June 25, 2007

Mr. Steve Roberts
U.S. Army Corps of Engineers
321 North Mall Drive, Suite L-101
St. George, UT 84790

RE: Wetland Delineation Report and Request for Jurisdictional Determination for the Telegraph Street EA Project in Washington County, Utah

Dear Mr. Roberts:

Per my telephone message on September 16, 2006, enclosed is the *Telegraph Street Environmental Assessment Wetland Delineation Report* for your review. Four wetlands were identified in the study area, encompassing approximately 0.15 acre. All of the wetlands are on or near the Mill Creek floodplain and are expected to be jurisdictional due to their hydrologic connectivity to the creek. Please review the report and provide a jurisdictional determination of the wetlands delineated.

Thank you for your assistance. If you have additional questions, or need additional information, please contact me at 801.904.4076 or at andy_herb@urscorp.com.

Sincerely,
URS Corporation

Andy Herb
Ecologist

cc: Randall Taylor, UDOT
Jared Barton, UDOT
Tamerha Maxwell, UDOT
Andy Powell, URS

DRAFT REPORT

TELEGRAPH STREET ENVIRONMENTAL ASSESSMENT WETLAND DELINEATION REPORT

WASHINGTON COUNTY, UTAH

Prepared for:
Utah Department of Transportation

August 10, 2006

URS

DRAFT REPORT

TELEGRAPH STREET ENVIRONMENTAL ASSESSMENT WETLAND DELINEATION REPORT

WASHINGTON COUNTY, UTAH

Prepared for:
Utah Department of Transportation

August 10, 2006

URS

TABLE OF CONTENTS

Executive Summary ES-1

Section 1 Introduction 1-1

Section 2 Site Location 2-1

Section 3 Methods 3-1

3.1 Field Data Collection 3-1
3.2 Other Water Features 3-1
3.3 Plant Nomenclature 3-2
3.4 Jurisdictional Status 3-2

Section 4 Wetland Description 4-1

4.1 Wetland 1 4-1
4.1.1 Vegetation 4-1
4.1.2 Hydrology 4-3
4.1.3 Soils 4-3
4.2 Wetlands 2 and 4 4-3
4.2.1 Vegetation 4-3
4.2.2 Hydrology 4-3
4.2.3 Soils 4-4
4.3 Wetland 3 4-4
4.3.1 Vegetation 4-4
4.3.2 Hydrology 4-4
4.3.3 Soils 4-4
4.4 Wetland Functions 4-5
4.4.1 Wetland 1 4-5
4.4.2 Wetlands 2, 3 and 4 4-6

Section 5 Other Water Features 5-1

5.1 Mill Creek 5-1
5.2 Drainage Ditches 5-1

Section 6 Literature Cited 6-1

List of Figures

Figure 1 – Project Location

Figure 2—Wetlands and Other Water Features

TABLE OF CONTENTS

List of Tables

Table 1 – Summary of Wetlands in the Study Area

Table 2 – Dominant Vegetation for Wetlands in the Study Area

Table 3 – Wetland Functions and Values

Table 4 – Summary of Other Water Features

List of Appendices

Appendix A – Routine Determination Data Forms

Appendix B – Site Photographs

The Telegraph Street (SR 212) study area is located in Washington City, Utah in Washington County and includes approximately 500 feet of Mill Creek and two 150-foot wide corridors along Telegraph Street and 100 South between 500 West and 300 East.

Andy Herb (URS Ecologist) walked the study area on June 27, 2006 to identify wetlands and other water features. These wetlands and other water features were delineated within the defined study area using the Routine Determination procedures outlined in the *1987 Corps of Engineers Wetlands Delineation Manual*. This involved a detailed examination of the plants, soils and hydrologic indicators present.

A total of four wetlands were delineated in the study area encompassing a total of 0.15 acre. All wetlands are expected to be considered jurisdictional by the Corps, due to their proximity and/or connectivity to Mill Creek. The wetlands associated with Mill Creek received a high rating for five of the 12 functions and values assessed due to its perennial water source combined with structurally diverse and dense vegetation community. The other wetlands received mostly low ratings due to their extremely small size combined with the lack of vegetative structure and permanent water source.

A total of three linear other water features encompassing 625 linear feet were also identified in the study area. These include Mill Creek and two drainage ditches (one on each side of the Telegraph Street Bridge that drain into Mill Creek).

Wetlands are important biological resources that perform many functions including groundwater recharge, flood flow attenuation, erosion control, and water quality improvement. They also provide habitat for many plants and animals, including threatened and endangered species.

Wetlands are defined by the US Army Corps of Engineers (Corps) (33 CFR 328.3, 1986) and the US Environmental Protection Agency (40 CFR 230.3, 1980) as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Many wetlands and other aquatic features, including ephemeral, intermittent, and perennial streams, are considered waters of the US by the Corps and these "jurisdictional" areas are protected under Section 404 of the Clean Water Act.

The Telegraph Street (SR 212) study area is located in Washington City, Utah in Washington County (Figure 1). The site can be found on the Washington, Utah U.S. Geological Survey 7.5-minute quadrangle and includes approximately 500 feet of Mill Creek and two 150-foot wide corridors along:

- Telegraph Street between 500 West and 300 East
- 100 South between Mill Creek and 300 East

The study area is within the Lower Sonoran Life Zone within the Mojave Basin and Range Ecoregion. This ecoregion contains scattered mountains with natural vegetation commonly dominated by creosote bush (*Larrea tridentata*). The Lower Sonoran Life Zone is characterized by an annual precipitation average of 2 to 12 or 15 inches and annual mean temperatures are between 51° and 74°F.

3.1 FIELD DATA COLLECTION

Andy Herb (URS Ecologist) walked the study area on June 27, 2006 to identify wetlands and other water features. These wetlands and other water features were delineated within the defined study area using the Routine Determination procedures outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). This involved a detailed examination of the plants, soils and hydrologic indicators present.

