ater Table (A2)			Biotic Crust (B1	12)			Sediment [Deposits (B2)	(Riveri	ne)	
	Saturat	ion (A3)			Aquatic Inverte	brates (B13)			Drift Depos	sits (B3) (Rive	erine)		
	Water N	Marks (B1) (Nonrive	rine)		Hydrogen Sulfi	de Odor (C1)			Drainage F	atterns (B10))		
	Sedime	ent Deposits (B2) (N	onriverine)		Oxidized Rhizo	spheres along L	iving Roots (C3)		Dry-Seaso	n Water Table	e (C2)		

Field Observations: Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Drift Deposits (B3) (Nonriverine)

Inundation Visible on Aerial Imagery (B7)

Yes

Yes

Yes

Surface Soil Cracks (B6)

Water-Stained Leaves (B9)

 \boxtimes

 \boxtimes

 \boxtimes

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

No

No

No

Presence of Reduced Iron (C4)

Thin Muck Surface (C7)

Depth (inches):

Depth (inches):

Depth (inches):

Other (Explain in Remarks)

Recent Iron Reduction in Tilled Soils (C6)

Arid West - Version 2.0

Yes

 \boxtimes

No

Crayfish Burrows (C8)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

Saturation Visible on Aerial Imagery (C9)

Wetland Hydrology Present?

Project Site: Midvalley Connector					City/Count	y: <u>Taylorsville/Salt I</u>	Lake Sampli	ng Date:	<u>2/1/18</u>	1	
Applicant/Owner: <u>Private</u>						Stat	te: <u>Utah</u> Samplir	ng Point:	Uplan	<u>d 3</u>	
Investigator(s): Dan Soucy					Section, To	ownship, Range: <u>Se</u>	<u>ec 04, T2S, R1W</u>				
Landform (hillslope, terrace, etc.): Field				Lo	cal relief (cor	ncave, convex, none)	: <u>none</u>	Slo	pe (%):	<u>0</u>	
Subregion (LRR): Interior deserts	Lat: <u>40</u>	0.674	379			Long: <u>-111.913(</u>		atum: <u>I</u>	NAD 83		
Soil Map Unit Name: Lo - Loamy Borrow Pits					_	_	NWI classification:	None			
Are climatic / hydrologic conditions on the site typi			-		Yes 🗖		no, explain in Remarks.)		_		_
Are Vegetation , Soil , or Hydrology			tly dist			Normal Circumstance		Yes	\boxtimes	No	
Are Vegetation □, Soil □, or Hydrology	natu	irally	proble	matic	? (If ne	eded, explain any an	swers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map sl	howing s	amp	oling p	point	locations,	transects, impor	tant features, etc.				
Hydrophytic Vegetation Present?	Yes	\boxtimes	No								
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sam	pled Area within a	Wetland?	Yes		No	\boxtimes
Wetland Hydrology Present?	Yes		No	\boxtimes							
Remarks: Drier and warmer year than typical											
VEGETATION – Use scientific names of plant	e										
Tree Stratum (Plot size:)	Absolute % Cover		Domina		Indicator Status	Dominance Test V	Vorksheet:				
1.	<u>70 COVEL</u>	-	pecies	5:	Olalus	Number of Domina	nt Species				
2.		_				That Are OBL, FAC		<u>1</u>			(A)
3		_				Total Number of Do	ominant				
4		_				Species Across All		<u>1</u>			(B)
50% =, 20% =		=	= Total	Cove	r	Percent of Domina	nt Species				
Sapling/Shrub Stratum (Plot size:)						That Are OBL, FAC	W, or FAC:	<u>100</u>			(A/B)
1		_				Prevalence Index	worksheet:				
2		_				Total %	<u>% Cover of :</u>	<u>Multipl</u>	<u>y by:</u>		
3		_				OBL species		x1 =		-	
4		_				FACW species		x2 =		_	
5		_				FAC species	<u>90</u>	x3 =	<u>270</u>		
50% =, 20% =		=	= Total	Cove	r	FACU species		x4 =		_	
Herb Stratum (Plot size:10x10)						UPL species		x5 =		_	
1. <u>Poa pratensis</u>	<u>90</u>	у	<u>es</u>		FAC	Column Totals:	<u>90</u> (A)		<u>270</u> (B)	
2		_					Prevalence Index = B/A	= <u>3.0</u>			
3		_				Hydrophytic Vege	tation Indicators:				
4		_				🛛 Domina	ance Test is >50%				
5		_				Prevale	ence Index is <3.0 ¹				
6		_				- Morpho	ological Adaptations ¹ (Prov	ide supr	oortina		
7		_					Remarks or on a separate		5		
8		_					natic Hydrophytic Vegetati	ion ¹ (Exp	olain)		
50% = <u>45,</u> 20% = <u>18</u>	100	=	= Total	Cove	r				,		
Woody Vine Stratum (Plot size:)							c soil and wetland hydrolog disturbed or problematic.	gy must			
1		_				so prosont, uniess	alocation of problematic.				
2		_				Hydrophytic					
50% =, 20% =		=	= Total	Cove	r	Vegetation	Yes	\boxtimes	No		
% Bare Ground in Herb Stratum <u>10</u>	% Cove	er of	Biotic	Crust		Present?					
Remarks:											

US Army Corps of Engineers

SOIL														Sa	ampling F	Point:	Uplan	d <u>3</u>
Profile Descr	iption: (Describ	be to th	e depth	n need	ed to d	ocument the i	ndicate	or or con	firm the a	absence	of indic	ators.)						
Depth	Matri	х				Redo	ox Feat	ures										
(inches)	Color (moist)		%	Co	olor (Mo	<u>ist) %</u>		Type ¹	Lo	OC ²	Text	ure	Re	marks				
<u>0-14</u>	<u>10 YR 4/2</u>		100				_				<u>Clay/l</u>	<u>oam</u>						
		_					_											
		_					_											
		_					_											
		_					_											
		_																
¹ Type: C= Co	ncentration, D=D	Depletio	n, RM=	Reduc	ed Mati	rix, CS=Covere	d or Co	ated San	d Grains.	² Locat	tion: PL=I	Pore Lini	ng, M=N	latrix.				
Hydric Soil Ir	ndicators: (App	licable	to all L	RRs, ι	Inless	otherwise note	ed.)				In	dicators	for Prob	olematic	Hydric \$	Soils ³ :		
Histosol	I (A1)					Sandy Redox	(S5)					1 cn	n Muck ((A9) (LRF	R C)			
Histic E	pipedon (A2)					Stripped Mat	rix (S6)					2 cn	n Muck (A10) (LR	R B)			
Black H	istic (A3)					Loamy Muck	y Miner	al (F1)				Red	uced Ve	ertic (F18))			
	en Sulfide (A4)					Loamy Gleye	-							Material (
	d Layers (A5) (L	RR C)				Depleted Ma								ain in Rer	-			
	uck (A9) (LRR D	-				Redox Dark							、 i		,			
	d Below Dark Si	,	(A11)			Depleted Dar												
	ark Surface (A12		,			Redox Depre						0						
_	Mucky Mineral (S					Vernal Pools		()						f hydroph				
	Gleyed Matrix (S				_		()							ydrology listurbed			ι,	
,	ayer (if present	-												localboa	0. p.0.0.0	, matter		
Type:		,.																
Depth (Inches	.). 								Hydric	Soils P	resent?			Yes		No	\boxtimes	1
Remarks:									Tryane	001131	resent.			103		110		<u> </u>
Remarks.																		
HYDROLOG	GY																	
Wetland Hyd	rology Indicato	rs:																
Primary Indica	ators (minimum o	of one r	equired	; checł	k all tha	t apply)					Sec	ondary Ir	dicators	(2 or mo	ore requir	red)		
Surface	e Water (A1)					Salt Crust (B	11)					Water I	Marks (E	31) (Rive	rine)			
🔲 High W	ater Table (A2)					Biotic Crust (B12)					Sedime	ent Depo	osits (B2)	(Riverin	ie)		
□ Saturat	ion (A3)					Aquatic Inver	tebrate	s (B13)				Drift De	eposits (l	B3) (Rive	erine)			
U Water	Marks (B1) (Non	riverin	e)			Hydrogen Su	lfide O	dor (C1)				Draina	ge Patte	rns (B10))			
Sedime	ent Deposits (B2) (Non r	verine)		Oxidized Rhi	zosphe	res along	Living Ro	oots (C3))	Dry-Se	ason Wa	ater Table	e (C2)			
Drift De	posits (B3) (No i	nriverir	ne)			Presence of	Reduce	d Iron (C	4)			Crayfis	h Burrov	vs (C8)				
Surface	e Soil Cracks (Be	6)				Recent Iron F	Reducti	on in Tille	d Soils (C	(6)		Saturat	ion Visit	ole on Ae	rial Imag	ery (CS	9)	
Inundat	tion Visible on A	erial Im	agery (E	B7)		Thin Muck St	urface (C7)				Shallov	v Aquita	rd (D3)	-			
□ Water-	Stained Leaves	(B9)				Other (Explai						FAC-N	eutral Te	est (D5)				
Field Observ						· ·								. ,				
Surface Wate		Yes		No	\boxtimes	Depth (ir	nches):											
Water Table F		Yes		No		Depth (ir												
Saturation Pre			_			• •	,				(law / 11	المعاد ا	D	•	V	_	N -	57
(includes capi	llary fringe)	Yes		No		Depth (ir		inoncoti-			tland Hy	arology	resent	ſ	Yes		No	
Describe Kec	orded Data (stre	am gat	ige, moi	nitoring	y well, a	ienai priotos, pi	evious	Inspectio	ns), ir avai	mapie:								