All plants considered dominant in wetlands were identified and a list of dominant plants was documented for each potential wetland area. This list was compared to the *National List of Plant Species That Occur in Wetlands: Intermountain (Region 8)* (Reed 1988) to determine the "wetland indicator status" of each species. Generally, if at least 50 percent of those species had an indicator status of facultative (FAC) or wetter, the potential wetland area would satisfy the Corps criteria for wetland vegetation.

Soils were examined in various sites throughout the study area to identify the presence of hydric soil indicators. If indicators were found, multiple pits may have been dug, moving up-gradient, to attempt to identify the extent of hydric soils. In some cases, the wetland areas exhibited a distinct wetland boundary and a predominance of facultative wet or obligate wetland vegetation, which per the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) eliminates the need to collect soils data.

While recording plant species and identifying the soil characteristics, the potential wetlands within the project area were assessed for evidence and potential sources of wetland hydrology. This evidence was not limited to the presence of water, but was extended to include other primary and secondary wetland hydrology indicators.

If normal conditions existed and the site was not a potential problem area, then all three wetland indicators (vegetation, soil and water) must have been present to consider the site a wetland. If the position in the landscape, vegetation communities, or source of wetland hydrology changed drastically from one area of the wetland to another, then multiple soil pits and/or data sheets may have been used. Data collected for all areas investigated and deemed non-wetland are not necessarily included in this report.

After determining the approximate extent of the wetlands based on the presence of hydric soils, hydrophytic vegetation and wetland hydrology, the wetland boundary was mapped on 1 inch equals 100-foot color aerial photography.

Appendix A contains the completed Routine Determination data sheets for all the wetlands.

3.2 OTHER WATER FEATURES

In addition to wetlands, "other water features" are discussed in the following sections and are defined as any feature that contains open water or a defined bed and banks, and that does not meet the Corps definition of a wetland. These generally include ephemeral, intermittent, and perennial streams, and ponds, lakes, and reservoirs.

3.3 PLANT NOMENCLATURE

All plants are referred to using the scientific names found on the Natural Resources Conservation Service (NRCS) Plants Database (USDA 2006).

3.4 JURISDICTIONAL STATUS

Preliminary jurisdictional status was assigned to the wetlands and other water features in the study area. This assignment was based on the site's connectivity to known jurisdictional waterway via a culvert or other obvious hydrological connection. This preliminary assessment is not authorized by the Corps and will require confirmation.

A total of four wetlands were delineated in the study area (Figure 2) encompassing a total of 0.15 acre. All of the wetlands are listed in Table 1 and discussed in the following text. All wetlands are expected to be considered jurisdictional by the Corps, due to their proximity and/or connectivity to Mill Creek which is a tributary to the Virgin River. More details for each wetland can be found on the field data sheets in Appendix A. Photographs of each wetland are in Appendix B.

Table 1
Summary of Wetlands in the Study Area

Feature	Source of Hydrology	Size (acres)
Wetland 1	Mill Creek	0.14
Wetland 2	Stormwater	<0.01
Wetland 3	Irrigation	0.01
Wetland 4	Stormwater	<0.01
	Total	**0.15**

4.1 WETLAND 1

Wetland 1 is classified as 40 percent palustrine emergent (PEM) and 60 percent palustrine scrub/shrub (PSS) according to Cowardin, et al. (1979). It encompasses a total of 0.14 acre and consists of a generally narrow fringe along Mill Creek, with some wider areas where the lower floodplain is less constricted (Figure 2). Most of the PSS wetlands are along the east creek bank and the PEM wetlands are along the west side.

More information on vegetation, hydrology and soils is provided below and detailed information can be found on the data sheets in Appendix A.

4.1.1 Vegetation

The dominant vegetation observed in Wetland 1 is listed in Table 2.

Table 2
Dominant Vegetation for Wetlands in the Study Area

Common Name	Scientific Name	Wetland 1	Wetland 2	Wetland 3	Wetland 4
Yerba mansa	*Anemopsis californica*	X			
Mule's fat	*Baccharis glutinosa*	X			
Common spikerush	*Eleocharis palustris*	X		X	
Spearmint	*Mentha spicata*			X	X
Watercress	*Nasturtium officinale*	X			
Annual rabbits foot grass	*Polypogon monspeliensis*	X			X
Common three-square	*Scirpus pungens*	X	X	X	X
Narrowleaf cattail	*Typha angustifolia*			X	X
Broadleaf cattail	*Typha latifolia*		X		

Other species observed include narrowleaf cattail, cocklebur (*Xanthium strumarium*), Baltic rush (*Juncus arcticus*), Bermuda grass (*Cynodon dactylon*), sandbar willow (*Salix exigua*), spearmint, curly dock (*Rumex crispus*), salt heliotrope (*Heliotropium curassavicum*) and meadow fescue (*Festuca pratensis*).

The PSS portions of the wetland are generally dominated by mule's fat with Yerba mansa, three-square, and stickywilly (*Galium aperine*). These areas are mostly within 0 to 16 inches (vertical) of the low flow channel of Mill Creek and contain shrubs up to 12 feet tall. The PEM portions of the wetland are dominated by Yerba mansa, three-square, watercress, and rabbit foot grass. These areas are generally very narrow and are located immediately adjacent to the low flow channel of Mill Creek (within 12 vertical inches).

All of the wetlands are surrounded by either disturbed areas (due to the construction of a parking lot to the west and a multi-use trail on the east) or riparian woodland. The riparian woodland areas are mostly dominated by velvet ash (*Fraxinus velutina*), Russian olive (*Elaeagnus angustifolia*), tamarisk (*Tamarix ramosissima*), mule's fat, and Goodding's willow (*Salix goodingii*) with Bermuda grass, stickywilly, ripgut brome (*Bromus diandrus*), salt heliotrope, and various other grasses and forbs. Much of the wetland and riparian woodland areas contain "social trails" created by people walking along the creek or shortcutting nearby roads and/or trails.

More details regarding the vegetation associated with Wetland 1 can be found in Appendix A.

4.1.2 Hydrology

The wetland hydrology for Wetland 1 is provided by Mill Creek. Water enters the wetland through capillary action and over bank flooding during high flow events. Hydrologic indicators observed within the wetland include inundation and saturation within the upper 12 inches.

More details for the hydrology of Wetland 1 can be found in Appendix A.

4.1.3 Soils

According to the Soil Survey of Washington County, Texas (USDA, 2006b) Mill Creek and its wetlands are located on the following soil map units:

- Fluvaquent and Torrifluvents, sandy

Two soil pits were excavated for Wetland 1, one within the wetland boundary and one in an adjacent upland area along the east side of the wetland. The soils at the site are very sandy and did not exhibit hydric soil indicators. However, the wetland pit was saturated to the surface and the soil is listed as hydric.

The details of the soil pits can be found on the data sheet in Appendix A.

4.2 WETLANDS 2 AND 4

Wetlands 2 and 4 are very small PEM wetlands along stormwater runoff ditches that are connected to Mill Creek via culverts under the multi-use path (Figure 2). The wetlands encompass a total of 0.01 acre, less than 0.01 acre for each site. More information on vegetation, hydrology and soils is provided below and detailed information can be found on the data sheet in Appendix A.

4.2.1 Vegetation

The dominant vegetation observed in Wetlands 2 and 4 is listed in Table 2. Other species observed in the wetlands include narrowleaf cattail, spearmint, and three-square. Wetland 2 is on a steep slope next to the Telegraph Street Bridge and is well vegetated. It is surrounded by a dense stand of mostly young Fremont's cottonwood (*Populus fremontii*), mule's fat, and Goodding's willow.

Wetland 4 is approximately 75 percent vegetated and contains a substantial sediment deposit (from the ponding of stormwater runoff). The wetland perimeter is mostly disturbed with a small patch of riparian woodland on the upstream side. Common perimeter species include Bermuda grass, Johnson grass (*Sorghum halepense*), and velvet ash.

More details regarding the vegetation associated with Wetlands 2 and 4 can be found in Appendix A.

4.2.2 Hydrology

The wetland hydrology for Wetlands 2 and 4 is primarily provided by stormwater and irrigation runoff from the adjacent developed and landscaped areas. Both wetlands are situated downstream of culverts that carry runoff and irrigation return flow to Mill Creek from the east.

Hydrologic indicators observed within the wetlands include inundation and saturation within the upper 12 inches.

More details for the hydrology of Wetland 1 can be found in Appendix A.

4.2.3 Soils

No soil pits were excavated for Wetlands 2 and 4. Both wetlands had a distinct wetland boundary, were dominated by facultative wetland (FACW) and obligate (OBL) vegetation, and had wetland hydrology indicators. Thus, per the *1987 Corps Wetlands Delineation Manual* (Environmental Laboratory 1987), hydric soils were assumed.

4.3 WETLAND 3

Wetland 3 is consists of two small pockets of PEM wetlands in a shallow swale that receives irrigation overflow from Nisson Park to the east (Figure 2). The wetland encompasses a total of 0.01 acre. More information on vegetation, hydrology and soils is provided below and detailed information can be found on the data sheet in Appendix A.

4.3.1 Vegetation

The dominant vegetation observed in Wetland 3 is listed in Table 2. Other species observed in the wetlands include rabbitfoot grass, Baltic rush, softstem bulrush (*Scirpus validus*), Bermuda grass, and meadow fescue. The easternmost portion of the wetland is located in an area with an overstory of velvet ash and Fremont's cottonwood. The perimeter of both wetlands are dominated by a very dense stand of Bermuda grass with Yerba mansa.

More details regarding the vegetation associated with Wetlands 2 and 4 can be found in Appendix A.

4.3.2 Hydrology

The wetland hydrology for Wetland 3 is primarily provided by irrigation runoff/overflow from the adjacent park. Both wetlands are situated downstream of the Nisson Park and substantial amounts of water were observed running off of the landscaped areas into the wetlands during the site visit. Hydrologic indicators observed within the wetlands include inundation and saturation within the upper 12 inches.

More details for the hydrology of Wetland 1 can be found in Appendix

4.3.3 Soils

No soil pits were excavated for Wetland 3. The wetland had a distinct wetland boundary, was dominated by facultative wetland (FACW) and obligate (OBL) vegetation, and had wetland hydrology indicators. Thus, per the *1987 Corps Wetlands Delineation Manual* (Environmental Laboratory 1987), hydric soils were assumed.

4.4 WETLAND FUNCTIONS

Wetlands have been determined to merit special concern due to their relative rarity in the region, their functional role in and as components of hydrologic systems, the unique and important wildlife habitat and forage value they offer, and their heritage value. To assist in evaluating the functions and values of wetlands within the study area, a modified version of the Montana Department of Transportation Wetland Functional Assessment (Montana) Method (Berglund 1999) was used to determine the functions and values of the wetlands within the study area. The Montana Method was used because it is a relatively efficient and concise method that is generally relevant to this region.

Table 3 summarizes the functional ratings given to each wetland. The ratings shown in the table represent the rating of the function or value as it relates to the health and vigor of the ecosystem in general. A high rating translates to a wetland function or value that is essential for the continued health of the ecosystem.