Project Site: Midvalley Connector					City/Count	ty: <u>Taylorsvill</u>	e/Salt Lake	Samplir	ng Date:	<u>11/29/1</u>	<u>7</u>
Applicant/Owner: Private							State: Utah	Samplin	ng Point:	Upland	4
Investigator(s): Pat Basting, Dan Soucy							ge: <u>Sec 04, T2S, R1</u>	W			
Landform (hillslope, terrace, etc.): Field				Lo	ocal relief (cor	ncave, convex	, none): <u>none</u>		Slo	pe (%):	<u>0</u>
Subregion (LRR): Interior deserts	Lat: 4	10.67	<u>73919</u>			Long: <u>-1</u>	11.957344	Da	atum: <u>N</u>	AD 83	
Soil Map Unit Name: Lo - Loamy Borrow Pits							NWI clas	ssification: I	None		
Are climatic / hydrologic conditions on the site typi	cal for thi	s tim	e of ye	ar?	Yes 🛛	No] (If no, explain in F	Remarks.)			
Are Vegetation \Box , Soil \Box , or Hydrology	□ sig	nifica	antly dis	sturbed	d? Are "	Normal Circur	mstances" present?		Yes		l o □
Are Vegetation \Box , Soil \Box , or Hydrology	nat	urall	y probl	ematic	? (If ne	eded, explain	any answers in Rem	arks.)			
SUMMARY OF FINDINGS – Attach site map sh	owing	e 2 m	nling	noin	locations	transacts	important foaturo	s oto			
Hydrophytic Vegetation Present?	Yes		No			transects,		3, 810.			
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sam	npled Area wi	thin a Wetland?		Yes		lo 🛛
Wetland Hydrology Present?	Yes		No	\boxtimes							
Remarks: In field											
VEGETATION – Use scientific names of plants	s.										
Tree Stratum (Plot size:)	Absolut % Cove		Domin Specie		Indicator Status	Dominance	Test Worksheet:				
1	// 0010	<u>.</u>		<u>.</u>		Number of [Dominant Species				
2							BL, FACW, or FAC:		<u>0</u>		(A)
3							er of Dominant		2		(B)
4						Species Acr	oss All Strata:		-		(0)
50% =, 20% =			= Tota	al Cove	er		Dominant Species		<u>0</u>		(A/B)
Sapling/Shrub Stratum (Plot size:)							BL, FACW, or FAC:		_		
1							Index worksheet:				
2							Total % Cover of :		Multipl	<u>y by:</u>	
3						OBL species			x1 =		
4						FACW spec			x2 =		
5						FAC species	S		x3 =		
50% =, 20% =			= Tota	al Cove	r	FACU speci	es		x4 =		
Herb Stratum (Plot size: 10x10)						UPL species	s <u>96</u>		x5 =	<u>480</u>	
1. <u>Agropyron cristatum</u>	<u>70</u>		<u>ves</u>		<u>NL (UPL)</u>	Column Tota	als: <u>96</u> (A)			<u>480</u> (E	·)
2. <u>Medicago sativa</u>	<u>20</u>		<u>yes</u>		<u>UPL</u>		Prevalence I	ndex = B/A =	= <u>5.00</u>		
3. <u>Bromus tectorum</u>	<u>5</u>		<u>no</u>		<u>NL (UPL)</u>	Hydrophyti	c Vegetation Indicat	ors:			
4. <u>Tragopogon porrifolius</u>	<u>1</u>		<u>no</u>		NL (UPL)		Dominance Test is >5	50%			
5							Prevalence Index is <	:3.0 ¹			
6							Morphological Adapta			orting	
7							data in Remarks or o	•	,		
8							Problematic Hydroph	ytic Vegetati	on ¹ (Exp	lain)	
50% = 48, 20% = 19.2	<u>96</u>		= Tota	al Cove	er	¹ Indicators o	of hydric soil and wetl	and hydrolog	nv must		
Woody Vine Stratum (Plot size:)							unless disturbed or p		gy maor		
1											
2						Hydrophyti	c	N	_	NI -	
50% =, 20% =				al Cove		Vegetation Present?		Yes		No	\boxtimes
% Bare Ground in Herb Stratum 4	% Co	ver c	of Biotic	Crust		FIESEIIL!					
Remarks:											

US Army Corps of Engineers

SOIL														Sam	npling F	oint:	Uplan	<u>d 4</u>
Profile Desci	ription: (Describ	e to th	e depth	n need	led to d	ocument	the indica	tor or con	firm the a	bsence	of indica	tors.)						
Depth	Matri	х					Redox Fea	itures										
(inches)	Color (moist)		<u>%</u>	<u>Cc</u>	olor (Mo	<u>ist)</u>	<u>%</u>	Type ¹	Lo		Textu	re	Remar	r <u>ks</u>				
<u>0-12</u>	<u>10YR 4/3</u>		<u>100</u>								Clay/lo	am						
		_																
		_																
		_																
		_																
¹ Type: C= Co	ncentration, D=D	Pepletio	on, RM=	Reduc	ed Mat	rix, CS=Co	overed or C	oated San	d Grains.	² Locati	ion: PL=P	ore Lining	, M=Matri	ix.				
Hydric Soil I	ndicators: (Appl	licable	to all L	.RRs, I	unless	otherwise	noted.)					icators fo			lydric S	Soils ³ :		
Histoso	l (A1)					Sandy R	Redox (S5)					1 cm I	Auck (A9)	(LRR	C)			
Histic E	pipedon (A2)					Stripped	Matrix (Se	i)				2 cm I	Auck (A10	0) (LRR	₹В)			
Black H	listic (A3)					Loamy N	Mucky Mine	eral (F1)					ed Vertic		-			
	en Sulfide (A4)					-	Gleyed Mat						arent Mat		F2)			
	d Layers (A5) (L	RR C)				-	d Matrix (F:						(Explain i	-	-			
	uck (A9) (LRR D					-	Dark Surfac						· ·		,			
	ed Below Dark Su		(A11)				d Dark Surl											
	ark Surface (A12		,			-	Depression					2						
	Mucky Mineral (S						Pools (F9)	,					tors of hy		•			
-	Gleyed Matrix (S	,				, ornar i	0010 (1 0)						and hydro Iless distu				ι,	
	ayer (if present)	,										u				matio.		
Type:		,-																
Depth (Inches	z).								Hydric	Soils Pr	resent?		Y	'es		No	X	1
Remarks:									Tryanc	0011311	cocht.			00		110		7
Remarks.																		
HYDROLO	GY																	
Wetland Hyd	rology Indicato	rs:																
Primary Indica	ators (minimum c	of one r	equired	; checl	k all tha	t apply)					Seco	ndary Indi	cators (2	or more	e requir	ed)		
Surface	e Water (A1)					Salt Cru	st (B11)					Water Ma	arks (B1) ((Riveriı	ne)			
🔲 🛛 High W	/ater Table (A2)					Biotic C	rust (B12)					Sediment	Deposits	s (B2) (F	Riverin	e)		
Saturat	tion (A3)					Aquatic	Invertebrat	es (B13)				Drift Dep	osits (B3)	(Riveri	ine)			
Water	Marks (B1) (Non	riverin	e)			Hydroge	en Sulfide C	Odor (C1)				Drainage	Patterns	(B10)				
Sedime	ent Deposits (B2)) (Nonr	viverine)		Oxidized	d Rhizosph	eres along	Living Ro	ots (C3)		Dry-Seas	on Water	Table ((C2)			
Drift De	eposits (B3) (Nor	nriverir	ne)			Presenc	e of Reduc	ed Iron (C	4)			Crayfish	Burrows (C8)				
	e Soil Cracks (B6	5)	•				Iron Reduc			6)		-	n Visible o		al Imag	ery (CS))	
	tion Visible on A		agery (F	B7)			ck Surface		,	,		Shallow A			0	,	,	
	Stained Leaves (0 , (,			xplain in R					FAC-Neu	• •	,				
Field Observ		. ,			_	- (-		- /					(. /				
Surface Wate		Yes		No	\boxtimes	Der	oth (inches)	:										
Water Table F		Yes		No		-	oth (inches)		-									
Saturation Pro			_			•			-				-			_	•	_
(includes cap		Yes		No		-	oth (inches)		ne) if avai		land Hyd	rology Pr	esent?		Yes		No	
Describe Kec		ani yau	iye, mor	monnų	y well, a		os, previou	s inspectio	ns), ii aval	navie.								