Table 3
Wetland Functions and Values[1]

Wetland Function	Wetland 1 (Mill Creek)	Wetlands 2 and 4	Wetland 3
Federally Listed Species Habitat	L	L	L
State Listed Species Habitat	H	L	L
General Wildlife Habitat	M	L	L
General Fish Habitat	M	NA	NA
Flood Attenuation	M	NA	NA
Short- and Long-Term Water Storage	M	L	L
Sediment/Nutrient/Toxicant Removal and Retention	H	M	M
Sediment/Shoreline Stabilization	H	L	NA
Production Export/Food Chain Support	H	L	L
Groundwater Discharge/Recharge	NA	NA	NA
Uniqueness	M	L	L
Recreation/ Education Potential	H	L	L

[1]Ratings based on a modified version of the Montana Method (Berglund 1999); H = high, M = moderate, L = low, N/A = not applicable

4.4.1 Wetland 1

Wetland 1 received a high rating for five of the 12 functions and values assessed (Table 3). These include high ratings for state listed species habitat, sediment/nutrient/toxicant removal, shoreline stabilization, production export/food chain support, and recreation/education potential. The wetland received high ratings for most of the functions mostly due to its perennial water source combined with structurally diverse and dense vegetation community.

The high rating for recreation/education potential was due to the proximity of Nisson Park and the multi-use trail. The high rating for state listed species is due to the suspected presence of Arizona toad (*Bufo microscaphus*), western banded gecko (*Coleonyx variegatus*), western

threadsnake (*Leptotyphlops humilis*), and desert sucker (*Catostomus clarki*). There is some suspected incidental use by federally listed species at the site, including western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) and southwestern willow flycatcher (*Empidonax traillii extimus*).

4.4.2 Wetlands 2, 3 and 4

Wetlands 2, 3, and 4 received mostly low ratings, with a moderate rating for sediment/nutrient/toxicant removal (Table 3). The low ratings are mostly due to the extremely small size of the wetlands, combined with the lack of vegetative structure and permanent water source. The moderate rating was a result of the wetlands receiving direct runoff from urban and landscaped sources that may contain excess sediments, nutrients and/or toxicants.

Other waters include any feature that contains open water or a defined bed and banks, and that does not meet the USACE definition of a wetland. A total of three linear other water features (OW) encompassing 625 linear feet were identified in the study area (Figure 2). These include Mill Creek and two drainage ditches (one on each side of the Telegraph Street Bridge that drain into Mill Creek). These features are listed in Table 3 and discussed briefly in the following text.

Table 2
Summary of Other Water Features

Features	Length (Feet)
Mill Creek	468
North Drainage Ditch	66
South Drainage Ditch	91
Total	**625**

5.1 MILL CREEK

Mill Creek flows north to south and the study area includes approximately 468 feet of the creek. It has a mostly sandy channel that is approximately 4 feet wide and 12 to 14 inches deep in most areas. The banks of the channel contain wetlands throughout the study area and woody debris was observed in much of the channel. The channel has vertical cut banks from 1 to 3 feet high and generally becomes more entrenched in the reach downstream of the Telegraph Street Bridge. Two tributaries (drainage ditches) were identified in the study area and are discussed below.

5.2 DRAINAGE DITCHES

The north drainage ditch is approximately 3 feet wide and 66 feet long. It is composed of mostly riprap and appears to carry stormwater and irrigation return flow from the area northeast of the study area. Some portions of the channel have been badly eroded (evident by a perched culvert) and based on the presence of erosion control fabric and silt fence, some restoration to the channel may have taken place within the last few years. This ditch carries water to and from Wetland 2.

The south drainage ditch is approximately 3 feet wide and 91 feet long. Similar to the north drainage ditch, this ditch is also composed of riprap and appears to carry stormwater and irrigation return flows. It begins at a culvert at the west end of 100 South. This ditch carries water to and from Wetland 3.

Berglund, J. 1999. *MDT Montana Wetland Assessment Method*. Prepared for the Montana Department of Transportation and Morrison-Maierle, Inc. May 25.

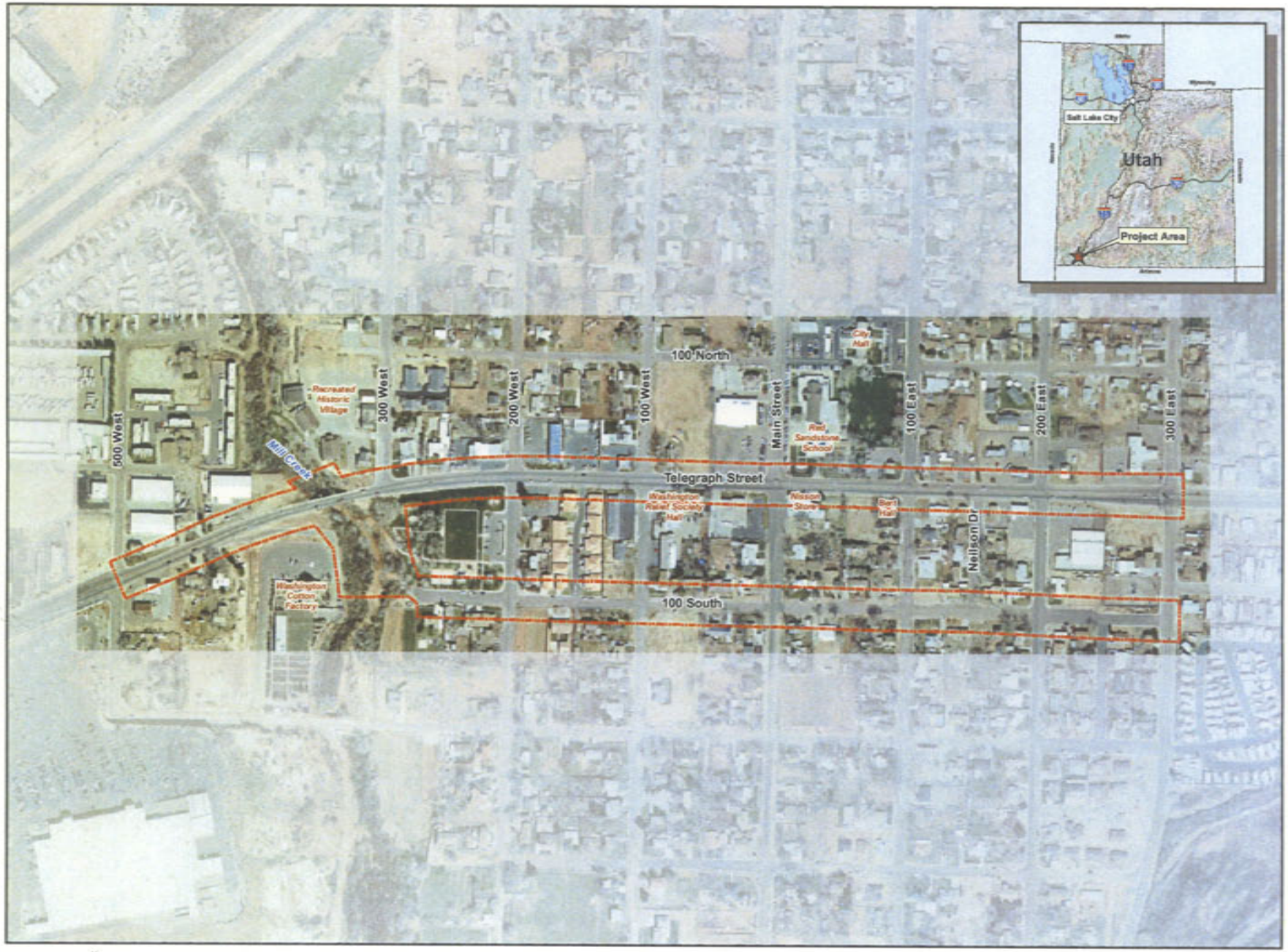
Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, FWS/OBS-79/31.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1 (on-line edition). U.S. Army Corps of Engineers, Waterway Experiment Station, Vicksburg, MS.