Project Site: Midvalley Connector					City/Count	ty: <u>Taylor</u>			-	ng Date:			
Applicant/Owner: Private								State: <u>Utah</u>	-	ng Point:	<u>Uplan</u>	<u>d 5</u>	
Investigator(s): <u>Pat Basting, Dan Soucy</u>						-	-	<u>Sec 04, T2S, R1V</u>	V			_	
Landform (hillslope, terrace, etc.): <u>Slope</u>				Lo	cal relief (cor			·	_		pe (%):	<u>5</u>	
Subregion (LRR): Interior deserts	Lat: <u>4</u>					Long:	<u>-111.9</u>			atum: <u>I</u>	NAD 83		
Soil Map Unit Name: <u>TaB - Taylorsville silty clay loar</u>							_		ification:	None			
Are climatic / hydrologic conditions on the site typi			-		Yes 🛛			(If no, explain in Re	emarks.)		_		_
Are Vegetation \Box , Soil \Box , or Hydrology	_		ntly dis					ances" present?		Yes	\boxtimes	No	
Are Vegetation \Box , Soil \Box , or Hydrology	nati	urally	proble	matic	? (If ne	eded, exp	lain an	y answers in Rema	rks.)				
SUMMARY OF FINDINGS – Attach site map sh	nowing	samp	oling	point	locations,	, transec	ts, im	portant features	, etc.				
Hydrophytic Vegetation Present?	Yes		No	\boxtimes									
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sam	npled Area	a withiı	n a Wetland?		Yes		No	\boxtimes
Wetland Hydrology Present?	Yes		No	\boxtimes									
Remarks: Hill slope along drainage swale													
VEGETATION – Use scientific names of plants	s.												
Tree Stratum (Plot size: 10x10)	Absolute <u>% Cover</u>		Domina Specie		Indicator Status	Domina	nce Te	st Worksheet:					
1. <u>Ulmus pumila</u>	<u>2</u>	7	<u>/es</u>		UPL	Number	of Dom	ninant Species		2			(A)
2. <u>Acer glabrum</u>	<u>1</u>	7	<u>/es</u>		FAC	That Are	e OBL,	FACW, or FAC:		<u>2</u>			(A)
3		-						f Dominant		1			(B)
4		-				Species	Across	All Strata:		<u>4</u>			(D)
50% = 1,20% = 0.6	<u>3</u>	=	= Total	Cove	r			inant Species FACW, or FAC:		<u>0.5</u>			(A/B)
Sapling/Shrub Stratum (Plot size:5x5)													
1. <u>Rosa woodsii</u>	<u>5</u>	7	<u>/es</u>		FACU	Prevale		lex worksheet:					
2		-			—			tal % Cover of :		Multipl	<u>y by:</u>		
3		-			—	OBL spe				x1 =		-	
4		-				FACW s	-			x2 =		-	
5		-				FAC spe		<u>81</u>		x3 =	<u>243</u>		
$50\% = \underline{2.5}, 20\% = \underline{1}$	<u>5</u>	=	= Total	Cove	r	FACU sp		<u>10</u>		x4 =	<u>40</u>		
Herb Stratum (Plot size:5x5)						UPL spe	ecies	<u>13</u>		x5 =	<u>65</u>		
1. <u>Elymus repens</u>	<u>80</u>	7	<u>/es</u>		<u>FAC</u>	Column	Totals:	<u>104</u> (A)			<u>348</u> ((B)	
2. <u>Descurainia sophia</u>	<u>5</u>	<u>r</u>	<u>10</u>		<u>NL (UPL)</u>			Prevalence Inc	dex = B/A =	= <u>3.35</u>			
3. <u>Taraxacum officinale</u>	<u>5</u>	<u>r</u>	<u>10</u>		FACU	Hydropl	hytic V	egetation Indicato	ors:				
4. <u>Bromus tectorum</u>	<u>5</u>	<u>r</u>	<u>10</u>		NL (UPL)		Dor	ninance Test is >50)%				
5. <u>Tragopogon porrifolius</u>	<u>1</u>	<u>r</u>	<u>10</u>		<u>NL (UPL)</u>		Pre	valence Index is <u><</u> 3	5.0 ¹				
6		-						phological Adaptat a in Remarks or on			porting		
7 8.		-						blematic Hydrophyt	·	,	alain)		
$50\% = \frac{48}{20\%} = \frac{19.2}{20\%}$	96	-	= Total	Cove			FIU		ic vegetati		Janij		
Woody Vine Stratum (Plot size:)	<u></u>		- Totai	0010				ydric soil and wetla		gy must			
1.						be prese	ent, unle	ess disturbed or pro	oblematic.				
2.		-											
50% =, 20% =		-	= Total	Cove	, —	Hydropl Vegetat			Yes		No		\boxtimes
	% Co		Biotic			Present				-			
% Bare Ground in Herb Stratum <u>4</u> Remarks:	/0 001		Diolic	Just									
Nonuro.													

US Army Corps of Engineers

SOIL														Sam	npling F	oint:	Uplan	d <u>5</u>
Profile Descr	ription: (Describ	e to th	e depth	h need	led to d	ocument	the indica	tor or con	firm the al	bsence	of indica	tors.)						
Depth	Matri	х					Redox Fea	tures										
(inches)	Color (moist)		<u>%</u>	<u>Cc</u>	olor (Mo	<u>ist)</u>	<u>%</u>	Type ¹	Lo	bC^2	Textu	re	<u>Remar</u>	<u>ks</u>				
<u>0-12</u>	<u>10YR 4/3</u>		<u>100</u>			-					Clay/lo	am						
		_																
		_				-												
		_				-												
		_																
		_																
¹ Type: C= Co	ncentration, D=D	Pepletio	on, RM=	Reduc	ed Mat	rix, CS=Co	vered or C	oated San	d Grains.	² Locati	on: PL=P	ore Lining	, M=Matri	x.				
Hydric Soil II	ndicators: (Appl	licable	to all L	RRs,	unless	otherwise	noted.)					icators fo			lydric S	Soils ³ :		
Histoso	l (A1)					Sandy R	edox (S5)					1 cm N	/luck (A9)	(LRR	C)			
Histic E	pipedon (A2)					Stripped	Matrix (S6)				2 cm N	/luck (A10)) (LRR	R B)			
Black H	listic (A3)					Loamy N	/ucky Mine	ral (F1)					ed Vertic		-			
	en Sulfide (A4)					-	Gleyed Mat						arent Mat		F2)			
	d Layers (A5) (L	RR C)				-	d Matrix (F:						(Explain ii		-			
_	uck (A9) (LRR D					-	ark Surfac				_				,			
	ed Below Dark Su		(A11)				d Dark Surf											
	ark Surface (A12		,			-	epressions					2						
	Mucky Mineral (S						Pools (F9)	. ()					tors of hy and hydro		•			
-	Gleyed Matrix (S	,			-								less distu				ι,	
	ayer (if present)	,													. p. o o o	mation		
Type:		,-																
Depth (Inches	z).								Hydric	Soils Pr	esent?		Y	es		No	×	1
Remarks:									Tryane	0011311	coent.		•	03		110		7
Remarks.																		
HYDROLOG	GY																	
Wetland Hyd	rology Indicato	rs:																
Primary Indica	ators (minimum c	of one r	equired	l; checl	k all tha	t apply)					Seco	ndary Indi	cators (2	or more	e requir	ed)		
Surface	e Water (A1)					Salt Cru	st (B11)					Water Ma	ırks (B1) (Riveri	ne)			
🔲 🛛 High W	/ater Table (A2)					Biotic Cr	ust (B12)					Sediment	Deposits	(B2) (Riverin	e)		
Saturat	tion (A3)					Aquatic	Invertebrat	es (B13)				Drift Depo	osits (B3)	(Riveri	ine)			
Water I	Marks (B1) (Non	riverin	e)			Hydroge	n Sulfide C	dor (C1)				Drainage	Patterns	(B10)				
Sedime	ent Deposits (B2)) (Nonr	iverine)		Oxidized	Rhizosph	eres along	Living Roo	ots (C3)		Dry-Seas	on Water	Table ((C2)			
Drift De	eposits (B3) (Nor	nriverir	ne)			Presenc	e of Reduc	ed Iron (C	4)			Crayfish E	Burrows (C8)				
Surface	e Soil Cracks (B6	5)				Recent I	ron Reduc	tion in Tille	d Soils (Ce	6)		Saturation	n Visible o	on Aeria	al Imag	ery (CS	9)	
🗌 Inunda	tion Visible on A	erial Im	agery (F	B7)		Thin Mu	ck Surface	(C7)				Shallow A	quitard (D3)	-			
	Stained Leaves ((B9)					xplain in R					FAC-Neu	tral Test (D5)				
Field Observ		. ,			_	(-	,			_							
Surface Wate		Yes		No	\boxtimes	Den	th (inches)	:										
Water Table F		Yes		No		-	oth (inches)											
Saturation Pre			_			•	. ,					. .			v	_		F 7
(includes capi		Yes		No		-	oth (inches)		ns) if avail		and Hyd	rology Pro	esent?		Yes		No	
Describe Kec		ani yau	iye, mor	monnę	y well, a		s, pieviou	s inspectio	no), ii avall	เสมเฮ.								

Project Site: <u>Midvalley BRT</u>				City/Count	y: <u>Taylorsville/Salt Lake</u> Sampling Date: <u>2/1/18</u>	
Applicant/Owner: <u>Private</u>				Os stiers T	State: <u>Utah</u> Sampling Point: <u>Wetland 1</u>	
Investigator(s): <u>Dan Soucy</u>				,	winship, Range: Sec 02, T2S, R1W	
Landform (hillslope, terrace, etc.): <u>Field</u>	1 - 4 - 40 (20740	LO	cal relief (cor	cave, convex, none): <u>concave</u> Slope (%): <u>0</u>	
Subregion (LRR): <u>Interior deserts</u>	Lat: <u>40.6</u>	5/3/48			Long: <u>-111.915382</u> Datum: <u>NAD 83</u>	
Soil Map Unit Name: <u>Lo - Loamy Borrow Pits</u>			•	. –	NWI classification: <u>None</u>	
Are climatic / hydrologic conditions on the site typi		-		Yes 🗖	No 🛛 (If no, explain in Remarks.)	_
Are Vegetation ⊠, Soil □, or Hydrology		cantly di			Normal Circumstances" present? Yes 🛛 No	Ш
Are Vegetation \Box , Soil \Box , or Hydrology	☐ natura	lly probl	ematic	? (If ne	eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map sl	howing sa	mpling	point	locations,	transects, important features, etc.	
Hydrophytic Vegetation Present?	Yes 🛛	No				
Hydric Soil Present?	Yes 🛛	No		Is the Sam	pled Area within a Wetland? Yes 🛛 No	
Wetland Hydrology Present?	Yes 🛛	No				
Remarks: Dry and unusually warm year						
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: <u>10x10</u>)	Absolute % Cover	Domir Specie		Indicator Status	Dominance Test Worksheet:	
1. <u>Populus fremontii</u>	5	yes		FAC	Number of Dominant Species	(•)
2					That Are OBL, FACW, or FAC: $\frac{4}{2}$	(A)
3					Total Number of Dominant	
4					Species Across All Strata: <u>4</u>	(B)
50% = <u>2.5,</u> 20% = <u>1</u>	<u>5</u>	= Tota	al Cover	r	Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size:10x10)					That Are OBL, FACW, or FAC: <u>100</u>	(A/B)
1. <u>Populus fremontii</u>	<u>5</u>	yes		FAC	Prevalence Index worksheet:	
2					Total % Cover of : Multiply by:	
3					OBL species <u>65</u> x1 = <u>65</u>	
4					FACW species <u>25</u> x2 = <u>50</u>	
5					FAC species <u>10</u> x3 = <u>30</u>	
50% = <u>2.5</u> , 20% = <u>1</u>	<u>5</u>	= Tota	al Cover	r	FACU species x4 =	
Herb Stratum (Plot size: <u>20x20</u>)	_				UPL species x5 =	
1. <u>Typha sp.</u>	<u>65</u>	ves		OBL	Column Totals: <u>100</u> (A) <u>145</u> (B)	
2. <u>Phragmites australis</u>	<u></u> 25	ves		FACW	Prevalence Index = $B/A = 1.45$	
3	20	<u>ycs</u>		<u>17.011</u>	Hydrophytic Vegetation Indicators:	
4.					Dominance Test is >50%	
5.					Prevalence Index is <3.0 ¹	
6						
7.					Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8.					Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = 45,20% = 18	90	- Tota	al Cover			
Woody Vine Stratum (Plot size:)	<u> 90</u>	= 1012			¹ Indicators of hydric soil and wetland hydrology must	
1.					be present, unless disturbed or problematic.	
2.						
2 50% =, 20% =	<u> </u>		al Cover		Hydrophytic Vegetation Yes 🛛 No	
	% Cover				Vegetation Tes 🖄 No Present?	
% Bare Ground in Herb Stratum <u>10</u>	% Cover		Grust			
Remarks: Vegetation has recently been mov	wed					