Reed, P.B. Jr. 1988. *National List of Plant Species that Occur in Wetlands: Intermountain (Region 8)*. For National Wetlands Inventory, U.S. Fish and Wildlife Service. May.

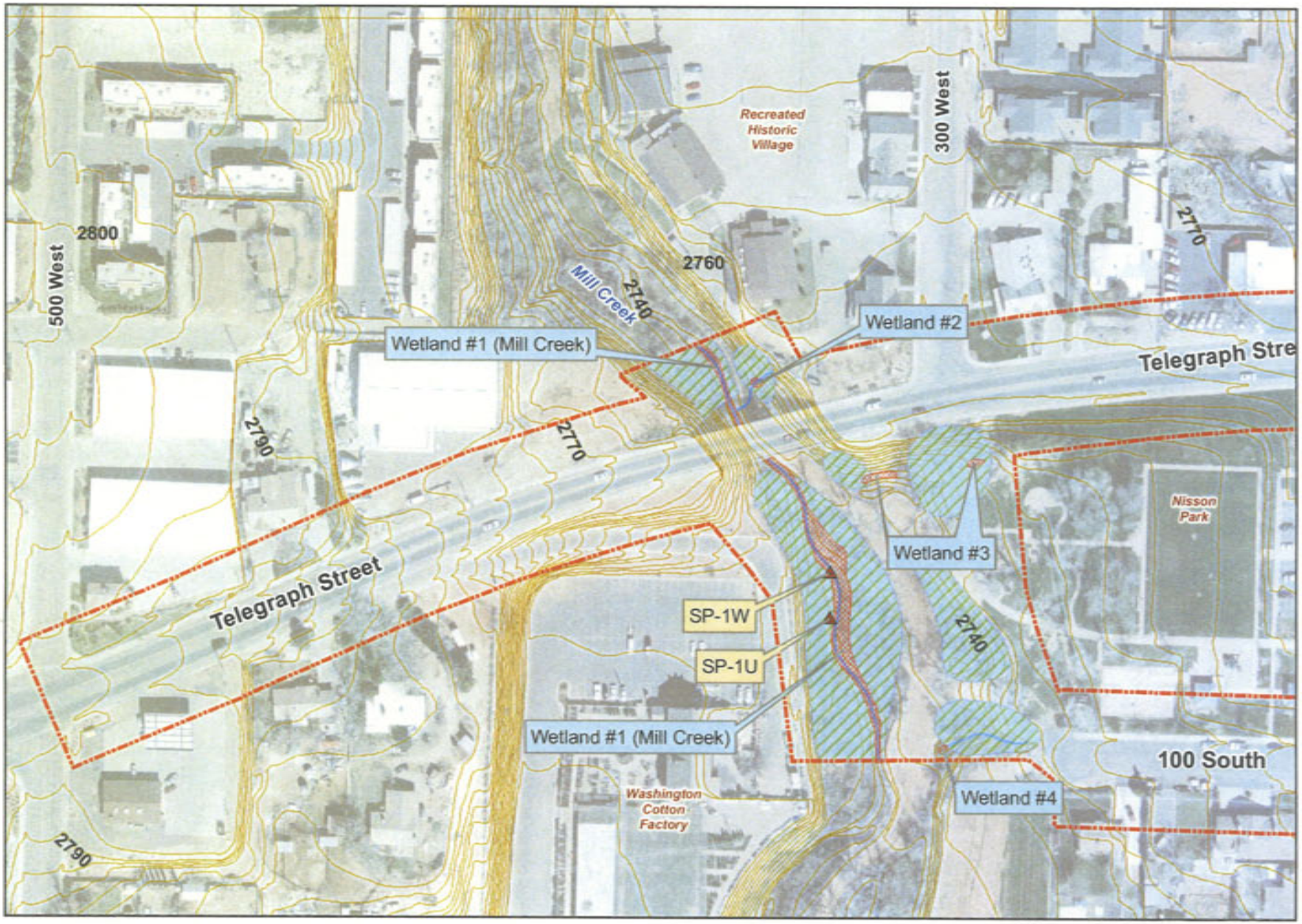
U.S. Department of Agriculture. 2006a. Natural Resources Conservation Service (NRCS) Plants Database. http://plants.usda.gov/index.html.