US Army Corps of Engineers

SOIL											Sa	mpling P	oint: <u>W</u>	etland 1
Profile Des	cription: (Describe to	the depth	needed to d	ocument	t the indicat	or or conf	irm the abs	sence of	indica	tors.)				
Depth	Matrix				Redox Fea	tures								
<u>(inches)</u>	Color (moist)	<u>%</u>	Color (Mo	<u>ist)</u>	<u>%</u>	Type ¹	Loc ²	2	<u>Textu</u>		<u>Remarks</u>			
<u>0-1</u>					<u> </u>			_		Lea	f litter/debris			
<u>1-4</u>	<u>7.5 YR 2/1</u>	<u>100</u>						_	Loam	_				
<u>4-14</u>	<u>10 YR 4/1</u>	<u>80</u>	<u>7.5 YR 5</u>	<u>/8</u>	<u>20</u>	<u>C</u>	<u>PL</u>		Clay	<u> </u>				
		<u> </u>			<u> </u>			_						
					<u> </u>			-						
	Concentration, D=Deplet	tion RM-R	educed Matr	ix CS-C	overed or Co	ated San	A Grains 2			ore Lining, I	M–Matrix			
71	Indicators: (Applicab	,		,		Jaleu Jan	d'Oranis.	Location		0,	Problematic	Hvdric	Soils ³ :	
_	sol (A1)				Redox (S5)						uck (A9) (LR			
	Epipedon (A2)				d Matrix (S6)					uck (A10) (LF			
	Histic (A3)				Mucky Mine						d Vertic (F18	-		
☐ Hydro	gen Sulfide (A4)			Loamy	Gleyed Matr	ix (F2)				Red Pa	rent Material	, (TF2)		
	ied Layers (A5) (LRR C	;))				Other (E	Explain in Re	marks)				
□ 1 cm I	Muck (A9) (LRR D)	-		Redox	Dark Surface	e (F6)								
Deple	ted Below Dark Surface	e (A11)		ace (F7)										
Thick	Dark Surface (A12)		\boxtimes	Redox	Depressions	(F8)				³ Indiacto	ors of hydrop		otation	nd
Sandy	/ Mucky Mineral (S1)			Vernal	Pools (F9)						nd hydrology			
□ Sandy	/ Gleyed Matrix (S4)										ess disturbed			
Restrictive	Layer (if present):													
Туре:														
Depth (Inche	es):						Hydric So	oils Pres	sent?		Yes	\boxtimes	No	
Remarks:														
HYDROLO	DGY													
Wetland Hy	drology Indicators:													
Primary Indi	icators (minimum of one	e required; o	check all that	t apply)					Seco	ndary Indica	ators (2 or me	ore requi	red)	
Surfa	ce Water (A1)			Salt Cr	ust (B11)					Water Marl	ks (B1) (Rive	rine)		
High	Water Table (A2)			Biotic C	Crust (B12)					Sediment [Deposits (B2)	(Riverii	ne)	
Satur	ation (A3)			Aquatio	c Invertebrate	es (B13)				Drift Depos	sits (B3) (Riv	erine)		
Water Marks (B1) (Nonriverine)										Drainage F	atterns (B10)		
Sedin	nent Deposits (B2) (No	nriverine)	\boxtimes	Oxidize	ed Rhizosphe	eres along	Living Roots	s (C3)		Dry-Seaso	n Water Tabl	e (C2)		
Drift [Deposits (B3) (Nonrive	rine)		Presen	ce of Reduc	ed Iron (C4	ł)			Crayfish Bu	urrows (C8)			
Surfa	ce Soil Cracks (B6)			Recent	Iron Reduct	ion in Tille	d Soils (C6)			Saturation	Visible on Ae	rial Imag	gery (C9)	
Inund	lation Visible on Aerial I	magery (B7	7) 🛛	Thin M	uck Surface	(C7)				Shallow Ac	uitard (D3)			
Wate Wate	r-Stained Leaves (B9)			Other (Explain in Re	emarks)				FAC-Neutr	al Test (D5)			
Field Obser	rvations:													
Surface Wat	ter Present? Yes		No 🛛	De	pth (inches):	<u>0</u>								

0

Depth (inches):

Yes \boxtimes Wetland Hydrology Present? 0 No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No

 \boxtimes

Yes

Remarks: US Army Corps of Engineers

Water Table Present?

Saturation Present?

Arid West - Version 2.0

Yes

 \boxtimes

No

Project Site: Midvalley BRT			City/Count	y: <u>Taylorsville/Salt Lake</u>	Sampling	Date:	<u>2/1/18</u>	
Applicant/Owner: Private				State: <u>Utah</u>	Sampling	Point:	Wetlan	<u>d 2</u>
Investigator(s): Dan Soucy			Section, To	ownship, Range: <u>Sec 02, T2S, R1W</u>	•			
Landform (hillslope, terrace, etc.): Field		Loc	cal relief (cor	ncave, convex, none): <u>concave</u>		Slop	oe (%):	<u>0</u>
Subregion (LRR): Interior deserts	Lat: 40.67	<u>3926</u>		Long: <u>-111.914731</u>	Datu	um: <u>N</u>	AD 83	
Soil Map Unit Name: Lo - Loamy Borrow Pits				NWI classi	fication: No	one		
Are climatic / hydrologic conditions on the site typi	cal for this time	e of year?	Yes 🗌	No 🛛 (If no, explain in Re	marks.)			
Are Vegetation 🛛, Soil 🔲, or Hydrology	significa	ntly disturbed	? Are "	Normal Circumstances" present?		Yes		lo 🛛
Are Vegetation D, Soil D, or Hydrology	naturally	problematic?	, (If ne	eded, explain any answers in Remarl	ks.)			
SUMMARY OF FINDINGS – Attach site map sh	nowing sam	nling point	locations	transects, important features	etc			
Hydrophytic Vegetation Present?	Yes 🛛							
Hydric Soil Present?	Yes 🛛	No 🗆	Is the Sam	pled Area within a Wetland?		Yes		lo 🗆
Wetland Hydrology Present?	Yes 🛛	No 🗆					_	
Remarks: Dry and unusually warm year								
VEGETATION – Use scientific names of plants	S.							
<u>Tree Stratum</u> (Plot size:)	Absolute	Dominant	Indicator	Dominance Test Worksheet:				
1.	<u>% Cover</u>	Species?	Status					
2.	·			Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>	L		(A)
3.								
4.	·			Total Number of Dominant Species Across All Strata:	<u>1</u>	<u>l</u>		(B)
4 50% =, 20% =		= Total Cover						
				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>	00		(A/B)
Sapling/Shrub Stratum (Plot size:)								
1	<u> </u>			Prevalence Index worksheet:		A	. .	
2				Total % Cover of :		<u>Aultiply</u>	-	
3				OBL species <u>8</u>		(1 =	<u>8</u>	
4	<u> </u>			FACW species <u>5</u>		2 =	<u>10</u>	
5				FAC species <u>85</u>		:3 =	<u>255</u>	
50% =, 20% =		= Total Cover		FACU species	х	:4 =		
Herb Stratum (Plot size: 20x20)				UPL species	х	:5 =		
1. <u>Distichlis spicata</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	Column Totals: <u>98</u> (A)			<u>273</u> (B)
2. <u>Typha sp.</u>	<u>8</u>	no	<u>OBL</u>	Prevalence Ind	ex = B/A = <u>2</u>	<u>.78</u>		
3. <u>Phragmites australis</u>	<u>5</u>	no	FACW	Hydrophytic Vegetation Indicator	's:			
4. <u>Poa pratensis</u>	<u>5</u>	no	FAC	Dominance Test is >50°	%			
5	<u> </u>			Prevalence Index is <3.	0 ¹			
6				Morphological Adaptation	ons ¹ (Provide	e supp	orting	
7				data in Remarks or on a			5	
8				Problematic Hydrophytic	c Vegetation	¹ (Exp	ain)	
50% = <u>49</u> , 20% = <u>19</u>		= Total Cover				、 1	,	
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetlan		must		
1				be present, unless disturbed or prol	siematic.			
2.								
50% = , 20% =		= Total Cover		Hydrophytic Vegetation	Yes	\boxtimes	No	
% Bare Ground in Herb Stratum 2		f Biotic Crust		Present?				
Remarks: Vegetation has recently been mov	ved		I					