USDA. 2006b. Natural Resources Conservation Service (NRCS) Web Soil Surveys http://websoilsurvey.nrcs.usda.gov/app/.



Study Area

Figure 1: Telegraph Street Vicinity Map



Study Area
Wetland
Other Water
Riparian Woodland
Soil Pit

100 0 100 Feet

Figure 2: Telegraph Street Wetlands and Other Water Features

Appendix A

Routine Wetland Determination Data Forms

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

'roject/Site: Telegraph St.	Date: 06/27/06
Applicant/Owner:	County: Washington
nvestigator(s): Andy Herb	State: Utah
Do Normal Circumstances exist on the site? ☑ Yes ☐ No	Community ID: PEM/PSS
's the site significantly disturbed (Atypical Situation)? ☐ Yes ☑ No	Transect ID:
s the area a potential Problem Area? (If needed, explain on reverse) ☐ Yes ☑ No	Plot ID: Wetland 1 (Mill Creek Wetlands)
	GPS Coordinates:

/EGETATION

Dominant Plant Species	% Cover	Stratum	Indicator	Other Plant Species	% Cover	Stratum	Indicator
. *Nasturtium officinale*	10	H	OBL	9. *Typha angustifolia*		H	OBL
2. *Scirpus pungens*	10	H	OBL	10. *Mentha spicata*		H	FACW
. *Polypogon monspeliensis*	10	H	FACW	11. *Salix exigua*		S	OBL
. *Anemopsis californica*	40	H	FACW	12. *Juncus balticus*		H	FACW
5. *Eleocharis palustris*	5	H	OBL	13. *Rumex crispus*		H	FACW
. *Baccharis glutinosa*	60	S	FACW	14. *Cynodon dactylon*		H	FAC
.				15. *Xanthium strumarium*		H	FAC
8.				16. *Festuca pratensis*		H	FACU

ercent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100

emarks: 40% PEM 60% PSS. **Perimeter:** *Galium aparine, Baccharis glutinosa, Salix gooddingii, Cynodon dactylon, Heliotropium curassavicum, Anemopsis californica, Fraxinus sp.,* and *Tamarix ramosissima*. The PSS area is mostly restricted to the eastern bank of the creek (south of the bridge) and n generally wider than the PEM areas on the west side. Riparian woodland mixed with disturbed areas dominate the floodplain areas. Riparian woodland ees include *Salix gooddingii, Fraxinus sp., Populus fremontii, Ulmus pumila, and Salix amygdaloides.*

HYDROLOGY

☑ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☑ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

'ield Observations:

Depth of Surface Water: 12-14 (in.)

)epth to Free Water in Pit: 12 (in.)

)epth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☑ Inundated
- ☑ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Mill Creek. Channel about 4 feet wide and about 1 foot deep. Flowing south. Banks are narrow with wetland fringe in most areas. Many areas ave a nearly closed canopy of *Elaeagnus angustifolia, Baccharis glutinosa, Salix exigua,* and *Tamarix ramosissima.* Small woody debris common in creek. hannel becomes more entrenched downstream.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

SOILS

Map Unit Name (Series and Phase): Fluvaquent and Torrifluvents, sandy

Drainage Class: Poorly drained - very poorly drained

Taxonomy (Subgroup):

Field Observations Confirm Mapped Type? ☑ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle (Abundance/Contrast)	Texture, Concretions, Structure, etc.
WL pit					
0 - 16		2.5YR4/6	none	NA	sand
Up pit					
0 - 16		2.5YR4/6	none	NA	sand

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☑ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Wetland Soil Pit - Red sand with darker layers mixed in. Saturated to surface with free water in the pit at 12 inches. Within 6 inch vertical of the channel. Vegetation at pit includes: *Festuca pratensis, Scirpus pungens,* and *Polypogon monspeliensis*.
Upland Soil Pit - Red sand moist. Terrace about 2 feet above OHW. Vegetation at pit includes: *Anemopsis californica and Galium aparine*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☑ Yes	☐ No	Is this Sampling Point Within a Wetland? ☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes	☐ No	
Hydric Soils Present?	☑ Yes	☐ No	

Remarks: Mostly PEM on west side, mostly PSS on east side of wetland. PSS mostly *Baccharis glutinosa* with *Scirpus pungens*, and *Galium aparine*. Much of floodplain recently disturbed by bike path construction. Wildlife observed include: fish, humming bird, dove, summer tanager, leopard frog, bull frog, dragonflies, snails, house sparrow, and robin; swallow nest in bridge drainage pipes. Beaver protection installed on larger trees.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Telegraph St.			Date: 06/27/06
Applicant/Owner:			County: Washington
Investigator(s): Andy Herb			State: Utah
Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Community ID: PEM
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Transect ID:
Is the area a potential Problem Area? (If needed, explain on reverse)	☐ Yes	☑ No	Plot ID: Wetland 2
			GPS Coordinates:

VEGETATION

Dominant Plant Species	% Cover	Stratum	Indicator	Other Plant Species	% Cover	Stratum	Indicator
1. *Scirpus pungens*	60	H	OBL	9.			
2. *Typha latifolia*	20	H	OBL	10.			
3.				11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100

Remarks: 100% PEM with shrubs and small trees present along the perimeter. Some bareground present possibly due to shading.

Perimeter: *Baccharis glutinosa, Salix sp., Cynodon dactylon, Populus fremontii, Convolvulus arvensis, Ulmus pumila, Festuca pratensis, Pascopyrum smithii, Fraxinus sp.*

HYDROLOGY

☑ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☑ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 (in.)