US Army Corps of Engineers

SOIL													Sar	mpling Po	oint: <u>W</u>	etland 2
Profile Desc	ription: (Descri	be to th	e depth	n need	ed to d	ocument	the indicato	or or conf	irm the abs	sence of i	indicat	ors.)				
Depth	Matr	ix					Redox Featu	ures								
(inches)	Color (moist)	<u>%</u>	<u>Co</u>	<u>lor (Mo</u>	ist)	<u>%</u>	Type ¹	Loc ²	2	Textur	<u>e Re</u>	emarks			
<u>0-1</u>		_								_		Leaf litt	er/debris			
<u>1-3</u>	<u>7.5 YR 2/1</u>		100							_	Loam	<u> </u>				
<u>3-14</u>	<u>10 YR 4/1</u>		<u>80</u>	<u>7.</u>	5 YR 5	/8	<u>20</u>	<u>C</u>	<u>PL</u>		Clay					
		-								_						
		-								_						
		_								_						
¹ Type: C= Co	oncentration, D=I	Depletio	on, RM=	Reduce	ed Mati	rix, CS=C	overed or Co	ated Sand	d Grains. 2	² Location:	PL=Pc	re Lining, M=N	/atrix.			
Hydric Soil I	ndicators: (App	licable	to all L	RRs, u	inless	otherwis	e noted.)				Indie	cators for Pro	blematic	Hydric S	Soils ³ :	
Histoso	ol (A1)					Sandy	Redox (S5)					1 cm Muck	(A9) (LRF	R C)		
Histic E	Epipedon (A2)					Strippe	d Matrix (S6)					2 cm Muck	(A10) (LR	RB)		
Black H	Histic (A3)					Loamy	Mucky Miner	al (F1)				Reduced Ve	ertic (F18))		
Hydrog	en Sulfide (A4)					Loamy	Gleyed Matrix	x (F2)				Red Parent	Material ((TF2)		
Stratifie	ed Layers (A5) (I	RR C)			\boxtimes	Deplete	ed Matrix (F3)					Other (Expl	ain in Rer	narks)		
1 cm M	luck (A9) (LRR I	D)				Redox	Dark Surface	(F6)								
Deplete	ed Below Dark S	urface ((A11)			Deplete	ed Dark Surfa	ce (F7)								
Thick D	Dark Surface (A1	2)				Redox	Depressions	(F8)				³ Indicators of	of hydroph	wtic vere	atation a	and
□ Sandy	Mucky Mineral (S1)				Vernal	Pools (F9)					wetland h				
□ Sandy	Gleyed Matrix (S	64)											disturbed			,
Restrictive L	ayer (if present	t):														
Type:																
Depth (Inche	s):								Hydric So	oils Prese	ent?		Yes	\boxtimes	No	
Remarks:																
HYDROLO	GY															
	Irology Indicato	ors:														
-	ators (minimum		eauired	: check	all tha	t apply)					Secor	dary Indicators	s (2 or mo	ore requir	ed)	
	e Water (A1)			,			ust (B11)					Water Marks (B			,	
	Vater Table (A2)						Crust (B12)					Sediment Dep		-	e)	
	tion (A3)						Invertebrate:	s (B13)				Drift Deposits (-	-1	
_	Marks (B1) (Nor	riverin	۵)			-	en Sulfide Oc					Drainage Patte				
_	ent Deposits (B2		-	`			d Rhizospher		Living Root	s (C3)		Dry-Season W				
	eposits (B3) (No			,			ce of Reduce	-	-	000)		Crayfish Burro		(02)		
_			10)						,			Saturation Visi		rial Imag		`
	e Soil Cracks (B ation Visible on A		anery /I	37)			Iron Reductio uck Surface (Shallow Aquita		naimay		,
	Stained Leaves		ayery (i	(זב				-				-				
		(69)					Explain in Re	mains)				FAC-Neutral T	esi (D3)			
Field Observ		Vee		No		D-	nth (inchor):	0								
Surface Wate		Yes		No			pth (inches):	<u>0</u>								
Water Table		Yes		No	\boxtimes	De	pth (inches):	<u>0</u>								
Saturation Pr (includes cap		Yes		No	\boxtimes	De	pth (inches):	<u>0</u>		Wetlan	d Hydr	ology Present	t?	Yes	\boxtimes	No 🗌

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

Project Site: Midvalley Connector					City/Count	nty:	Taylor	sville/	Salt La	ake	Samplir	ng Date:	2/1/1	8	
Applicant/Owner: Private									State	e: <u>Utah</u>	Samplin	g Point:	Wetla	and 3	3
Investigator(s): Dan Soucy					Section, To	Town	ship, F	Range:	: <u>Sec</u>	: 02, T2S, R1V	V				
Landform (hillslope, terrace, etc.): vegetated swale				Lo	cal relief (cor	oncav	e, con	ivex, n	ione):	concave		Slo	pe (%)	: <u>0</u>	
Subregion (LRR): Interior deserts	Lat: 4	0.67	4373			I	_ong:	<u>-111.</u>	.91302	<u>28</u>	D	atum: <u>I</u>	NAD 83	3	
Soil Map Unit Name: Lo - Loamy Borrow Pits										NWI class	sification:	None			
Are climatic / hydrologic conditions on the site typic	cal for this	s tim	e of ye	ar?	Yes 🗌]	No	\boxtimes	(lf no	o, explain in R	emarks.)				
Are Vegetation 🖾, Soil 🔲, or Hydrology	🗌 sigr	nifica	ntly dis	sturbed	? Are "	"Norr	nal Ci	rcums	tance	s" present?		Yes	\boxtimes	No	
Are Vegetation □, Soil □, or Hydrology	nat	urally	/ proble	ematic?	e (lf ne	eede	d, exp	lain ar	ny ans	wers in Rema	rks.)				
SUMMARY OF FINDINGS – Attach site map sh			· ·	· .	locations,	s, tra	nsec	ts, im	port	ant features	, etc.				
Hydrophytic Vegetation Present?	Yes		No										_		_
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sam	mple	d Area	a with	in a V	Vetland?		Yes	\boxtimes	No	
Wetland Hydrology Present?	Yes	\boxtimes	No												
Remarks: Dry and unusually warm year															
VEGETATION – Use scientific names of plants	6.														
Tree Stratum (Plot size:)	Absolute % Cover		Domin Specie		Indicator Status	Do	omina	nce T	est W	orksheet:					
1		-				Nu	ımber	of Do	minan	t Species					
2										N, or FAC:		<u>1</u>			(A)
3						То	tal Nu	mber	of Doi	minant					(5)
4						Sp	ecies	Acros	s All S	Strata:		<u>1</u>			(B)
50% =, 20% =			= Tota	l Cover		Pe	rcent	of Dor	minan	t Species		100			
Sapling/Shrub Stratum (Plot size:)						Th	at Are	e OBL,	FAC\	N, or FAC:		100			(A/B)
1						Pr	evale	nce In	dex v	vorksheet:					
2								<u>T</u>	otal %	Cover of :		<u>Multipl</u>	<u>y by:</u>		
3						O	3L spe	ecies		<u>3</u>		x1 =	<u>3</u>		
4						FA	CW s	pecies	5			x2 =		_	
5						FA	C spe	ecies		<u>85</u>		x3 =	<u>255</u>		
50% =, 20% =			= Tota	l Cover		FA	CU s	pecies	;			x4 =		_	
Herb Stratum (Plot size:20x20)						UF	PL spe	ecies				x5 =		_	
1. <u>Distichlis spicata</u>	<u>80</u>		<u>yes</u>		FAC	Co	lumn	Totals	:	<u>88</u> (A)			<u>258</u>	(B)	
2. <u>Typha sp.</u>	<u>3</u>		no		OBL					Prevalence Ind	dex = B/A =	= <u>2.93</u>			
3. <u>Poa pratensis</u>	<u>5</u>		no		FAC	Hy	drop	hytic \	Veget	ation Indicato	ors:				
4								Do	minar	nce Test is >50)%				
5							\boxtimes	Pre	evaler	nce Index is <3	3 O ¹				
6.										ogical Adaptat		ide supr	ortina		
7.										Remarks or on			Jorang		
8.								Pro	oblem	atic Hydrophyt	tic Vegetati	on ¹ (Exr	olain)		
50% = <u>44</u> , 20% = <u>18</u>	88		= Tota	l Cover					0.0.0.11	alle i fjaroprij	lie regetati	0.1. (2.4	, iain,		
Woody Vine Stratum (Plot size:)										soil and wetla		gy must			
1.						be	prese	ent, un	iless a	listurbed or pro	oblematic.				
2.															
50% =, 20% =			= Tota	l Cover			drop				Yes	\boxtimes	No	•	
% Bare Ground in Herb Stratum <u>12</u>	% Cov	ver o	f Biotic				esent								
Remarks: Vegetation has recently been mov						1									
	เงิน/นเอเนิโ	ມອບ.													

US Army Corps of Engineers

SOIL												Sam	pling Pc	oint: <u>V</u>	Vetlan	d <u>3</u>
Profile D	Description: (Descri	ibe to th	ne depth	n neede	ed to d	ocument the indicat	or or conf	irm the abs	sence of	indica	itors.)					
Depth	Mat	rix				Redox Fea	tures									
(inche	s) Color (mois	<u>t)</u>	<u>%</u>	Co	lor (Mo	<u>ist) %</u>	Type ¹	Loc ²	2	Textu	ure <u>Rema</u>	<u>arks</u>				
<u>0-3</u>	Black	_							_		Black, slig	htly muc	<u>cky</u>			
<u>3-12</u>	<u>10 YR 4/1</u>		<u>75</u>	<u>7.</u>	5 YR 5	<u>/8 25</u>	<u>C</u>	PL		Clay/lo	<u></u>					
		_							_							
		_							_							
		_							_							
		_	<u> </u>						_							
	,		,			rix, CS=Covered or C	oated Sand	d Grains. 2	Location		Pore Lining, M=Mat					
	ioil Indicators: (Ap	plicable	to all L	RRs, u		-				_	licators for Proble			oils ³ :		
	stosol (A1)					Sandy Redox (S5)					1 cm Muck (A9	9) (LRR	C)			
🗌 His	stic Epipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A1	10) (LRR	₹В)			
🗆 Bla	ack Histic (A3)					Loamy Mucky Mine	ral (F1)				Reduced Verti	c (F18)				
🗆 Ну	drogen Sulfide (A4)					Loamy Gleyed Mate	rix (F2)				Red Parent Ma	aterial (T	F2)			
□ Str	atified Layers (A5) (LRR C)			\boxtimes	Depleted Matrix (F3	3)				Other (Explain	in Rema	arks)			
⊠ 1 c	m Muck (A9) (LRR	D)				Redox Dark Surfac	e (F6)									
🖾 De	pleted Below Dark S	Surface ((A11)			Depleted Dark Surf	ace (F7)									
🔲 Th	ick Dark Surface (A	12)				Redox Depressions	s (F8)				³ Indicators of h	vdrophv	rtic vege	tation	and	
🔲 Sa	ndy Mucky Mineral ((S1)				Vernal Pools (F9)					wetland hydr		-			
🗆 Sa	ndy Gleyed Matrix (S4)									unless dist					
Restricti	ve Layer (if presen	it):														
Type:																
Depth (Ir	nches):							Hydric So	oils Pres	sent?		Yes	\boxtimes	No]
Remarks	:															
HYDRO																
	Hydrology Indicate	ors:														
	ndicators (minimum		equired	; check	all that	t apply)				Seco	ondary Indicators (2	2 or more	e require	ed)		
🗌 Su	urface Water (A1)					Salt Crust (B11)					Water Marks (B1)	(Riveri	ne)			
🗆 Hi	gh Water Table (A2))				Biotic Crust (B12)					Sediment Deposit	ts (B2) (I	Riverin	e)		
	aturation (A3)					Aquatic Invertebrate	es (B13)				Drift Deposits (B3					
	ater Marks (B1) (No	nriverin	e)			Hydrogen Sulfide C					Drainage Patterns		,			
	ediment Deposits (B		-)	\boxtimes	Oxidized Rhizosphe		Livina Root	s (C3)		Dry-Season Wate	. ,	(C2)			
	ift Deposits (B3) (No		-			Presence of Reduc	-	-	- ()		Crayfish Burrows		()			
	urface Soil Cracks (E		,			Recent Iron Reduct	,	,			Saturation Visible	. ,	al Image	orv (CC	9)	
	undation Visible on A	-	agery (F	37)		Thin Muck Surface					Shallow Aquitard		armag		,	
_	ater-Stained Leaves		lagery (i	51)		Other (Explain in R					FAC-Neutral Test					
	servations:	, (03)					omanaj									
	Water Present?	Yes		No	\boxtimes	Depth (inches)	· 0									
	able Present?	Yes		No	\boxtimes	Depth (inches)	: <u>0</u>							_		_
(includes	capillary fringe)	Yes		No		Depth (inches)				nd Hyd	rology Present?		Yes	\boxtimes	No	

Project Site: <u>Midvalley Connector</u>					City/Count	y: <u>Taylorsville/Salt Lake</u> Sampling Date: <u>11/28/17</u>	
Applicant/Owner: <u>Private</u>						State: <u>Utah</u> Sampling Point: <u>Wetland 4</u>	
Investigator(s): <u>Pat Basting, Dan Soucy</u>						ownship, Range: <u>Sec 04. T2S, R1W</u>	
Landform (hillslope, terrace, etc.): <u>Field</u>				Lo	cal relief (cor	ncave, convex, none): <u>concave</u> Slope (%): <u>0</u>	
Subregion (LRR): Interior deserts	Lat: <u>40</u>	0.673	<u>3871</u>			Long: <u>-111.957325</u> Datum: <u>NAD 83</u>	
Soil Map Unit Name: <u>Lo - Loamy Borrow Pits</u>						NWI classification: None	
Are climatic / hydrologic conditions on the site typic			-		Yes 🛛		_
Are Vegetation \Box , Soil \Box , or Hydrology				sturbed		Normal Circumstances" present? Yes 🛛 No 🗌	ב
Are Vegetation \Box , Soil \Box , or Hydrology	natu	Irally	proble	ematic	? (If ne	eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map sh	nowing s	amp	oling	point	locations,	transects, important features, etc.	
Hydrophytic Vegetation Present?	Yes	\boxtimes	No		1		
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sam	npled Area within a Wetland? Yes 🛛 No 🗌	Ξ
Wetland Hydrology Present?	Yes	\boxtimes	No		L .		
Remarks: Areas with standing water							
VEGETATION – Use scientific names of plants	5.						
Tree Stratum (Plot size:20x20)	Absolute % Cover		Domin Specie		Indicator Status	Dominance Test Worksheet:	
1. <u>Elaeagnus angustifolia</u>	<u>10</u>	-	ves		FAC	Number of Dominant Species	
2		_				That Are OBL, FACW, or FAC: 3 (A	1)
3		_				Total Number of Dominant	
4		_				Species Across All Strata: $\underline{5}$ (B	"
50% = <u>5</u> , 20% = <u>2</u>	<u>10</u>	=	= Tota	l Cove	r	Percent of Dominant Species	(/D)
Sapling/Shrub Stratum (Plot size:20x20)						That Are OBL, FACW, or FAC: <u>60%</u> (A	√B)
1. <u>Salix exigua</u>	<u>9</u>	7	ves		FACW	Prevalence Index worksheet:	
2. <u>Tamarix chinensis</u>	<u>2</u>	r	no		FAC	Total % Cover of : Multiply by:	
3. <u>Rosa woodsii</u>	<u>3</u>	7	ves		FACU	OBL species $\underline{7}$ $x1 = \underline{7}$	
4		_				FACW species $\underline{49}$ $x2 = \underline{98}$	
5		_				FAC species $\underline{15}$ $x3 = \underline{45}$	
50% = <u>7</u> , 20% = <u>2.8</u>	<u>14</u>	-	= Tota	I Cove	r	FACU species <u>28</u> x4 = <u>112</u>	
Herb Stratum (Plot size:20x20)						UPL species x5 =	
1. <u>Phragmites australis</u>	<u>40</u>	٢	ves		FACW	Column Totals: <u>99</u> (A) <u>262</u> (B)	
2. <u>Schedonorus pratensis</u>	25	-	ves		FACU	Prevalence Index = $B/A = 2.64$	
3. <u>Schoenoplectus pungens</u>	5	-	no		OBL	Hydrophytic Vegetation Indicators:	
4. Rumex crispus	3		no		FAC	Dominance Test is >50%	
5. <u>Typha angustifolia</u>	2	_	no		OBL	Prevalence Index is ≤3.0 ¹	
6.	_	-					
7.		-				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8.		-				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = <u>37.5,</u> 20% = <u>15</u>	75	-	- Tota	l Cove			
Woody Vine Stratum (Plot size:)	<u>15</u>	-	- 101a		•	¹ Indicators of hydric soil and wetland hydrology must	
1.						be present, unless disturbed or problematic.	
2.		-					
		-		l Cove	,	Hydrophytic Vegetation Yes 🛛 No 🗌	٦
50% =, 20% =	% Cove				1	Vegetation res 🖄 No L Present?	-
% Bare Ground in Herb Stratum 5	70 000		DIUUC	Giust			
Remarks:							

US Army Corps of Engineers

Sampling	Deint	Wetland 4
Sampling		vveuanu 4

SOIL											Sam	npling Po	oint: <u>V</u>	Vetlan	d 4
Profile Descr	iption: (Descri	ibe to th	ne depth	n neede	ed to d	ocument the indicato	or or con	firm the abs	sence of	f indica	itors.)]
Depth	Mat	rix				Redox Featu	ures								
(inches)	Color (moist	<u>t)</u>	<u>%</u>	Col	or (Mo	<u>ist) %</u>	Type ¹	Loc	2	Textu	<u>Ire</u> <u>Remarks</u>				
<u>0-3.5</u>	<u>10YR 2/2</u>		<u>100</u>							silt/clay	loam				
<u>3.5-16</u>	<u>10YR 5/2</u>		<u>70</u>	<u>7.</u>	5YR 5/	<u>8 30</u>	<u>C</u>	<u>PL</u>		Clay/lo	<u>am</u>				
		_							_						
		_							_						
		_							_						
		_													
¹ Type: C= Cor	ncentration, D=	Depletic	on, RM=	Reduce	ed Matr	ix, CS=Covered or Co	ated San	d Grains.	² Locatior	n: PL=P	ore Lining, M=Matrix.				
Hydric Soil In	dicators: (App	plicable	to all L	.RRs, u	nless	otherwise noted.)				Ind	licators for Problematic I	Hydric S	Soils ³ :		
Histosol	(A1)					Sandy Redox (S5)					1 cm Muck (A9) (LRR	C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (LRI	R B)			
Black Hi	istic (A3)					Loamy Mucky Miner	al (F1)				Reduced Vertic (F18)				
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix	x (F2)				Red Parent Material (*	TF2)			
☐ Stratified	d Layers (A5) (LRR C)			\boxtimes	Depleted Matrix (F3)					Other (Explain in Rem	narks)			
🔲 1 cm Mu	uck (A9) (LRR	D)				Redox Dark Surface	(F6)								
Deplete	d Below Dark S	Surface ((A11)			Depleted Dark Surfa	ce (F7)								
	ark Surface (A1		. ,			Redox Depressions	(F8)				31. 1				
	/lucky Mineral ((S1)				Vernal Pools (F9)					³ Indicators of hydrophy wetland hydrology r				
_ `	Gleyed Matrix (. ,				· · · ·					unless disturbed of			ι,	
-	ayer (if presen											•			
Туре:		,													
Depth (Inches):							Hydric S	oils Pres	sent?	Yes	\boxtimes	No		1
Remarks:	,														-
	NV.														
HYDROLOG Wetland Hvdi	rology Indicate	ors:													
-	ators (minimum		equired	: check	all tha	t apply)				Seco	ondary Indicators (2 or mor	re reauir	ed)		
	Water (A1)			,		Salt Crust (B11)					Water Marks (B1) (River	-	,		
	ater Table (A2))				Biotic Crust (B12)					Sediment Deposits (B2)	-	e)		
	ion (A3)	,				Aquatic Invertebrates	s (B13)				Drift Deposits (B3) (River	-	- /		
	Marks (B1) (No	nriverin	e)			Hydrogen Sulfide Oc					Drainage Patterns (B10)				
	ent Deposits (B2		-	`	\square	Oxidized Rhizospher		Living Root	s (C3)		Dry-Season Water Table	(C2)			
				,		Presence of Reduce	-	-	3 (00)		Crayfish Burrows (C8)	(02)			
	posits (B3) (Nc Soil Cracks (B		10)					-				ial Imaa		2)	
	e Soil Cracks (E ion Visible on A	,	anony /I	B7)		Recent Iron Reduction		u 30113 (UD)			Saturation Visible on Aer Shallow Aquitard (D3)	annag		<i>''</i>	
	Stained Leaves		ayery (I	(10											
Field Observa		(69)				Other (Explain in Re	marks)		1		FAC-Neutral Test (D5)				
		Vac		No		Dopth (inchas);	0								
Surface Water		Yes		No		Depth (inches):	<u>0</u>								
Water Table P		Yes	\boxtimes	No		Depth (inches):	<u>0</u>								
Saturation Pre (includes capil	llary fringe)	Yes	\boxtimes	No		Depth (inches):	<u>0</u>			nd Hyd	rology Present?	Yes	\boxtimes	No	
Describe Reco	orded Data (str	eam gau	uge, mo	nitoring	well, a	erial photos, previous	inspectio	ns), if availa	ble:						
Romarks.															

US Army Corps of Engineers

Project Site: Midvalley Connector			City/Count	ty: Taylorsville/Salt Lake	Sampling Date	: <u>11/28/17</u>	7
Applicant/Owner: <u>Private</u>				State: <u>Utah</u>	Sampling Point	: Wetland	5
Investigator(s): Pat Basting, Dan Soucy			Section, To	ownship, Range: <u>Sec 04, T2S, R1W</u>			
Landform (hillslope, terrace, etc.): Swale		Loc	al relief (cor	ncave, convex, none): <u>concave</u>	Slo	ope (%): <u>0</u>	<u>!</u>
Subregion (LRR): Interior deserts	Lat: <u>40.6</u>	74681		Long: <u>-111.947604</u>	Datum:	NAD 83	
Soil Map Unit Name: <u>TaB - Taylorsville silty clay loa</u>	<u>m, 1 to 3 perc</u>	cent slopes		NWI classif	fication: <u>None</u>		
Are climatic / hydrologic conditions on the site typ	ical for this tin	me of year?	Yes 🛛	No 🔲 (If no, explain in Rer	narks.)		
Are Vegetation \Box , Soil \boxtimes , or Hydrology	Signific	antly disturbed	? Are "	Normal Circumstances" present?	Yes	No No	•
Are Vegetation \Box , Soil \Box , or Hydrology	natural	Ily problematic?	(If ne	eded, explain any answers in Remark	(S.)		
SUMMARY OF FINDINGS – Attach site map sl	howing sar	npling point	locations,	, transects, important features,	etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌					
Hydric Soil Present?	Yes 🛛	No 🗆	Is the Sam	npled Area within a Wetland?	Yes	No	• 🗆
Wetland Hydrology Present?	Yes 🛛	No 🗆					
Remarks: Small, excavated area at end of culvert							
VEGETATION – Use scientific names of plant	<u> </u>						
	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksneet:			
1			—	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u>		(A)
2			<u> </u>	That Ale OBL, FACW, of FAC.			
3			—	Total Number of Dominant	<u>1</u>		(B)
4			<u> </u>	Species Across All Strata:	_		
50% =, 20% =		= Total Cover		Percent of Dominant Species	100		(A/B)
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACW, or FAC:			. ,
1		—		Prevalence Index worksheet:			
2				Total % Cover of :	<u>Multip</u>	<u>ly by:</u>	
3				OBL species <u>90</u>	x1 =	<u>90</u>	
4				FACW species	x2 =		
5				FAC species	x3 =		
50% =, 20% =		= Total Cover		FACU species	x4 =		
Herb Stratum (Plot size:5x5)				UPL species	x5 =		
1. <u>Typha latifolia</u>	<u>90</u>	ves	<u>OBL</u>	Column Totals: <u>90</u> (A)		<u>90</u> (B)	
2				Prevalence Inde	∋x = B/A = <u>1.00</u>		
3				Hydrophytic Vegetation Indicator	s:		
4				Dominance Test is >50%	%		
5.				Prevalence Index is <3.0	n¹		
6				Morphological Adaptatic		porting	
7.				data in Remarks or on a			
8.				Problematic Hydrophytic	No gotation ¹ (Ey	nloin)	
50% = 45, 20% = 18	90	= Total Cover			vegetation (Ex	plain)	
<u>Woody Vine Stratum</u> (Plot size:)	<u>30</u>			¹ Indicators of hydric soil and wetland		1	
· · · · · · · · · · · · · · · · · · ·				be present, unless disturbed or prob	plematic.		
1 2.							
		- Total Cause		Hydrophytic Vegetation	Yes 🛛	No	
50% =, 20% =	0/ 0	= Total Cover		Vegetation Present?			
% Bare Ground in Herb Stratum <u>10</u>	% Cover	of Biotic Crust					
Remarks: Open water in scoured hole at pip	oe outlet						

US Army Corps of Engineers

Profile Description: (Description: (D	SOIL												Sar	mpling Po	oint: <u>V</u>	Vetlan	d <u>5</u>
(inches) Color.(Indist) % Color.(Metist) % Tune! Les? Texture Remarks 0-12 10YR 62 7.5 YE 5.2 C M Claudeam	Profile Desc	ription: (Descrit	e to the	e depth	neede	ed to d	ocument the indicate	or or conf	irm the abs	sence of	indica	tors.)					
9-12 10YR.582 7.5 7.5 7.5 2.5 C M Glaskloam "Type: C= Concentration, DuDepletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. "Location: PL=Pore Lining, M=Matrix.	Depth Matrix				Redox Features												
"Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. "Location: PL=Pore Lining, M=Matrix. "Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils": I Histic Epipedon (A2) Stripped Matrix (S5) 1 m Muck (A9) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Brand Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I tram Muck (A9) (LRR D) Redox Dark Surface (F6) Immedicators of hydrophytic vegetation and vertiand hydrology must be present, unless disturbed or problematic: Restrictive Layer (I present): Type: Immedicators (I problematic (S4) Restrictive Layer (I present): Type: Immedicators (B1) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Secondary Indicators (2 or more required) Immedicators (2 or more required) Surface Mydrology Indicators: Hydric Soils Present? Yes No Remarks: Primary Indicators (B1) (Morriverine) Biolic Crust (B12) Secondary Indicators (C3) (Rive	(inches) Color (moist)		%	Color (M		i <u>st) %</u>	Type ¹	Loc ²		Texture		emarks					
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: I Histos((A1) Sandy Redx (S5) I tom Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I tom Muck (A9) (LRR D) Redxo Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redx Depressions (F8) Sandy Gleyed Matrix (S4) Vernal Pools (F9) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Type:	<u>0-12</u>	<u>10YR 5/2</u>		<u>75</u>	7.	5 YR 5	<u>/8 25</u>	<u>C</u>	M		Clay/lo	am					
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: I Histos((A1) Sandy Redx (S5) I tom Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I tom Muck (A9) (LRR D) Redxo Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redx Depressions (F8) Sandy Gleyed Matrix (S4) Vernal Pools (F9) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Type:										_							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: I Histos((A1) Sandy Redx (S5) 1 tom Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Type:										_							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: I Histos((A1) Sandy Redx (S5) 1 tom Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Type:			_							_							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: I Histos((A1) Sandy Redx (S5) I tom Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I tom Muck (A9) (LRR D) Redxo Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redx Depressions (F8) Sandy Gleyed Matrix (S4) Vernal Pools (F9) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Type:										_							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: I Histos((A1) Sandy Redx (S5) I tom Muck (A9) (LRR C) Histo Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I tom Muck (A9) (LRR D) Redxo Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redx Depressions (F8) Sandy Gleyed Matrix (S4) Vernal Pools (F9) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Type:										_							
□ 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) □ Reduced Vertic (F13) □ Stratified Layers (A5) (LR C) □ Depideed Matrix (F2) □ Red Parent Material (TF2) □ Depideed Bolw Dark Surface (A11) □ Depideed Dark Surface (F6) □ □ Depideed Bolw Dark Surface (A11) □ Persent Material (TF2) Redox Depressions (F8) □Indicators of hydrophytic vegetation and wettand hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) Vernal Pools (F9) wettand hydrology must be present, unless disturbed or problematic. Type:	¹ Type: C= Co	¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.															
□ Histic Epipedon (A2) □ Stripped Matrix (S6) □ 2 cm Muck (A10) (LRR B) □ Black Histic (A3) □ Loamy Mucky Mineral (F1) □ Reduced Vertic (F18) □ Hydrogen Sullide (A4) □ Depleted Matrix (F2) □ Red Parent Material (TF2) □ trime Muck (A9) (LRR D) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ trime Muck (A9) (LRR D) □ Redox Dark Surface (F7) □ Depleted Matrix (F3) □ □ Thick Dark Surface (A11) □ Depleted Matrix (F3) □ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Type:	Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :																
□ Black Histic (A3) □ Loamy Mucky Mineral (F1) □ Reduced Vertic (F18) □ Hydrogen Sulfide (A4) □ Loamy Gleyed Matrix (F2) □ Red Parent Material (TF2) □ Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ In Muck (A9) (LRR C) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Image: Comparison (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Type:	Histoso	ol (A1)					Sandy Redox (S5)					1 cm Muck	(A9) (LRF	R C)			
A Hydrogen Sulfide (A4) Loamy Gleged Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Depleted Bolw Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleged Matrix (S4) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Bestrictive Layer (if present): Hydric Soils Present? No Primary Indicators: Hydric Soils Present? Yes No Surface Water (A1) Saft Crust (B11) Water Marks (B1) (Riverine) Surface Water (A1) Saft Crust (B12) Sediment Deposits (B2) (Riverine) Surface Water (A1) Saft Crust (B12) Sediment Deposits (B3) (Riverine) Surface Soli Cracks (B6) <t< td=""><td>Histic E</td><td>Epipedon (A2)</td><td></td><td></td><td></td><td></td><td>Stripped Matrix (S6)</td><td></td><td></td><td></td><td></td><td>2 cm Muck</td><td>(A10) (LR</td><td>RB)</td><td></td><td></td><td></td></t<>	Histic E	Epipedon (A2)					Stripped Matrix (S6)					2 cm Muck	(A10) (LR	RB)			
Stratified Layers (A5) (LRR C) □ Depleted Matrix (F3) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR D) □ Redox Dark Surface (F6) □ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:	Black H	Histic (A3)				\boxtimes	Loamy Mucky Miner	al (F1)				Reduced V	ertic (F18))			
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Barby Mucky Mineral (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:	🛛 Hydrog	en Sulfide (A4)					Loamy Gleyed Matri	x (F2)				Red Parent	Material	(TF2)			
□ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. unless disturbed or problematic. □ Depth (Inches):	□ Stratifie	ed Layers (A5) (L	RR C)				Depleted Matrix (F3)					Other (Expl	ain in Rer	narks)			
□ Thick Dark Surface (A12) □ Redox Depressions (F8) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present):	🔲 1 cm N	luck (A9) (LRR D)				Redox Dark Surface	(F6)									
□ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology muck use perseent, unless disturbed or problematic. □ Sandy Gleyed Matrix (S4) unless disturbed or problematic. wetland hydrology muck to problematic. Restrictive Layer (if present):	Deplete	ed Below Dark Su	urface (A	A11)			Depleted Dark Surfa	ce (F7)									
□ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present):	Thick D	Dark Surface (A12	2)				Redox Depressions	(F8)				³ Indicators (of bydroph	vic vog	station	and	
□ Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present): Type:	□ Sandy	Mucky Mineral (S	61)				Vernal Pools (F9)										
Type:	Sandy Gleyed Matrix (S4)																
Depth (Inches):	Restrictive L	ayer (if present):														
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Image: Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Image: High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Image: Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Image: Water Marks (B1) (Nonriverine) Image: Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Image: Drift Deposits (B3) (Nonriverine) Image: Presence of Reduced Iron (C4) Image: Crayfish Burrows (C8) Image: Surface Soil Cracks (B6) Image: Recent Iron Reduction in Tilled Soils (C6) Image: Saturation Visible on Aerial Imagery (C9) Image: Image: Image: Present? Yes No Depth (inches): Image: Image: Present? Field Observations: Image: Present? Yes No Depth (inches): Image: Image: Present? Saturation Present? Yes No Depth (inches): Image: Image: Present? Yes No Saturation Present? Yes No Depth (inches): Image: Image: Present? Yes	Туре:																
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) 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: Yes No Depth (inches): Q Saturation Present?	Depth (Inches):							Hydric Soils Present?			Yes	\boxtimes	No]		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Image: Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Image: Surface Water (A3) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Image: Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) (Riverine) Image: Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Image: Sulface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Image: Sulface Water Present? Yes No Depth (inches): <u>0</u> Water Table Present? Yes No Depth (inches): <u>0</u> Saturation Present? Yes No Depth (inches): <u>0</u>	Remarks:																
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Image: Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Image: Surface Water (A3) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Image: Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) (Riverine) Image: Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Image: Sulface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Image: Sulface Water Present? Yes No Depth (inches): <u>0</u> Water Table Present? Yes No Depth (inches): <u>0</u> Saturation Present? Yes No Depth (inches): <u>0</u>																	
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Image: Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) Image: Adjuant of A3 Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Image: Water Marks (B1) (Nonriverine) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Image: Water Marks (B1) (Nonriverine) Modized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Image: Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Image: Water Present? Yes No Depth (inches): <u>0</u> Water Table Present? Yes No Depth (inches): <u>0</u> Surface Water Present? Yes No Depth (inches): <u>0</u>																	
Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Water Marks (B1) (Nonriverine) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along 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 Table Present? Yes No Depth (inches): <u>0</u> Water Table Present? Yes No Depth (inches): <u>0</u> Saturation Present? Yes No Depth (inches): <u>0</u>																	
Image: Migh Water Table (A2) □ Biotic Crust (B12) □ Sediment Deposits (B2) (Riverine) Image: Water Marks (B1) (Nonriverine) □ Hydrogen Sulfide Odor (C1) □ Drainage Patterns (B10) Image: Sediment Deposits (B2) (Nonriverine) □ Oxidized Rhizospheres along Living Roots (C3) □ Dry-Season Water Table (C2) Image: Drift Deposits (B3) (Nonriverine) Image: Version Reduced Iron (C4) □ Crayfish Burrows (C8) Image: Surface Soil Cracks (B6) Image: Version Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (B7) Image: Water -Stained Leaves (B9) Image: Version Reduction in Remarks) □ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No □ Depth (inches): 0 Saturation Present? Yes No □ Depth (inches): 0 Version Present? Yes No □ Saturation Present? Yes No □ Depth (inches): 0 Version Present? Yes No □																	
⊠ 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 along Living Roots (C3) □ Dry-Season Water Table (C2) □ Drift Deposits (B3) (Nonriverine) ☑ Oxidized Rhizospheres along Living Roots (C3) □ Dry-Season Water Table (C2) □ Drift Deposits (B3) (Nonriverine) ☑ Presence of Reduced Iron (C4) □ Crayfish Burrows (C8) □ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Uservations: □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Water Table Present? Yes ☑ No □ Depth (inches): <u>0</u> Saturation Present? Yes ☑ No □ Depth (inches): <u>0</u>											_			-			
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along 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 Water Table Present? Yes No Depth (inches): <u>0</u> Saturation Present? Yes No Depth (inches): <u>0</u>					_					-							
Sediment Deposits (B2) (Nonriverine) ⊠ Oxidized Rhizospheres along 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:					_	-			_	-		-					
□ 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): 0 Water Table Present? Yes No □ Depth (inches): 0 Wetland Hydrology Present? Yes No □ Saturation Present? Yes No □ Depth (inches): 0 Wetland Hydrology Present? Yes No □	_					Hydrogen Sulfide Odor (C1)				_	-						
□ 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 Uservations: Surface Water Present? Yes No □ Depth (inches): <u>0</u> Water Table Present? Yes No □ Depth (inches): <u>0</u> Vestand Hydrology Present? Yes No □ Saturation Present? Yes No □ Depth (inches): <u>0</u> Vestand Hydrology Present? Yes No □					\boxtimes	Oxidized Rhizospheres along Living Roots (C3)							e (C2)				
□ 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): 0 Water Table Present? Yes No □ Depth (inches): 0 Saturation Present? Yes No □ Depth (inches): 0						Presence of Reduce			Crayfish Burro	ws (C8)							
□ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes ⊠ No □ Depth (inches): 0 Water Table Present? Yes ⊠ No □ Depth (inches): 0 □ Saturation Present? Yes ⊠ No □ Depth (inches): 0 □						Recent Iron Reduction in Tilled Soils (C6)							rial Imag	ery (CS	9)		
Field Observations: Surface Water Present? Yes No Depth (inches): 0 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0	Inunda	ation Visible on A	erial Ima	agery (E	37)		Thin Muck Surface (
Surface Water Present? Yes No Depth (inches): 0 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No No Image: No	□ Water-	Stained Leaves	(B9)				Other (Explain in Re	marks)				FAC-Neutral T	est (D5)				
Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0	Field Observ	vations:															
Saturation Present? Ves M No D Depth (inches): 0 Wetland Hydrology Present? Yes M No D	Surface Wate	er Present?	Yes	\boxtimes	No		Depth (inches):	<u>0</u>									
	Water Table	Present?	Yes	\boxtimes	No		Depth (inches):	<u>0</u>									
(includes capillary tringe)	(includes capillary fringe)						Depth (inches):	<u>0</u>			nd Hyd	rology Presen	1?	Yes		No	

 Remarks:
 Area received rainfall a day before field work, minor drainage likely filled scour hole at outlet of pipe culvert. No other standing water present in drainage.

 US Army Corps of Engineers
 Arid West – Version 2.0



Appendix D. Wetland Photographs

Midvalley Connector Wetland Photographs







Photo 3: Facing west from eastern edge of Wetland 1.



Photo 4: Redox concentrations and oxidized rhizospheres along living roots indicating hydric soils and hydrology in Wetland 1.



Photo 5: Facing east from western edge of Wetland 2. Approximate wetland boundary outlined in red.



Photo 6: Facing west from eastern portion of Wetland 2. Area with taller vegetation outlines approximate wetland boundary.



Photo 9: Wetland 4, area with standing water outlined in red.

Photo 10: Facing north along edge of walking trail and Wetland 4.

Midvalley Connector Wetland Photographs



Photo 11: Facing east from edge of Wetland 5, wetland dominated by broadleaf cattail (*Typhus latifolia*).



Photo 12: Facing east with Wetland 5 in the foreground with a riparian transition in the background.