Depth to Free Water in Pit: no pit (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☑ Inundated
- ☑ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Irrigation overflow and stormwater runoff from the southwest. 16 inch metal culvert that is somewhat perched due to erosion.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

SOILS

Map Unit Name (Series and Phase): Fluvaquent and Torrifluvents, sandy

Drainage Class: Poorly drained - very poorly drained

Taxonomy (Subgroup):

Field Observations Confirm Mapped Type? ☐ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle (Abundance/Contrast)	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☑ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Hydric soils have been assumed due to a distinct wetland boundary, evidence of wetland hydrology and the dominance of FACW and/or OBL vegetation.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☑ Yes	☐ No	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	☑ Yes	☐ No	
Hydric Soils Present?	☑ Yes	☐ No	☑ Yes ☐ No

Remarks: Small wetland on south side of road at mouth of culvert. Large riprap at mouth of culvert. Old erosion control mat and silt fencing were observed on the wetland edge.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Telegraph St.			Date: 06/27/06
Applicant/Owner:			County: Washington
nvestigator(s): Andy Herb			State: Utah
Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Community ID: PEM
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Transect ID:
s the area a potential Problem Area? (If needed, explain on reverse)	☐ Yes	☑ No	Plot ID: Wetland 3
			GPS Coordinates:

VEGETATION

Dominant Plant Species	% Cover	Stratum	Indicator	Other Plant Species	% Cover	Stratum	Indicator
1. *Typha angustifolia*	5	H	OBL	9. *Festuca pratensis*		H	FACU
2. *Scirpus pungens*	40	H	OBL	10. *Cynodon dactylon*		H	FAC
3. *Mentha spicata*	5	H	FACW	11. *Polypogon monspeliensis*		H	FACW
4. *Anemopsis californica*	10	H	FACW	12. *Juncus balticus*		H	FACW
5. *Eleocharis palustris*	20	H	OBL	13. *Scirpus validus*		H	OBL
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100

Remarks: 100% PEM. Dense mat of *Cynodon dactylon* on the perimeter. **Perimeter:** *Galium aparine, Cynodon dactylon, Anemopsis californica, Fraxinus sp., Populus fremontii, Pascopyrum smithii, Xanthium strumarium, Sorghum halepense.* Two distinct pockets of wetland vegetation with overstory of *Populus fremontii* at edge of park.

HYDROLOGY

☑ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☑ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1 (in.)

Depth to Free Water in Pit: no pit (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☑ Inundated
- ☑ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Irrigation overflow from over-irrigation of park to east. Direct observations of water running off of landscaped areas into the wetland.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

SOILS

Map Unit Name (Series and Phase): Tobler fine sandy loam

Drainage Class:

Taxonomy (Subgroup):

Field Observations Confirm Mapped Type? ☐ Yes ☑ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle (Abundance/Contrast)	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Hydric soils have been assumed due to a distinct wetland boundary, evidence of wetland hydrology and the dominance of FACW and/or OBL vegetation.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☑ Yes	☐ No	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	☑ Yes	☐ No	
Hydric Soils Present?	☑ Yes	☐ No	☑ Yes ☐ No

Remarks: Small swale on floodplain that is getting water from the over irrigation of the park. Upper part approximately 10 x 20 feet is mostly *Scirpus validus*.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Telegraph St.			Date: 06/27/06
Applicant/Owner:			County: Washington
Investigator(s): Andy Herb			State: Utah
Do Normal Circumstances exist on the site?	☑ Yes	☐ No	Community ID: PEM
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☑ No	Transect ID:
Is the area a potential Problem Area? (If needed, explain on reverse)	☐ Yes	☑ No	Plot ID: Wetland 4
			GPS Coordinates:

VEGETATION

Dominant Plant Species	% Cover	Stratum	Indicator	Other Plant Species	% Cover	Stratum	Indicator
1. *Typha angustifolia*	60	H	OBL	9. *Agrostis sp.*		H	
2. *Scirpus pungens*	5	H	OBL	10.			
3. *Polypogon monspeliensis*	5	H	FACW	11.			
4. *Mentha spicata*	5	H	FACW	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100

Remarks: 100% PEM. Approximately 25% bare ground, sand deposit. **Perimeter:** *Cynodon dactylon, Anemopsis californica, Fraxinus sp., Populus fremontii, Sorghum halepense, Salix sp., Lonicera sp., Catalpa sp, and Sonchus sp.* Most of perimeter is disturbed, small pocket of riparian woodland to east.

HYDROLOGY

☑ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☑ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 4 - 6 (in.)

Depth to Free Water in Pit: no pit (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☑ Inundated
- ☑ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Irrigation return flow and stormwater runoff. Wetland at end of short channel coming from 100 south. Riprap lined drainage ditch with no real bed.

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

SOILS

Map Unit Name (Series and Phase): Tobler fine sandy loam

Drainage Class:

Taxonomy (Subgroup):

Field Observations Confirm Mapped Type? ☐ Yes ☑ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle (Abundance/Contrast)	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Hydric soils have been assumed due to a distinct wetland boundary, evidence of wetland hydrology and the dominance of FACW and/or OBL vegetation.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☑ Yes	☐ No	Is this Sampling Point Within a Wetland?
Wetland Hydrology Present?	☑ Yes	☐ No	
Hydric Soils Present?	☑ Yes	☐ No	☑ Yes ☐ No

Remarks: Very small 100 % PEM at upstream end of culvert for the bike path. Recent sedimentation

Appendix B
Site Photographs

Photo 1—Wetland 1 looking south from Telegraph Street.

Photo 2—Wetland 2 looking northeast.

Photo 3—Western section of Wetland 3 looking east.

Photo 4—Eastern section of Wetland 3 looking west.

Photo 5— Wetland 4 looking east.

Photo 6—Representative riparian woodland area.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

January 19, 2007

Regulatory Branch (2007-69-SG)

Andy Herb
URS
8181 East Tufts Avenue
Denver, CO 80237

Dear Mr. Herb:

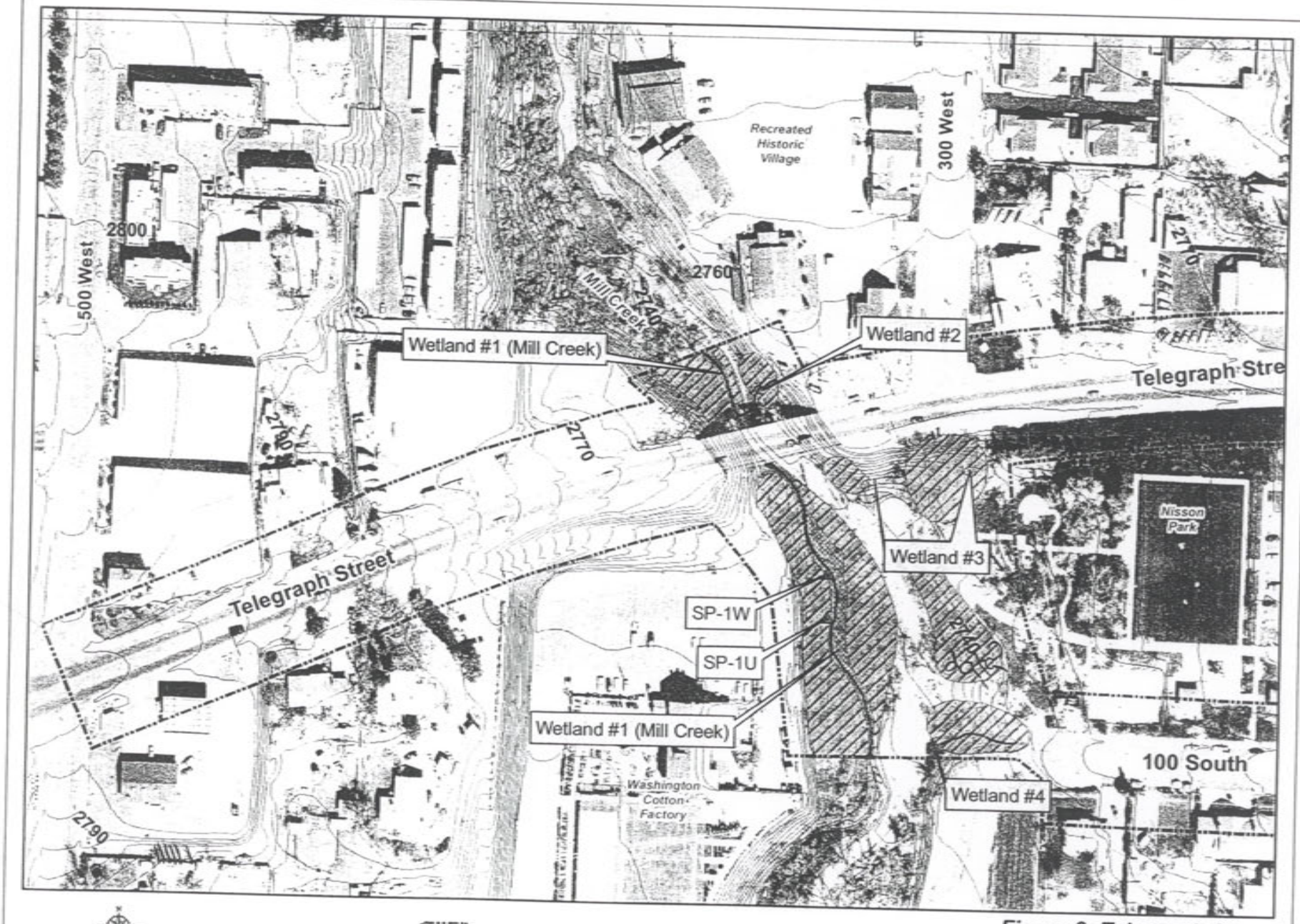
This concerns your final transmittal dated December 18, 2006 supplementing your original preliminary delineation report on a 2.75 acre parcel along 500 feet of Mill Creek at Telegraph Street in Washington County. The site is located at **37.12969N and 113.517608W,** in Washington City, Utah.

Based on the information provided, and based also on a site inspection by this office, we determined that the parcel contains jurisdictional waters of the United States. This area consists of four separate features totaling approximately 0.17 acre of jurisdictional wetlands and 0.05 acre of other waters. Any work that may impact these waters is subject to our permit authority under Section 404 of the Clean Water Act.

Please refer to number 2007-69-SG in any correspondence concerning this project. If you have any questions, please contact me at our St. George Regulatory Field Office, 321 North Mall Drive, Suite L-101, St. George, Utah 84790 or telephone number 435-986-3979. Our website is www.spk.usace.army.mil/regulatory.html.

Sincerely,

Chief, St. George Regulatory Office
321 North Mall Drive, Suite L-101
St. George, Utah 84790



Study Area
Other Water
Soil Pit
Wetland
Riparian Woodland

100 0 100 Feet

Figure 2: Telegraph Street Wetlands and Other Water Features

TELEGRAPH STREET ENVIRONMENTAL ASSESSMENT
UDOT

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: **URS-Denver**		File Number: **2007-69-SG**	Date:**19 Jan 2007**
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
→→	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the DISTRICT Engineer. Your objections must be received by the DISTRICT Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the DISTRICT Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the DISTRICT Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION Engineer. This form must be received by the DIVISION Engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION Engineer. This form must be received by the DIVISION Engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION Engineer. The appeal form must be received by the DIVISION Engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may rovide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

US Army Engineer District, Sacramento
Shawn H. Zinszer
Chief, Intermountain Regulatory Section
533 West 2600 South, Suite 150
Bountiful, UT 84010

(801) 295-8380

If you only have questions regarding the appeal process you may also contact:

Doug Pomeroy, Administrative Appeal Review Officer
Army Engineer Division, South Pacific, CESPD-DM-O
333 Market Street, San Francisco, CA 94105 (**415-977-8035**)

(NOTE: This is also the address to which an appeal addressed to the DIVISION Engineer would be mailed.)

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number: