ENVIRONMENTAL STUDY

Project Name: **Lindon Heritage Trail - Lindon 800 W. to Utah Lake** PIN: **7385**

Project No.: **F-LC49(110)** Job/Proj: **52812**

Prepared By: **Charles P. Easton**

For guidance in preparing this environmental study, refer to Chapter 4 of the UDOT Environmental Process Manual of Instruction:

http://www.udot.utah.gov/go/environmental

REQUIRED SIGNATURES

I have reviewed the information presented in this Environmental Study and I hereby attest that the document is complete and the details of the document are correct.

Rod Hess
Reviewer's Signature

Date: 2011.03.31 10:58:56 -06'00'

FEDERAL AID PROJECTS

The State has determined that, pursuant to the provisions of 23 CFR 771.117(a), this project has no significant impacts on the environment and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the State has determined that the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under the National Environmental Policy Act per 23 CFR 771.117 c(3). The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to Chapter 3 of title 23, United States Code, Section 326 and a Memorandum of Understanding dated July 1, 2008 executed between the FHWA and the State.

Approved: Rich Crosland **Date:** 2011.03.3 11:03:45 1 '00'06-

UDOT Region Environmental Manager

1. Purpose and Need for Action

Currently, there are limited opportunities for pedestrian, bicycle, and equestrian traffic to safely cross major motorized transportation corridors on the west side of Lindon City in Utah County. The majority of these corridors, specifically Geneva Road (SR-114), Interstate 15, a Union Pacific and UTA railroad line, are oriented north and south, creating significant barriers for non-motorized traffic to safely move east and west. Lindon lacks facilities with adequate separation for non-motorized traffic to safely cross these major north/south transportation corridors. Lindon's Trail Master Plan has defined a need to connect existing and proposed trail systems that will allow pedestrian, bicycle and equestrian use for transportation.

The purpose of the Lindon Heritage Trail Project is to provide a non-motorized east/west transportation and recreation facility through the west side of Lindon City. The trail will provide a continuous route of suitable surface width separated from motorized vehicular traffic and will provide a safe means of crossing major north/south transportation corridors. The Lindon Heritage Trail is part of the Mountainland Association of Governments (MAG) Long Range Plan and would serve as the backbone of Lindon's trail system. This system meets a City transportation need and the several safety concerns listed above.

2. Description

Lindon City, in cooperation with the Utah Department of Transportation and the Federal Highway Administration, proposes to construct Phase II of the Lindon Heritage Trail. The proposed trail is a 10-foot wide paved multiuse trail beginning at the existing multiuse trail at 800 West and Lakeview Drive. The proposed trail would cross Geneva Road at the existing stoplight at 200 South and cross under I-15 adjacent to the existing railroad tracks. The trail is proposed to parallel and follow Lindon Hollow Creek from Geneva Road (1000 West) west toward Vineyard Road (2000 West). The trail will then parallel Vinyard Road to the south, connecting with the existing Lakeshore Trail near the Lindon Boat Harbor. The trail will cross over Lindon Hollow Creek in two locations (see the project map in Appendix A). The overall length of the Phase II trail would be approximately three miles.

The proposed project includes constructing a 10 foot wide paved trail with curb and gutter where adjacent to existing roadways. Those areas where the trail departs from the roadway, the trail would be constructed 10 feet wide with an untreated base course. Turf or sod would be placed on both sides of the trail. Some trail locations will require fill and an accompanying fence or Mechanically Stabilized Earth (MSE) wall (see Typical Sections in Appendix A).

3. Public Hearing/Opportunity for Public Hearing

NO This project will add additional through traffic lanes or substantially change the layout or function of itself or connecting roadways, including access limitations.

NO This project has a substantial adverse impact on abutting property.

NO There are significant social, economic, environmental or other effects. (If YES, a Categorical Exclusion is not applicable.)

NO FHWA has determined that a public hearing is in the public interest.

If the answer to ANY of the above questions is YES, a public hearing or opportunity for a public hearing is required (attach documentation identifying date and location of hearing, summary of comments, and responses to substantial comments, or include certification of opportunity for hearing.)

The following types of public involvement have been provided:

NO Public Hearing in accordance with state and federal procedures

NO Opportunity for Public Hearing Advertised

YES Open House

YES Neighborhood Meeting

YES Agency Meeting

YES Other: **Ongoing individual meetings with adjacent private residents (see Appendix F).**

YES Documentation is attached identifying the date and location of hearing, summary of comments, and responses to substantial comments or the Certification of Opportunity for a hearing.

4. Right-of-Way

YES Acquisition of Right-of-Way is required.

NO The right-of-way required is significant because of its size, location, use, or relationship to remaining property and abutting properties. (If the right-of-way required is significant, the project does not qualify as a Categorical Exclusion.)

Minor strip-takes of right-of-way will be required for the trail construction through the residential and commercial properties. For the entire three miles of the proposed trail, an estimated 2.1 acres (92,300 square feet) will be required from a total of 17 properties.

5. Cultural

According to the UDOT Region NHPA/NEPA Specialist and/or the Architectural Historian, the finding of effect for the project is one of the following:

NO No historic properties affected

YES No adverse effect

NO Adverse effect

Project documentation for determinations of eligibility and finding of effect consists of one of the following and is attached:

NO Memo from UDOT Region NEPA/NHPA Specialist and/or Architectural Historian stating a finding of No Historic Properties Affected.

YES SHPO concurrence with the determinations of eligibility and finding of effect and memo from UDOT Region NEPA/NHPA Specialist and/or Architectural Historian stating a finding of No Adverse Effect or Adverse Effect.

YES Have letters for Native American consultation and letters to other consulting parties (federal and state agencies, CLGs, historical societies, etc.) been sent? Attach letters. If No, provide explanation of why letters were not sent.

NO Do the Impacts to historic properties require mitigation. If yes, a formal public notice must be published in the statewide and local newspapers or newsletters and a Memorandum of Agreement (MOA) executed. Attach copy of notice(s) and MOA.

See Appendix B for Cultural Resources Correspondence.

6. Paleontological

YES This project is one of the 11 types of projects listed in the MOU with UGS (Stipulation D) that has no effect on paleontological resources and does not require notification to the Utah Geological Survey (UGS) (see Mou with UGS, Stipulation D). If "Yes", a memo from the UDOT Region NEPA/NHPA Specialist is attached (can be included in cultural memo).

For all other projects, the UGS has been notified and has responded with the following (attach UGS letter):

N/A There are no potential fossil-bearing formations in the project APE or fossil-bearing formations are present in the APE, but no field survey is required (MOU,Stipulation E.3). A memo from the UDOT Region NEPA/NHPA Specialist is attached (can be included in cultural memo).

N/A Fossil-bearing formations are present in the APE and a survey is required, and/or there are known paleontological localities in the APE (MOU, Stipulation E.4) A letter form the UGS concurring with the results of the survey and/or the effects to the paleontological localities is attached. A memo from the UDOT Region NEPA/NHPA Specialist with mitigation and/or monitoring commitments is attached (can be included in th cultural memo).

See Appendix B for Paleontological Resources Correspondence.

7. Federally Threatened, Endangered, or Candidate Species

For State Funded Projects:

N/A Project is covered under the November 17, 2003 MOU regarding state funded projects. If yes, attach copy of MOU, no further analysis is required.

N/A Project has potential to **"affect"** or **"adversely affect"** threatened or endangered species, or their critical habitats, protected under the Endangered Species Act, or any state sensitive species. If so, attach memo from UDOT's Wildlife Biologist, and, if appropriate, letter or memo from U.S. Fish and Wildlife Service (US FWS). List all mitigation measures.

If the project is determined to have **"no effect,"** attach memo from UDOT's Wildlife Biologist.

For Federally Funded Projects:

YES Project has **"no effect"** to T&E species, or their critical habitats, protected under the Endangered Species Act, or state sensitive species. If so, attach **"no effect"** memo from UDOT's Wildlife Biologist.

NO Project has potential to **"affect, but is not likely to adversely affect"** T&E species, or their critical habitats, protected under the Endangered Species Act, or state sensitive species. If yes, attach letter from UDOT's Wildlife Biologist and the "concurrence" letter from the U.S. Fish and Wildlife Service (US FWS) and list mitigation measures. In addition, written concurrence from UDOT Env Services of the Endangered Species Act Section 7 determination is attached.

NO Project has potential to **"affect, and is likely to adversely affect"** T&E species, or their critical habitats, protected under the Endangered Species Act. If yes, attach biological assessment (BA) and biological opinion (BO) from US FWS and list mitigation measures. In addition, written concurrence from UDOT Env Services of the Endangered Species Act Section 7 determination is attached.

NO The US FWS has issued a **"jeopardy"** decision regarding this project. If yes, attach BA and BO as above. This project cannot go forward without being reconsidered. In addition, written concurrence from UDOT Env Services of the Endangered Species Act Section 7 determination is attached.

See Appendix C for Wildlife Resources Correspondence.

8. Wildlife

NO Project has potential to affect big game species, state-listed sensitive species, their habitats, migration routes, habitat connectivity, or fish passage.

If yes, attach memo from UDOT's Wildlife Biologist, and letter or memo from the Utah Division of Wildlife Resources (if available.) List mitigation measures.

If no, attach memo from UDOT's Wildlife Biologist.

See Appendix C for Wildlife Resources Correspondence.

9. Invasive Species

If the project involves earthwork, grading or landscaping, there is potential to introduce or spread invasive weed species.

YES This project has the potential to introduce or spread invasive species included on the noxious weed list of the State of Utah and the county noxious weed lists based on project location.

YES Best Management Practices (BMP's) will be implemented to minimize the spread of invasive species. These BMP's are listed in the mitigation section and should be included in the project specifications.

10. Noise

Projects that may affect noise levels to adjacent receptors include changes in roadway alignment, roadway widening and the addition of traffic lanes.

NO This project has the potential to increase noise to adjacent receptors.

N/A A noise study is attached.

11. Water Pollution, Wetlands, Floodplains, Stream Encroachments

Wetlands and Water Resources

NO Project is one that typically does not affect waters of the United States: installations of traffic signals, lighting, guardrails, signs, curb and gutter, sidewalks, pavement markings, rotomill and overlays, pavement rehabilitation, grinding and resurfacing, and minor traffic improvements. If yes, no concurrence letter is needed.

YES Project affects waters of the United States (e.g. wetlands, mudflats, lakes, perennial or ephemeral streams). If no, provide a concurrence letter from the US Army Corps of Engineers (Corps) or a UDOT Landscape Architect.

YES Project impacts perennial or ephemeral streams that have a riparian vegetation component. If yes, a General Permit 40 (Stream Alteration Permit) from the Utah Division of Water Rights will be required before construction.

NO Project impacts an ephemeral wash flowing into waters of the United States, but has no apparent riparian vegetation component. If yes, consultation with the Corps will be required.

NO Project impacts navigable waters of the United States (Lake Powell, Flaming Gorge Reservoir, Bear Lake, Green River - mouth to 20 miles above Green River Station, Colorado River - mouth of Castle Creek to Cataract Canyon - 4.5 miles below mouth of Green River) below the ordinary high water mark. If yes, a Section 10 Department of the Army (DA) Permit will be required before construction.

YES Project impacts jurisdictional wetlands. If yes, a Department of the Army Nationwide Permit (NWP) will typically be required for wetland impacts at or under the 1/2 acre threshold or an Individual Permit (IP) will be required for impacts exceeding 1/2 acre.

NO Project impacts non-jurisdictional wetlands. If yes, wetland mitigation may still be required under the federal policy of "no net loss." Consult UDOT Environmental.

Storm Water Runoff

YES Project disturbs 1 acre or more of ground surface. If yes, a UPDES permit is required from the State Division of Water Quality.

Floodplains

NO Project requires new construction or alteration of existing structures within the FEMA designated 100-year flood plain. If Yes, a "development permit" is required from the local permit official.

Flood Insurance Rate Map (FIRM) verifying location of flood plains in the project area is located in Appendix D.

12. Hazardous Waste

NO A visual inspection of the project area found substances that may be hazardous to human health and/or the environment.

YES This project involves excavation beyond or below the existing roadway footprint.

If Yes to either, then site investigations and coordination with DEQ may be necessary.

Based on a search of the Environmental Protection Agency's (EPA's) EnviroMapper, there are no currently EPA regulated hazardous waste or superfund sites located within the project area. A record search of underground storage tanks (USTs) and leaking underground storage tanks (LUSTs) obtained from the Utah Department of Environmental Quality (DEQ), Division of Environmental Response and Remediation was undertaken. No USTs or LUSTs are within the project impact area.

Lindon City has had previous undertakings within the proposed project area where the potential for hazardous materials existed (on lands under the previous ownership of Geneva Steel). The city performed hazardous materials investigations and corresponded with the DEQ. The DEQ has cleared this area of hazardous materials associated with Geneva Steel (see Appendix E).

13. Prime, Unique, Statewide, or Local Important Farmland

Projects in areas whose land use maps indicate no current or future farming activities would not usually affect farmlands.

NO This project MAY affect Prime, Unique, Statewide, or Local Important Farmlands.

N/A The Natural Resource Conservation Service letter and Form AD1006 are attached. (Note: Letters should be less than 1 year old from date of issue or they need to be updated by issuing agency.)

14. Air Quality

YES This project has the potential to increase particulate matter due to construction activities.

NO This project adds or alters roadway capacity or will result in increased traffic volumes (addition of through traffic lane or intersection/signal improvements.)

If Yes, attach the Air Quality Supplement.

15. Relocations

NO There may be relocations of residences or businesses as a result of this project.

16. Land Use/Urban Policy

NO This project may affect land use or urban policy.

17. Section 4(f) Properties

YES Section 4(f) properties are impacted.

NO An Individual Section 4(f) Evaluation AND written concurrence from UDOT Env Services on the individual Section 4(f) determination is attached.

NO A Programmatic Section 4(f) Evaluation AND written concurrence from UDOT Env Services on the Programmatic Section 4(f) determination is attached.

YES The 4(f) property(s) is a historic property and the impact is considered **de minimis**.

YES SHPO has concurred on **"no adverse effect"** and the letter is attached.

NO The 4(f) property(s) is a park, recreational area, wildlife or waterfowl refuge and the impact is considered **de minimis**.

N/A The official(s) with jurisdiction have concurred, in writing, that the project will **"not adversely affect"** the activities, features, and attributes that qualify the resource for protection under Section 4(f) and have been notified of FHWA's intent to make the **de minimis** impact finding. Letters are attached.

N/A The project sponsor has provided public notice and opportunity for public review and comment. Describe public involvement efforts.

N/A FHWA has concurred with a **de minimis** finding, and the concurrence letter is attached.

See Appendix B for Section 4(f) de minimis finding concurrence.

18. Other Environmental Factors Considered

This Project, except as noted and explained in attachments, will have no disproportionate, serious or lasting effect on the following:

NO Visual

NO Social/Economic

NO Title VI and/or Environmental Justice

NO Natural Resources

NO Construction

NO Energy

NO Geology/Soils

NO Wild/Scenic Rivers

NO Ecology

19. Conclusion

NO This project may have substantial controversy or significant impacts.

If Yes, a Categorical Exclusion is not applicable.

MITIGATION COMMITMENTS

CONSTRUCTION		Responsible
Air Quality	Requirements outlined in Standard Specification 01572 titled "Dust Control and Watering" will be followed.	Contractor
Cultural	UDOT Standard Spec 01355, Part 1.13	Contractor
Invasive Species	Supplemental Specification 02926S titled "Invasive Weed Control" will be included in the contract documents and outlines the BMP's that will be incorporated.	Contractor

PRELIMINARY ENGINEERING		Responsible
Water Quality	A General Permit 40 (GP-40) or Stream Alteration Permit is required from the Utah Division of Water Rights prior to constructing the Lindon Hollow Stream crossings.	Consultant Designer
Water Quality	The project will disturb 1 acre or more of ground surface. Therefore, a storm water pollution prevention plan (SWPPP) must be included in the plans and a UPDES Permit from the Division of Water Quality must be obtained prior to construction.	Consultant Designer

APPENDICES

A. Project Map and Typical Section

B. Cultural, Paleontological, Section 4(f) Resources

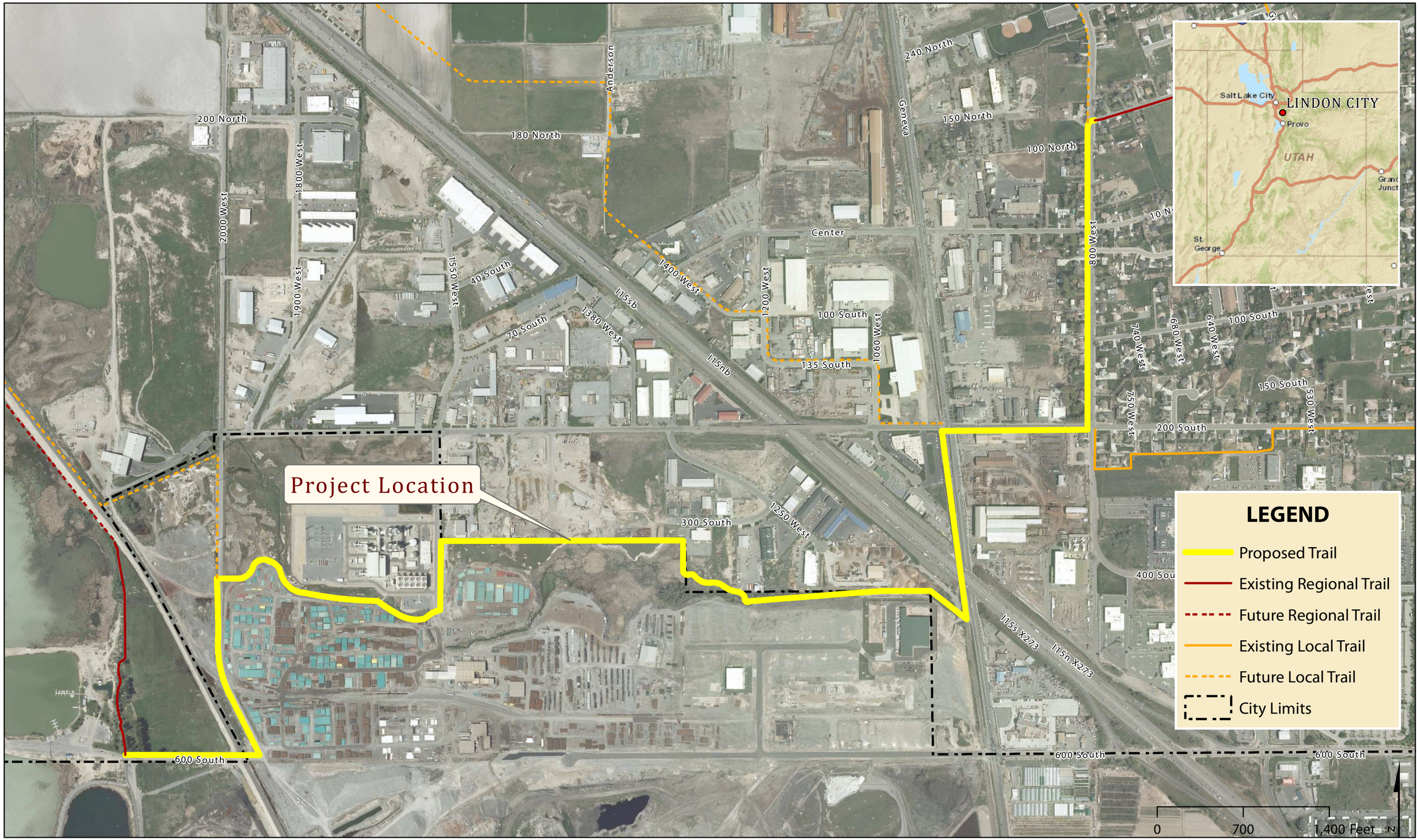
C. Wildlife Resources

D. Wetland and Water Resources

E. Hazardous Materials Supporting Documentation

F. Public Involvement Report

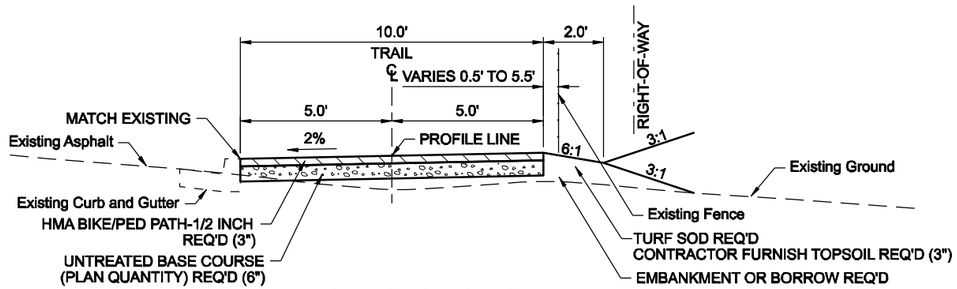
APPENDIX A. Project Map and Typical Section



J·U·B ENGINEERS, INC.

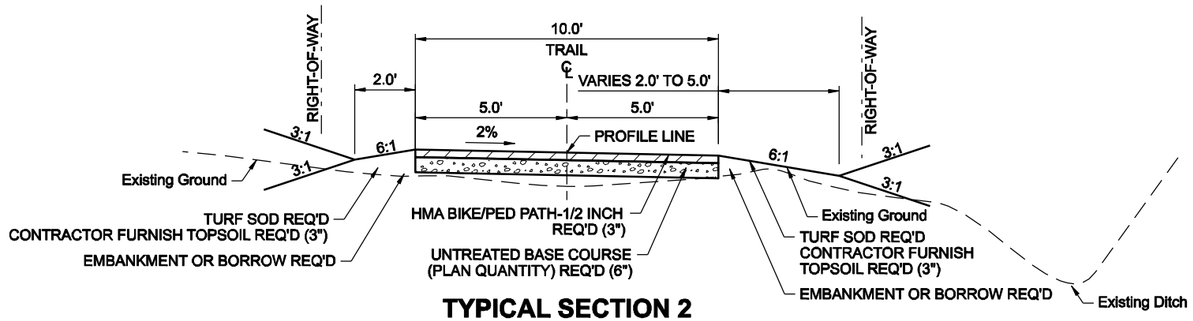
Projection: Nad 83 State Plane Utah Central

Lindon Heritage Trail
West Phase - 800 West to Utah Lake



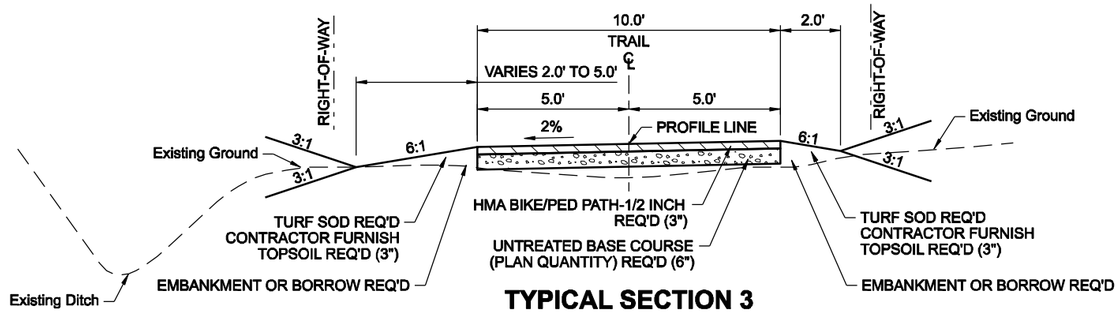
TYPICAL SECTION 1

LINDON HERITAGE TRAIL
STA. 67+37.07 TO STA. 72+86.12



TYPICAL SECTION 2

LINDON HERITAGE TRAIL
STA. 73+09.47 TO STA. 103+68.26



TYPICAL SECTION 3

LINDON HERITAGE TRAIL
STA. 104+03.53 TO STA. 127+81.21

REVISIONS

NO.	DATE	APPROVED BY	REMARKS
			30% DESIGN

UTAH DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN

DRAWN BY: Z.JS
QC CHECKED BY: GRM
DATE: MM/DD/YY

APPROVED

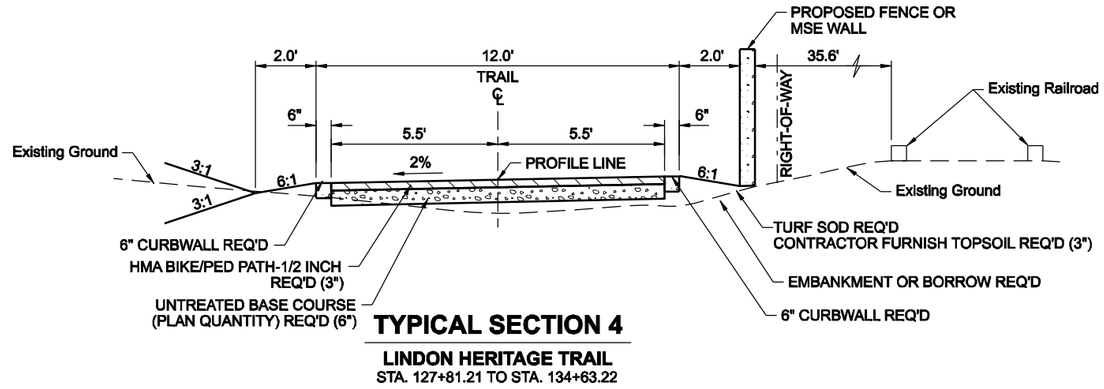
PROFESSIONAL ENGINEER

PROJECT: LINDON HERITAGE TRAIL
LINDON 800 W. TO UTAH LAKE

PROJECT NUMBER: F-LC49(110) PIN 7385

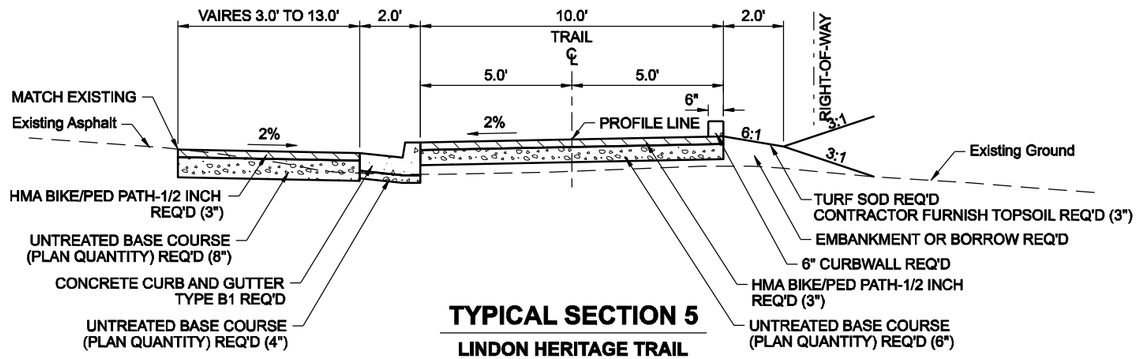
TYPICAL SECTIONS

SHEET NO. TS-1



TYPICAL SECTION 4

LINDON HERITAGE TRAIL
STA. 127+81.21 TO STA. 134+63.22



TYPICAL SECTION 5

LINDON HERITAGE TRAIL
STA. 135+90.32 TO STA. 146+28.47
STA. 147+76.46 TO STA. 171+95.25

REVISIONS

NO.	DATE	APPROVED BY	REMARKS
			30% DESIGN

UTAH DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN

DRAWN BY: ZJS
QC CHECKED BY: GRM
DATE: MM/DD/YY
APPROVED
PROFESSIONAL ENGINEER

PROJECT: LINDON HERITAGE TRAIL
LINDON 800 W. TO UTAH LAKE
PROJECT NUMBER: F-LC49(110) PIN 7385

TYPICAL SECTIONS

SHEET NO. TS-2

Appendix B. Cultural, Paleontological, Section 4(f) Resources

State of Utah

GARY R. HERBERT
Governor

DEPARTMENT OF TRANSPORTATION
JOHN R. NJORD, P.E.
Executive Director

CARLOS M. BRACERAS, P.E.
Deputy Director

8 February 11

Mr. Cory Jensen
National Register Coordinator and Architectural Historian
Utah Division of State History
300 Rio Grande
Salt Lake City, UT 84101-1182

RE: UDOT Project No. F-LC49(110); Lindon Heritage Trail, Lindon, Utah County.
Determination of Eligibility and Finding of No Adverse Effect.

Dear Mr. Jensen:

The Utah Department of Transportation (UDOT), in conjunction with Lindon City, is preparing to undertake the subject federal-aid project. The project proposes to extend the existing Lindon Heritage Trail from 800 West and Lakeview Road in Lindon to the existing Lakeshore Trail along the eastern shore of Utah Lake, in Vineyard. Construction would occur in developed residential and commercial areas and on undeveloped land west of I-15.

In accordance with Stipulation II, Part A and Appendix B of the *Memorandum of Understanding, State Assumption of Responsibility for Categorical Exclusions (23 USC §326)* (executed June 30, 2008), the UDOT assumes responsibility, assigned by the Federal Highway Administration (FHWA), for ensuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and with Section 4(f) of the DOT Act of 1966, as amended. In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470 *et seq.*), and the *Programmatic Agreement Among the Federal Highway Administration, the Utah Department of Transportation, the Utah State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Section 106 Implementation for Federal-Aid Transportation Projects in the State of Utah*, FHWA has taken into account the effects of this undertaking on historic properties, and is affording the Advisory Council on Historic Preservation (ACHP) and the Utah State Historic Preservation Officer (SHPO) an opportunity to comment on the undertaking. Additionally, this submission is in compliance with Section 4(f) of the Department of Transportation Act of 1966, 23 U.S.C. § 138 (as amended) and 49 U.S.C. § 303 (as amended).

The APE consists of a linear corridor beginning at the intersection of 800 West and Lakeview Road, continuing along 200 South, turning to parallel Geneva Road, crossing under I-15, turning west to follow an existing drainage channel to Pioneer Road and then to 200 West, continuing along 200 West and 600 South, and ending at the Lakeshore Trail. The total length is 4.57 miles with a width of 50 feet. The APE

has been surveyed in its entirety resulting in the identification of 8 architectural properties and 6 archaeological sites. Of these, 5 architectural properties and 3 archaeological sites are eligible to the NRHP. No known traditional cultural properties or paleontological resources are located in the APE. Complete results are provided in the cultural resources inventory reports prepared by SWCA (enclosed). The Determinations of Eligibility and Findings of Effects (for both Section 106 and Section 4(f)) are provided in Table 1 for architectural properties and Table 2 for archaeological resources.

ARCHITECTURAL PROPERTIES

Table 1. Determinations of Eligibility and Findings of Effect for Architectural Properties.

Address	Date	Type Style	NRHP Eligibility/ SHPO Rating	Finding of Effect	Section 4(f) Use
796 West Lakeview Rd.	1940	WWII Era Cottage Minimal Traditional	Not Eligible/C	No Historic Properties Affected	NA
96 North 800 West	1958	Ranch/Rambler Ranch/Rambler	Eligible/B	No Adverse Effect	*de minimis*
68 North 800 West	1948	WWII Era Cottage Minimal Traditional	Eligible/B	No Adverse Effect	*de minimis*
38 North 800 West	1942	WWII Era Cottage Minimal Traditional	Eligible/B	No Adverse Effect	*de minimis*
161 South 800 West	1946	WWII Era Cottage Minimal Traditional	Eligible/B	No Adverse Effect	*de minimis*
775 West 200 South	1946	WWII Era Cottage Minimal Traditional/ Post WWII	Eligible/B	No Adverse Effect	*de minimis*
225 South 800 West	1930	Bungalow Clipped Gable Cottage/ Arts and Crafts	Not Eligible/C	No Historic Properties Affected	NA
325 South Geneva Rd.	1945	Warehouse	Not Eligible/C	No Historic Properties Affected	NA

Description of Effects: This proposed project requires ROW acquisitions from 5 properties eligible to the NRHP. In all cases, the ROW acquisitions are strip takes which affect a relatively small portion of each property and will not substantially impact or alter any contributing elements of the properties or any of the character-defining features for which each were determined eligible for the NRHP. Thus, the proposed project will result in a finding of **No Adverse Effect** and a Section 4(f) *de minimis* impact for each property.

ARCHAEOLOGICAL RESOURCES

Table 2. Determinations of Eligibility and Findings of Effect for Archaeological Resources.

Site	Name or Description	NRHP Eligibility/ Criterion	Finding of Effect	Warrants preservation in place?	Section 4(f) Use
42UT1029	Union Pacific Railroad	Eligible/ Criterion A	No Historic Properties Affected	NA	NA
42UT1101	Denver & Rio Grande Western Railroad	Eligible/ Criterion A	No Historic Properties Affected	NA	NA
42UT1724	200 South Drain	Not Eligible	No Historic Properties Affected	NA	NA
42UT1749	Historic telephone line	Not Eligible	No Historic Properties Affected	NA	NA
42UT1750	Historic utility line	Not Eligible	No Historic Properties Affected	NA	NA
42UT1751	Deseret Telegraph Line	Eligible/ Criterion A	No Historic Properties Affected	NA	NA

To summarize, the project will result in a finding of **No Adverse Effect** for 5 architectural properties and de minimis Section 4(f) uses, and a finding of **No Historic Properties Affected** for all remaining architectural properties and archaeological sites. Therefore, the Finding of Effect for the proposed UDOT Project No. F-LC49(110); Lindon Heritage Trail, Lindon, Utah County, is **No Adverse Effect.**

Please review this document and, providing you agree with the findings contained herein, sign and date the signature line at the end of this letter. Should you have any questions or need additional information, please feel free to contact Rich Crosland at 801-830-9590 or richardcrosland@utah.gov, or contact Elizabeth Giraud at 801-965-4917 or egiraud@utah.gov .

Sincerely,

Rich Crosland
Environmental Manager
UDOT Region 3

Elizabeth Giraud
Architectural Historian
UDOT

Enclosures

cc: Brian Phillips, UDOT Region 3
Elizabeth Giraud, UDOT

Regarding UDOT Project No. F-LC49(110); Lindon Heritage Trail, Lindon, Utah County. I concur with the finding of effect, submitted to the Utah State Historic Preservation Office in accordance with Section 106 of the NHPA and U.C.A. 9-8-404, which states that the UDOT has determined that the finding is No Adverse Effect.

Cory Jensen
Architectural Historian/National Register & Survey Coordinator

3/16/11
Date

Statewide programmatic agr

U.S. Department
Of Transportation
Federal Highway Administration

Utah Division
2520 West 4700 South, Ste. 9A
Salt Lake City, UT 84118-1847

June 12, 2007

File: Section 4(f) *De Minimis*

Mr. Wilson Martin
State Historic Preservation Officer
Division of State History
300 South Rio Grande Street
Salt Lake City, Utah 84101

Subject: Section 4(f) De Minimis Determination; Pursuant to SAFETEA-LU Section 6009
In Conjunction with Section 106 Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the Utah State Historic Preservation Officer, and the Utah Department of Transportation

Dear Mr. Martin:

This letter was prepared in response to the FHWA December 13, 2005 Guidance regarding Section 6009 (a) of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity: A Legacy for Users (SAFETEA-LU) Act Pub. L. 109-59. Section 6009 allows increased flexibility with respect to minor transportation impacts to Section 4(f) properties, including historic properties. It simplifies the processing and approval of federally funded transportation projects that have a *de minimis* impact on lands protected by Section 4(f). For historic properties, a finding of *de minimis* impact on a historic site may be made by the FHWA when Section 106 consultation results in the *written* concurrence of the SHPO with the determination of "no adverse effect" or "no historic properties affected".

Public Law 109-59 (SAFETEA-LU) has no new Section 106 implications other than the requirement for written SHPO concurrence with Section 106 findings of effect for individual Section 4(f) properties. It does require FHWA to notify the SHPO of FHWA's intent to utilize the finding of "no historic properties affected" or "no adverse effect" for individual Section 4(f) properties as a basis for making a Section 4(f) *de minimis* use finding.

The December Guidance offers two specific points of relevant direction:

> **Question B. How should the concurrence of the SHPO and/or THPO, and ACHP if participating in the Section 106 determination, be documented when the concurrence will be the basis for a *de minimis* finding?**
>
> **Answer:** Section 4(f) requires that the SHPO and /or THPO, and ACHP if participating, must concur in writing in the Section 106 determination of "no adverse effect" or "no historic properties affected." The request for concurrence in the Section 106 determination should include a statement informing the SHPO or THPO, and ACHP if participating, that the FHWA or FTA intends to make a *de minimis* finding based upon their concurrence in the Section 106 determination.

Under the Section 106 regulation, concurrence by a SHPO and/or THPO may be assumed if they do not respond within a specified timeframe, but Section 4(f) explicitly requires their written concurrence. It is recommended that transportation officials share this guidance with the SHPOs and THPOs in their States so that these officials fully understand the implication of their concurrence in the Section 106 determinations and the reason for requesting written concurrence.

Question C. Certain Section 106 programmatic agreements (PAs) allow the lead agency to assume the concurrence of the SHPO and/or THPO in the determination of "no adverse affect" or "no historic properties affected" if response to a request for concurrence is not received within a period of time specified in the PA. Does such concurrence through non-response, in accordance with a written and signed Section 106 PA, constitute the "written concurrence" needed to make a *de minimis* finding?

Answer: In accordance with the provisions of a written and signed programmatic agreement, if the SHPO and/or THPO does not respond to a request for concurrence in the Section 106 determination within the specified time, the non-response together with the written agreement, will be considered written concurrence in the Section 106 determination that will be the basis of the *de minimis* finding by FHWA or FTA.

FHWA or FTA must inform the SHPOs and THPOs who are parties to such PAs, in writing, that a non-response that would be treated as a concurrence in a "no adverse effect" or "no historic properties affected" determination will also be treated as the written concurrence for purposes of the FHWA or FTA *de minimis* use finding. It is recommended that this understanding of the parties be documented by either appending the written notice to the existing PA, or by amending the PA itself.

According to 2005 Guidance, by transmittal of this letter, the FHWA is notifying your office of FHWA's intent to make the Section 4(f) *de minimis* use finding for properties where a determination of no historic properties affected (no effect), or no adverse effect have been concurred in by your office or when your office has not replied within the appropriate timeframe with written concurrence.

By the following signature, the SHPO acknowledges it has been notified of the intent of the FHWA to make a *de minimis* finding based on Section 106 determinations of effect for specific properties.

Yours truly,

Walter Waidelich
Division Administrator

Concurrence: _____ 7/19/07

~~Wilson Martin,~~ State Historic Preservation Officer Date

Matthew T. Seddon, RPA
Deputy State Historic
Preservation Officer

U.S. Department of Transportation
Federal Highway Administration

Utah Division

2520 West 4700 South, Suite 9-A
Salt Lake City, UT 84118-1847
Phone: 801-955-3500
Fax: 801-955-3539
http://www.fhwa.dot.gov/utdiv/utah.htm

March 14, 2011

In Reply Refer To: HDA-UT

Mr. Richard Jenks, Jr., Chairman
Uintah and Ouray Ute Indian Reservation
P.O. Box 190
Fort Duchesne, UT 84062

Subject: UDOT Project Number F-LC49(110): Lindon Heritage Trail; Lindon 800 West to Utah Lake, Utah County, Utah (PIN 7385)
Project Notification and Invitation to be a Section 106 Consulting Party

Dear Mr. Jenks:

Lindon City, in cooperation with the Utah Department of Transportation (UDOT) and the Federal Highway Administration (FHWA), proposes to construct Phase II of the Lindon Heritage Trail. The proposed trail is a 10-foot wide paved multiuse trail beginning at the existing multiuse trail at 800 West and Lakeview Drive. The proposed trail would cross Geneva Road at the existing stoplight at 200 South and cross under I-15 adjacent to the existing railroad tracks. The trail is proposed to parallel and follow Lindon Hollow Creek from Geneva Road (1000 West) west toward Vineyard Road (2000 West). The trail will then parallel Vineyard Road to the south, connecting with the existing Lakeshore Trail near the Lindon Boat Harbor. The trail will cross over Lindon Hollow Creek in two locations. The overall length of the Phase II trail would be approximately three miles.

In accordance with the regulations published by the Advisory Council on Historic Preservation, 36 CFR Part 800, the FHWA and the UDOT request that you review this information to determine if there are any historic properties of traditional religious and/or cultural importance that may be affected by this undertaking. If your organization is aware of any historic properties that may be impacted by the proposed project, we request your notification as such and your participation as a consulting party during the development of the environmental document.

The project area has been inventoried for cultural and paleontological resources by qualified archaeologists. An area of approximately 22.60 acres surrounding the Lindon Heritage Trail was inventoried and no archaeological sites or artifacts were identified. A copy of the inventory reports will be available to your office upon request.

At your request, FHWA and UDOT staff will be available to meet with you to discuss any concerns you might have. Please be assured that we will maintain strict confidentiality about certain types of information regarding traditional religious and/or cultural historic properties that might be affected by this proposed undertaking. We would also appreciate any suggestions you might have about any other groups or individuals that we should contact regarding this project.

A response within 30 days would be appreciated, should you have concerns or questions about this project and/or wish to be a consulting party. Please feel free to contact me at 801-955-3524 or at edward.woolford@dot.gov, or Richard Crosland at 801-830-9590 or at richardcrosland@utah.gov to answer any questions or provide any additional information.

Thank you for your attention to this project update and any comments you may have.

Sincerely yours,

Edward T. Woolford
Environmental Program Manager

Enclosure(s): Project Location Map

Cc: Ms. Betsy Chapoose, Cultural Rights & Protection Director, Uintah and Ouray Ute Indian Reservation
Mr. Richard Crosland, UDOT Region 3 Environmental Manager

EWOOLFORD:dm

IDENTICAL COPIES OF THIS LETTER SENT TO THE FOLLOWING:

Original to:	CC to:
Mr. Nathan Small, Chair Shoshone-Bannock Tribes of the Fort Hall Reservation P.O. Box 306 Fort Hall, Idaho 83203	Ms. Carolyn Smith, HETO Cultural Resources Coordinator Shoshone-Bannock Tribes of the Fort Hall Reservation P.O. Box 306 Fort Hall, Idaho 83203
Ms. Gwen Davis, Chairwoman Northwestern Band of the Shoshone Nation 707 North Main Street Brigham City, UT 84302	Ms. Patti Timbimboo-Madsen, Cultural Resources Specialist Northwestern Band of the Shoshone Nation 707 North Main Street Brigham City, UT 84302
Mr. Mike LaJeunesse, Chairman Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Road Fort Washakie, WY 82514	Mr. Wilfred Ferris, THPO Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Road Fort Washakie, WY 82514
	Ms. Glenda Trosper, Director Cultural Center Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Road Fort Washakie, WY 82514
Ms. Lori Bear Skiby, Chairwoman Skull Valley Band of Goshute Indians P.O. Box 448 Grantsville, UT 84029	
Mr. Richard Jenks, Jr., Chairman Uintah and Ouray Ute Indian Reservation P.O. Box 190 Fort Duchesne, UT 84062	Ms. Betsy Chapoose, Cultural Rights & Protection Director Uintah and Ouray Ute Indian Reservation P.O. Box 190 Fort Duchesne, UT 84062
Ms. Jeanine Borchardt, Tribal Chairperson Paiute Indian Tribe of Utah 440 North Paiute Drive Cedar City, UT 84720	Ms. Dorena Martineau, Cultural Resources Manager Paiute Indian Tribe of Utah 440 North Paiute Drive Cedar City, UT 84720

PROJECT INFORMATION FORM SENT TO THE FOLLOWING (IN ACCORDANCE WITH TRIBAL SECTION 106 PAs; SENT BY THE UDOT REGION ARCHAEOLOGIST):

Original to:	**CC to:**
Mr. Amos Murphy, Vice-Chairman Confederated Tribes of Goshute P.O. Box 6104/195 Tribal Center Road Ibapah, UT 84034-6104	Mr. Ed Narajano, Tribal Administrator Confederated Tribes of Goshute P.O. Box 6104/195 Tribal Center Road Ibapah, UT 84034-6104
	Ms. Mary Pete, Cultural Resources Coordinator Confederated Tribes of Goshute P.O. Box 6104/195 Tribal Center Road Ibapah, UT 84034-6104
Ms. Lora Tom, Band Chairwoman Cedar Band of the Paiute Indians 4655 North Utah Trail Enoch, UT 84720	Ms. Eleanor Tom Cedar Band of the Paiute Indians 4562 N. Wagonwheel Dr. Cedar City, Utah 84721

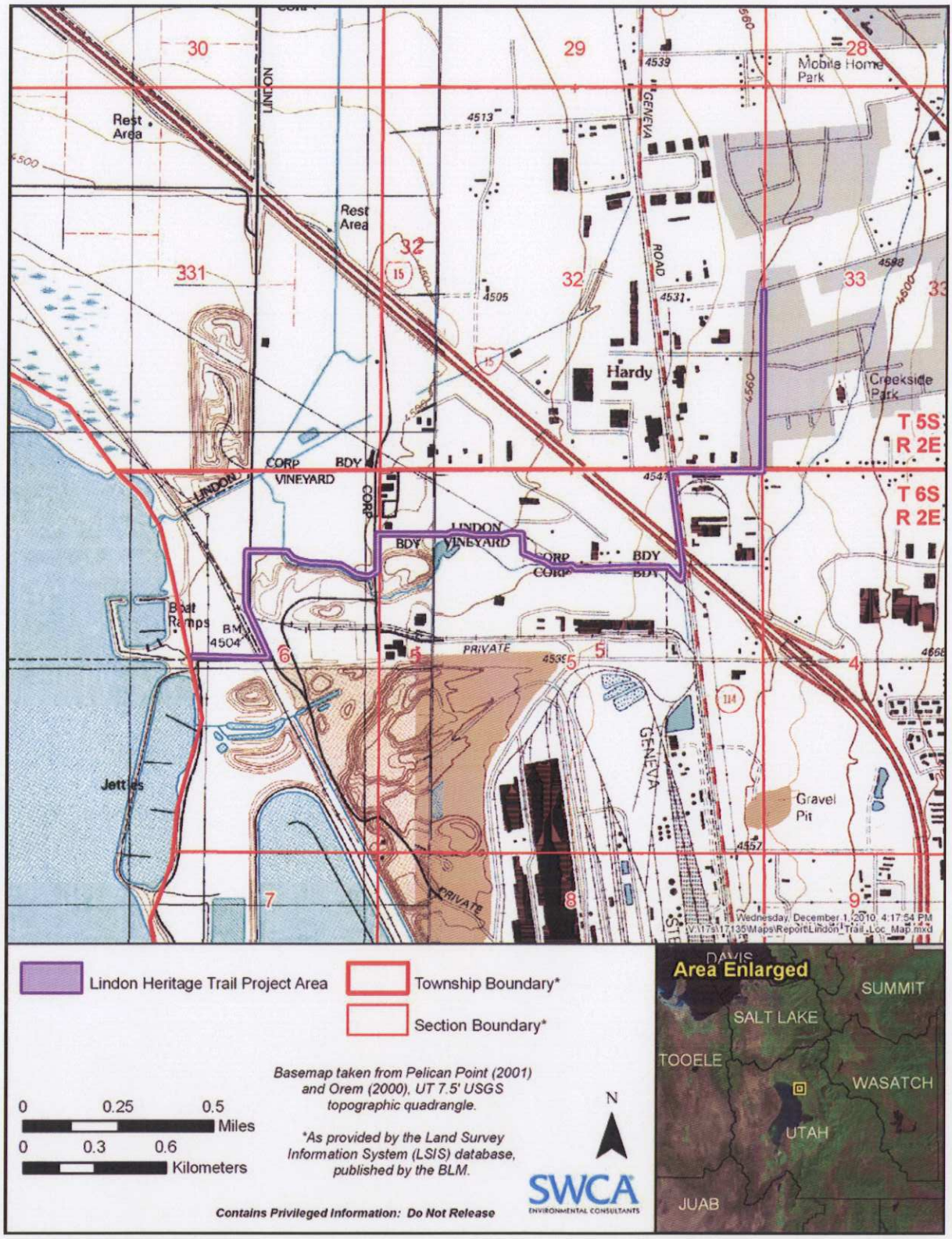


Figure 1. Location of project area for proposed Lindon Heritage Trail, 800 West to Utah Lake.

GARY R. HERBERT
Governor
GREG BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Utah Geological Survey
RICHARD G. ALLIS
State Geologist/Division Director

December 1, 2010

Sara Meess
SWCA Environmental Consultants, Inc.
257 East 200 South, Suite 200
Salt Lake City UT 84111

RE: Paleontological File Search and Recommendations for the Proposed Lindon Heritage Trail, Lindon and Vineyard, Utah County, Utah; UDOT Project No. F-LC49(110) U.C.A. 79-3-508 compliance; literature search for paleontological specimens or sites

Dear Sara:

I have conducted a paleontological file search for the Lindon Heritage Trail Project in response to your letter of December 1, 2010. This project qualifies for treatment under the UDOT/UGS executed Memorandum of Understanding.

There are no paleontological localities recorded in our files for this project area. Quaternary and Recent alluvial deposits that are exposed along this project right-of-way have a low potential for yielding significant fossil localities (PFYC 1-2). However, some of these deposits may consist of Lake Bonneville shoreline sands and gravels that have the potential for the discovery of significant vertebrate fossil localities, so please be aware of possible impacts to paleontological resources if these deposits are disturbed as a result of construction activities. Otherwise, unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

If you have any questions, please call me at (801) 537-3311.

Sincerely,

Martha Hayden

Martha Hayden
Paleontological Assistant

1594 West North Temple, Suite 3110, PO Box 146100, Salt Lake City, UT 84114-6100
telephone (801) 537-3300 • facsimile (801) 537-3400 • TTY (801) 538-7458 • *geology.utah.gov*

APPENDIX C. Wildlife Resources

J-U-B

ENVIRONMENTAL GROUP

J-U-B ENGINEERS, Inc.
ENGINEERS • SURVEYORS • PLANNERS

422 W. Riverside Ave., Suite 304
Spokane, WA 99201
(509) 458-3727
Fax 458-3762
www.jub.com

November 23, 2010

Chuck Easton, Project Manager
J-U-B ENGINEERS, Inc.
466 North 900 West
Kaysville, UT 84037

RE: Biological Evaluation for the Proposed Lindon Heritage Trail Project, City of Lindon, Utah County, Utah.

Mr. Easton:

I have prepared the following Biological Evaluation (BE), as required by Section 7(c) of the Endangered Species Act (ESA), for the Lindon Heritage Trail project located within the city limits of Lindon, Utah. A site review was conducted on October 27, 2010 by Vincent Barthels, Qualified Biologist with J-U-B ENGINEERS, Inc. This letter will serve as the biological analysis of the proposed project in regard to species listed as endangered, threatened, proposed, or candidate, or designated and proposed critical habitat protected under the ESA. Potential state sensitive species will also be analyzed as part of this report.

Proposed Action

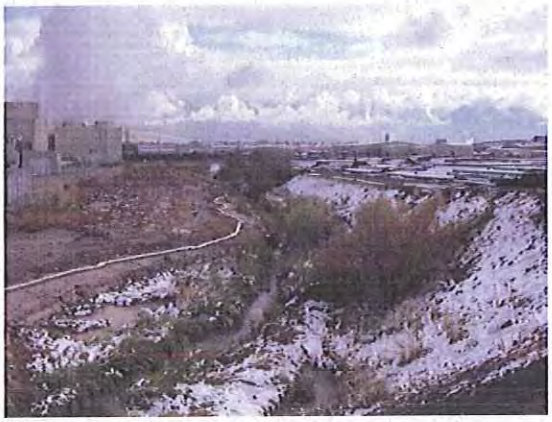
The proposed project would construct a 10-foot wide paved multiuse trail beginning at the existing multiuse trail at 800 West and Lakeview Drive. The proposed trail would cross Geneva Road at the existing stoplight at 200 South and cross under I-15 adjacent to the existing railroad tracks. The trail is proposed to parallel and follow Lindon Hollow Creek from Geneva Road (1000 West) west toward Vineyard Road (2000 West). The trail will then parallel Vineyard Road to the south, connecting with the existing Lakeshore Trail near the Lindon Boat Harbor. The trail will cross over Lindon Hollow Creek in two locations. The defined project action area is illustrated on the aerial project summary exhibit (attached).

General Project Location and Habitat Descriptions

The proposed trail project is located within Sections 5 and 6, Township 6 South, Range 2 East, and Sections 32 and 33, Township 5 South, Range 2 East, Utah County, Utah. Land use within the project vicinity is a mix of residential, commercial, and industrial use. The existing grade throughout the project area is fairly flat (0-3%) and the natural grade of the project action area slopes gently toward the west. The project action area ranges between 4,500 and 4,560 feet above sea level. The habitat in the project action area can be characterized as pre-developed, since most of the project action area does not contain natural, undisturbed habitat. Assortments of scattered ornamental trees exist

within the project vicinity east of Geneva Road, within the residential neighborhoods. Lindon Hollow Creek, which conveys municipal stormwater, runs through and parallels the defined project area west of Geneva Road. The extent of native vegetation along this stream channel is confined within the fill limits of adjoining industrial properties.

The photos below illustrate the project action area from two different vantage locations. The left photo was taken looking east near the mid-point of the project action area (an industrial area west of Geneva Rd.) and the right photo was taken looking east near the western project limit (i.e. 2000 West). In both of these photos, Lindon Hollow Creek channel and the narrow adjacent riparian habitat are illustrated; again, these areas are limited by developed conditions stemming from adjacent properties.



Agency Consultation and Species of Concern

The species list obtained from the U.S. Fish and Wildlife (USFWS) website (dated: February, 2010) indicates eleven species that warrant ESA consideration for this project. The species list summarized in Table 1 was derived from habitat conditions and potential species occurrence within Utah County, Utah.

Table 1- Summary of ESA Listed Species for Utah County, Utah.

Common Name	Scientific Name	ESA Status	Effect Determination
Bonytail	*Gila elegans*	Endangered	No Effect (NE)
Canada lynx	*Lynx canadensis*	Threatened	No Effect (NE)

Clay phacelia	*Phacelia argillacea*	Endangered	No Effect (NE)
Colorado pikeminnow	*Ptychocheilus lucius*	Endangered	No Effect (NE)
Deseret milkvetch	*Astragalus desereticus*	Threatened	No Effect (NE)
Humpback chub	*Gila cypha*	Endangered	No Effect (NE)
June sucker	*Chasmistes liorus*	Endangered	No Effect (NE)
Razorback sucker	*Xyrauchen texanus*	Endangered	No Effect (NE)
Ute ladies-tresses	*Spiranthes diluvialis*	Threatened	No Effect (NE)
Utah valvata snail	*Valvata utahensis*	Endangered	No Effect (NE)
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Candidate	No Effect (NE)

On November 1, 2010, the Utah Division of Wildlife Resources (UDWR) provided a response letter (attached) regarding information on species of special concern within the vicinity of the proposed project area. The UDWR has recent records of occurrence of the June sucker within a one-half mile radius of the project area. The UDWR also has recent records of occurrence of the American white pelican (*Pelecanus erythrorhynchos*) within the vicinity of the project area. Both of these species are included on the Utah Sensitive Species List. All of these previously mentioned species are discussed in the subsequent section of this letter report.

Species and Habitat Descriptions and Effects Determinations

The following subsection briefly discusses the species mentioned above and their habitat descriptions; and, then provides an effect determination for each individual species.

American white pelican

American white pelicans are very large (54-70 inches), primarily white, with black wing tips and outer trailing edge of wings, and have an oversized orange bill (Alsop 2001). The species habitat ranges from the Canadian prairies and the northwest United States, to Nevada, Utah, Wyoming, North Dakota, and in marshes west of the Rocky Mountains; they winter along the Pacific Coast, from California to Mexico (Ransom 1981). Preferred nesting areas include islands associated with freshwater lakes. Foraging areas consist of shallow lakes, marshlands, and large rivers (UDWR 2010). The American White Pelican feeds exclusively on fish. They work communally to catch fish by "herding" them into shallow waters; these large birds scoop prey up with pouches in their bill, which can hold up to 3 gallons of water (Alsop 2001).

In Utah, this species is listed on the Utah Sensitive Species List. The only known breeding colonies are located in the northern portions of the state, primarily in the Utah Lake/Great Salt Lake ecological complex (UDWR 2010). During spring migration, the breeding season, and fall migration periods, they can be found at many reservoirs throughout Utah. The departure (fall migration) from Utah appears to be associated with the opening of waterfowl hunting season, availability of fisheries, and ice up of large bodies of water (UDWR 2010).

Based on information obtained from the UDWR, there are recent documented occurrences of the American White Pelican within the vicinity of the defined project area (see attached UDWR letter). Lindon Hollow Creek flows into Utah Lake, near the western terminus of the project. The proximity of Utah Lake more than likely triggered the species occurrence in the vicinity of the project. The project action area lacks the required nesting and foraging habitat required by this species and the proposed action would not affect habitats occurring within or adjacent to Utah Lake; therefore, a "no effect" determination is warranted for the American white pelican.

Bonytail

The bonytail is a federally listed "endangered" minnow that is originally native to the Colorado River system. The near extinction of the bonytail can be linked back to flow regulation or alteration, habitat loss, and competition and predation by exotic fishes. Bonytail are opportunistic feeders; their prey includes: insects, zooplankton, algae, and higher plant matter. Bonytails spawn in the spring and summer over gravel substrate. Currently, many bonytail are raised in fish hatcheries and released into the wild when they are large enough to survive in their natural environment. Bonytail prefer stream habitat that consists of eddies, pools, and backwaters near swift current in large rivers (UDWR 2010).

Based on information obtained from the UDWR, there are no recent documented occurrences of the bonytail within the vicinity of the defined project area (see attached UDWR letter). Not only is the project action area outside of the Colorado River system, in-stream habitat present within the project area does not fulfill the requirements of the bonytail. A "no effect" determination is warranted for the bonytail.

Canada Lynx

The Canada lynx is normally found in dense forested areas with an abundance of windfalls, swamps and brushy thickets (Maas 1997). Lynx require heavy cover for concealment when stalking prey. In addition, lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted (Maas 1997). In the western U.S., lynx occurrences generally are found only above 4,000 feet in elevation (McKelvey et al. 2000).

Based on information obtained from the UDWR, there are no recent documented occurrences of the Canada lynx within the vicinity of the defined project area (see attached UDWR letter). The highly disturbed urban environment surrounding the defined project area is unsuitable habitat for this species; therefore, a "no effect" determination is warranted for the Canada Lynx.

Clay Phacelia

Clay phacelia is a federally listed "endangered" plant that occurs only in Spanish Fork Canyon, Utah County, Utah. As a member of the waterleaf family, this species is abundantly hairy with simple to branching stems that are 10 to 36 cm (or 4 to 14 inches) tall. This species flowers from June to August, with blue to violet flowers developing from a "scorpion tail-like" inflorescence. Clay phacelia grows on barren, precipitous hillsides in sparse pinyon-juniper and mountain brush communities and is found in fine textured soil and fragmented shale derived from the Green River Formation. The known occurrence of this species ranges from 1,840 to 1,881 meters (or 6,037 to 6,171 feet) above sea level. Construction activities have modified some of this plant's habitat; and, the presence of exotic plant species in its habitat and grazing by ungulates are known threats to this plant (UDWR 2010).

Based on information obtained from the UDWR, there are no recent documented occurrences of clay phacelia within the vicinity of the defined project area (see attached UDWR letter). The defined project area is not within the Spanish Fork Canyon and suitable habitat in the project action area is lacking; therefore, a "no effect" determination is warranted for the clay phacelia.

Colorado Pikeminnow

The Colorado pikeminnow is a federally listed "endangered" minnow that is originally native to the Colorado River system; currently, their range is limited to the upper Colorado River system. The near extinction of the Colorado pikeminnow can be linked to

flow regulation or alterations (e.g. the installation of dams), habitat loss, and competition and predation by non-native fishes.

Colorado pikeminnows are mainly piscivorous, meaning they eat fish; younger pikeminnows also eat insects and other invertebrates. They spawn in the spring and summer over gravel or smaller cobble substrate situated in riffle habitat. Adult Colorado pikeminnows prefer medium to large rivers. Young of the species prefer slow-moving backwaters. Historical accounts of six-foot long Colorado pikeminnows make this species the largest minnow in North America (UDWR 2010).

Based on information obtained from the UDWR, there are no recent documented occurrences of the Colorado pikeminnow within the vicinity of the defined project area (see attached UDWR letter). The project area is not part of the Colorado River system in which this species is found; therefore, a "no effect" determination is warranted.

Deseret Milkvetch

Deseret milkvetch is a federally listed "threatened" plant that occurs at a single site in Utah County, Utah. This perennial herb is a member of the bean family, having gray-silvery leaves (4-5 cm long) and white to pinkish petals with lilac-colored keel-tips. This species flowers from April to early June, growing exclusively on sandy-gravelly soils weathered from conglomerate outcrops of the Moroni Formation. Found exclusively in open pinyon-juniper-sagebrush communities, at elevations ranging from 1,645 to 1,740 meters (or 5,397 to 5,709 feet) above sea level, this species prefers steep south and west facing slopes and thrives on west-facing road cuts. Habitat for this species is state and privately owned, and is mainly a wildlife management area that is also used for grazing (UDWR 2010).

Based on information obtained from the UDWR, there are no recent documented occurrences of deseret milkvetch within the vicinity of the defined project area (see attached UDWR letter). The habitat within the defined project area is unsuitable for this species, based on the highly defined habitat this species is limited to. A "no effect" determination is warranted for the deseret milkvetch.

Humpback Chub

The humpback chub is a federally listed "endangered" minnow that is originally native to the upper Colorado River system. Humpback chub originally thrived in the fast, deep, white-water areas of the Colorado River and its major tributaries. Man-induced flow alterations (i.e. dams), have changed the turbidity, volume, current speed, and temperature of the water in those rivers and has contributed to the significant population declines. Documented occurrences of the humpback chub in Utah are now confined to a few white-water areas in the Colorado, Green, and White Rivers. Humpback chub mainly eat insects and other invertebrates, and occasionally algae and fish. The species spawns during the spring and summer in shallow, backwater areas with cobble substrate. Younger individuals reside in shallower, turbid habitats until they are large enough to move into white-water areas (UDWR 2010).

Based on information obtained from the UDWR, there are no recent documented occurrences of the humpback chub within the vicinity of the defined project area (see attached UDWR letter). The project area is not within the areas that this species inhabits; therefore, a "no effect" determination is warranted for the humpback chub.

June Sucker

June suckers, federally listed as "endangered", are members of the sucker family; however, they are not bottom feeders (NatureServe 2006). Primarily, they feed on zooplankton in the middle of the water column. June suckers inhabit shallow and protected areas of Utah Lake except when spawning (NatureServe 2006; Sigler and Sigler 1987). Spawning occurs in June in shallower riffles over coarse gravel and cobbles within lower portions of the Provo River (NatureServe 2006). Flow alterations, pollution, drought and introduction of nonnative fish have been identified as causes for decline (UDWR 2010).

There are documented recent occurrences for the June sucker within a half mile of the defined project area (see attached UDWR letter). Lindon Hollow Creek conveys municipal stormwater, as well as perennial seep sources, into Utah Lake. While this stream channel provides marginal fish-bearing habitat, this channel lacks viable habitat for the June sucker. The substrate within Lindon Hollow Creek is composed of sand and silt, lacking gravels and cobbles required by the June sucker for spawning habitat. As a part of this project, there would be two crossings over Lindon Hollow Creek. These stream crossings would be aligned perpendicular to the stream channel and no work would be completed below the ordinary high water mark of the channel. While there is potential for June suckers to be present within Lindon Hollow Creek because of the connectivity with Utah Lake, it is improbable that this species would migrate or inhabit this channel. Project activities would not alter, impede in-stream habitat or affect Utah Lake; therefore, a "no effect" determination is warranted for the June sucker.

Razorback Sucker

The Razorback sucker is a federally listed "endangered" sucker fish that is originally native to the Colorado River system. The near extinction of the Razorback sucker can be linked to flow regulation or alterations (e.g. the installation of dams), habitat loss, and competition and predation by non-native fishes. Razorback suckers mainly eat: algae, zooplankton, and other aquatic invertebrates. They spawn between February and June. Adult Razorback suckers prefer slow backwater habitats. The largest current concentration of Razorback suckers can be found in Lake Mohave (an impounded water-body), located along the Arizona - Nevada border (UDWR 2010).

Based on information obtained from the UDWR, there are no recent documented occurrences of the razorback sucker within the vicinity of the defined project area (see attached UDWR letter). Razorback suckers are native to, and found exclusively within the Colorado River system; therefore, a "no effect" determination is warranted for the razorback sucker.

Ute Ladies-tresses

Ute ladies'-tresses is a member of the orchid family. It was first described in 1984 and was federally listed as "threatened" by the USFWS under the ESA in January, 1992 (USFWS, 1995). Populations have been found in Utah, Colorado, Wyoming, Montana, Nevada, Idaho, and Washington. The elevation ranges in which populations have been found vary from 750 to 7,000 feet, with most populations above 4,000 feet. It is found in wetlands and riparian areas, including spring habitats, mesic meadows, river meanders and floodplains. They require open habitats, and populations decline if trees and shrubs invade the habitat. They are not tolerant of permanent standing water, and do not compete well with aggressive species such as reed canary grass (*Phalaris arundinacea*). The survey time for the species, as identified by the U.S. Fish and Wildlife Service (1995), is mid-August through mid-September.

Based on information obtained from the UDWR, there are no recent documented occurrences of the Ute ladies-tresses within the vicinity of the defined project area (see attached UDWR letter). A majority of the project action area is composed of a highly disturbed, urban environment. Natural habitat within the project area is composed of areas of dense grasses, with an overstory of tree/shrub canopy cover. Fill materials that are not conducive to vegetative growth, primarily slag from prior development, surround the native vegetation along the stream channel. Open riparian habitats conducive for this species are lacking in the project action area. Required habitat of the Ute ladies tresses is not present within the project area; therefore, a "no effect" determination is warranted.

Utah Valvata Snail

The Utah valvata snail is 4.5 mm in height and the shell is turbinate (about equally tall and wide) with up to 4 whorls (USFWS 1995). Utah valvata inhabits areas between sand and silt/mud grains, in shallow shoreline water and in pools adjacent to rapids or in perennial flowing waters associated with large spring complexes (USFWS 1995). The species avoids areas with heavy currents or rapids. Utah valvata occurred historically in Utah Lake and in the Snake River of southern Idaho (Taylor 1987). At present, this species occurs in a few springs and mainstem Snake River sites in the Hagerman Valley (USFWS 1995).

Based on information obtained from the UDWR, there are no recent documented occurrences of the Utah valvata snail within the vicinity of the defined project area (see attached UDWR letter). Although open water and riparian habitat exists at this site, it is unlikely that the Utah Valvata snail inhabits Lindon Hollow creek within the project action area, because of a lack of recent documented occurrences. As a part of this project, there would be two crossings over Lindon Hollow creek. No work would be done below the ordinary high water mark; therefore, in-stream habitat would not be altered. A "no effect" determination is warranted for the Utah Valvata snail.

Western Yellow-billed Cuckoo

The yellow-billed cuckoo is a federally listed "candidate" species. As the name suggests, has a yellow lower mandible (Alsop 2001). It has rufous wings that contrast against the gray-brown wing coverts and upperparts (Alsop 2001). The underparts are white and they have large white spots on a long black undertail (Alsop 2001). It is a neotropical migrant, which winters in South America. Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects (Ehrlich et al. 1992). Its incubation/nestling period is the shortest of any known bird because it is one of the last neotropical migrants to arrive in North America and chicks have very little rearing time before embarking on their transcontinental migration. Yellow-billed cuckoos arrive in Utah in extremely late May or early June and breed in late June through July. Cuckoos typically start their southerly migration by late August or early September (Parrish et al. 1999). Yellow-billed cuckoos are considered a riparian obligate and are usually found in large tracts of cottonwood/willow habitats with dense sub-canopies (below 33 ft).

Based on information obtained from the UDWR, there are no recent documented occurrences of yellow-billed cuckoo within the vicinity of the defined project area (see attached UDWR letter). Although there is an established overstory of cottonwoods present within the project area along Lindon Hollow Creek, human disturbances associated with the surrounding existing land use make the area undesirable for the yellow-billed cuckoo; therefore, a "no effect" determination.

Conclusion

The findings in this letter suggest that there is no critical or sensitive wildlife habitat located within the project action area, specific to the species discussed. The project action area consists of a mix of residential, commercial, and industrial areas. Lindon Hollow Creek passes through the project action area west of Geneva Road. As a part of this project, two crossings would be developed over Lindon Hollow Creek; however, in an effort to minimize disruption to the creek channel, no work would take place below the ordinary high water mark. There should be no direct or indirect impacts to the twelve species or their habitats discussed in this letter report as a result of the proposed Lindon Heritage Trail project.

Please contact me with any further questions or concerns. I can be reached at (509) 458-3727 or via email at vbarthels@jub.com

Submitted by:

11-23-10

Vincent Barthels, Biologist
J-U-B ENGINEERS, Inc.

Attachments:

1. Aerial Project Exhibit
2. ESA Species Listing for Utah County, Utah (dated: February 2010)
3. Letter from the UDWR dated (11/1/10)

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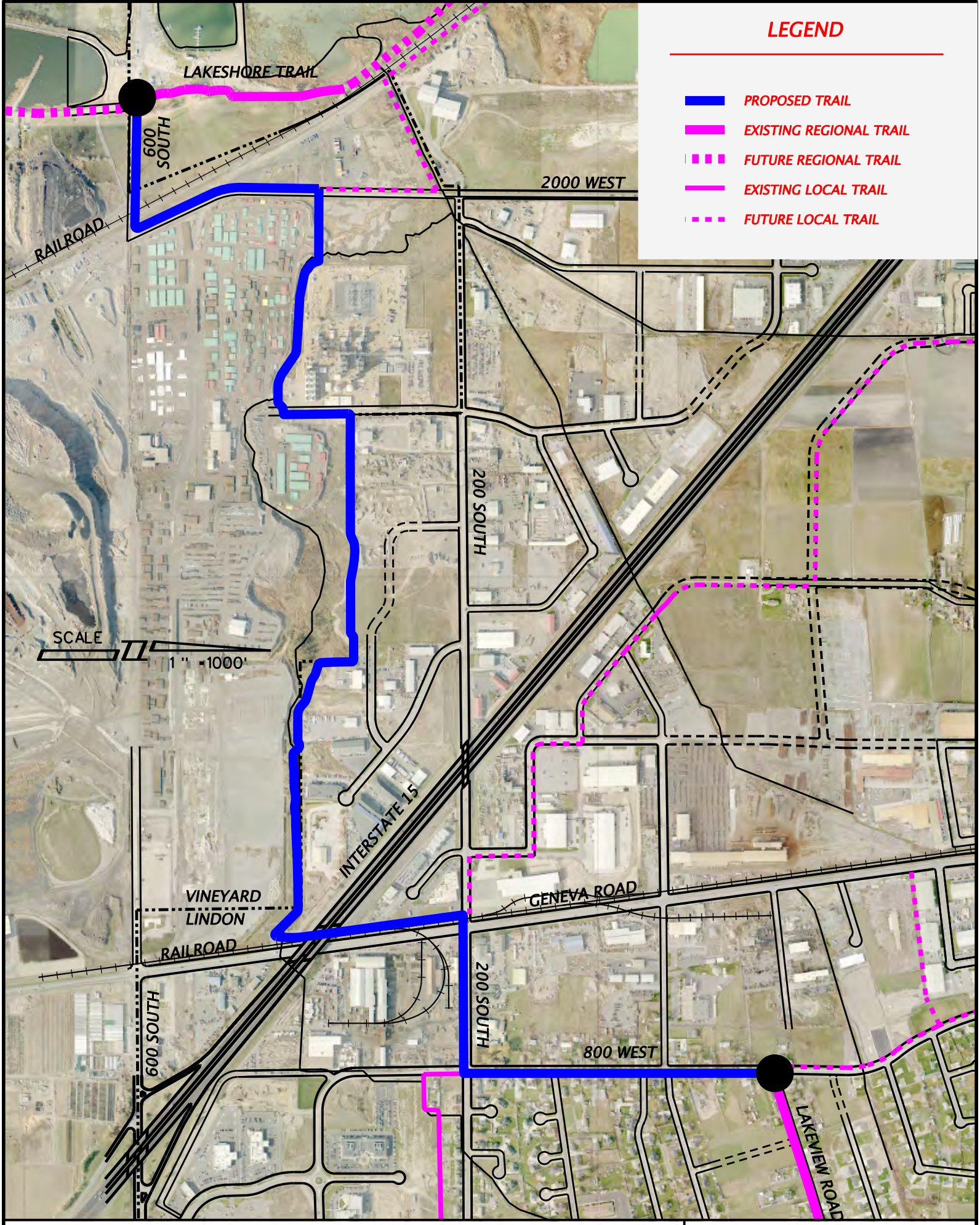


LINDON HERITAGE TRAIL
WEST PHASE

EXHIBIT 1

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E),
THREATENED (T) AND CANDIDATE[8] (C) SPECIES
AND HABITAT IN UTAH BY COUNTY
As of February 2010

COUNTY Species	Scientific Name	Status
UINTAH		
Black-footed ferret[5,6]	*Mustela nigripes*	E
Bonytail[3,9]	*Gila elegans*	E
Canada lynx	*Lynx canadensis*	T
Clay reed-mustard	*Schoenocrambe argillacea*	T
Colorado pikeminnow[3,9]	*Ptychocheilus lucius*	E
Humpback chub[3,9]	*Gila cypha*	E
Mexican spotted owl	*Strix occidentalis lucida*	T
Pariette Cactus	*Sclerocactus brevispinus*	T
Razorback sucker[3,9]	*Xyrauchen texanus*	E
Shrubby reed-mustard	*Schoenocrambe suffrutescens*	E
Uinta Basin hookless cactus	*Sclerocactus wetlandicus*	T
Ute ladies'-tresses	*Spiranthes diluvialis*	T
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	C
White river penstemon	*Penstemon scariosus var. albifuvis*	C
UTAH		
Bonytail[11,9]	*Gila elegans*	E
Canada lynx	*Lynx canadensis*	T
Clay phacelia	*Phacelia argillacea*	E
Colorado pikeminnow[11,9]	*Ptychocheilus lucius*	E
Deseret milkvetch	*Astragalus desereticus*	T
Humpback chub[11,9]	*Gila cypha*	E
June sucker[3]	*Chasmistes liorus*	E
Razorback sucker[11,9]	*Xyrauchen texanus*	E
Ute ladies'-tresses	*Spiranthes diluvialis*	T
Utah valvata snail[5]	*Valvata utahensis*	E
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	C
WASATCH		
Bonytail[11,9]	*Gila elegans*	E
Canada lynx	*Lynx canadensis*	T
Colorado pikeminnow[11,9]	*Ptychocheilus lucius*	E
Humpback chub[11,9]	*Gila cypha*	E
Razorback sucker[11,9]	*Xyrauchen texanus*	E
Ute ladies'-tresses	*Spiranthes diluvialis*	T
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	C

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources
JAMES F. KARPOWITZ
Division Director

November 1, 2010

Vincent Barthels
J-U-B Engineers, Inc.
422 W. Riverside Avenue, Suite 304
Spokane, WA 99201

Subject: Species of Concern Near the Proposed Lindon Heritage Trail Project, Utah County

Dear Vincent Barthels:

I am writing in response to your letter dated October 22, 2010 regarding information on species of special concern proximal to the proposed Lindon Heritage Trail Project to be located in Sections 5-6 of Township 6 South, Range 2 East, and Sections 32-33 of Township 5 South, Range 2 East, SLB&M, in Utah County, Utah.

Within a ½-mile radius of the project area noted above, the Utah Division of Wildlife Resources (UDWR) has recent records of occurrence for June sucker. In addition, in the vicinity there are recent records of occurrence for American white pelican. 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

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Mark Farmer, CRO

1594 W. North Temple, Suite 2110, PO Box 146301, Salt Lake City, UT 84114-6301
telephone (801) 538-4700 • facsimile (801) 538-4709 • TTY (801) 538-7458 • *www.wildlife.utah.gov*

From: Paul West <paulwest@utah.gov>
Sent: Thursday, February 17, 2011 10:57 AM
To: Chuck Easton
Subject: Re: Review for PIN 7385

Hi Chuck,

Inasmuch as this is a local government project, and you've hired someone to make a determination of no-effect, you do not need my input. If you are happy with the biological assessment, then you are free to go with it.

Paul W. West
Wildlife/Wetlands Biologist
Utah Department of Transportation
Environmental Services, Box 148450
4501 S. 2700 West
Salt Lake City, UT 84114-8450
(801) 633-8747
Fax (801) 965-4403
paulwest@utah.gov

>>> "Chuck Easton" <ceaston@jub.com> 2/16/2011 1:21 PM >>>
Hi Paul,

Attached is a Biological Assessment I had done on the Lindon Heritage Trail project (PIN 7385). I keep meaning to send this to you seeking your concurrence with it's no effect determination. We've also communicated with Sarah Lindsey at DWR. Would you mind looking at this and letting me know what you think? A concurrence memo, or the no effect memo would suffice for the CatEx, I think. Of course, that's up to you.

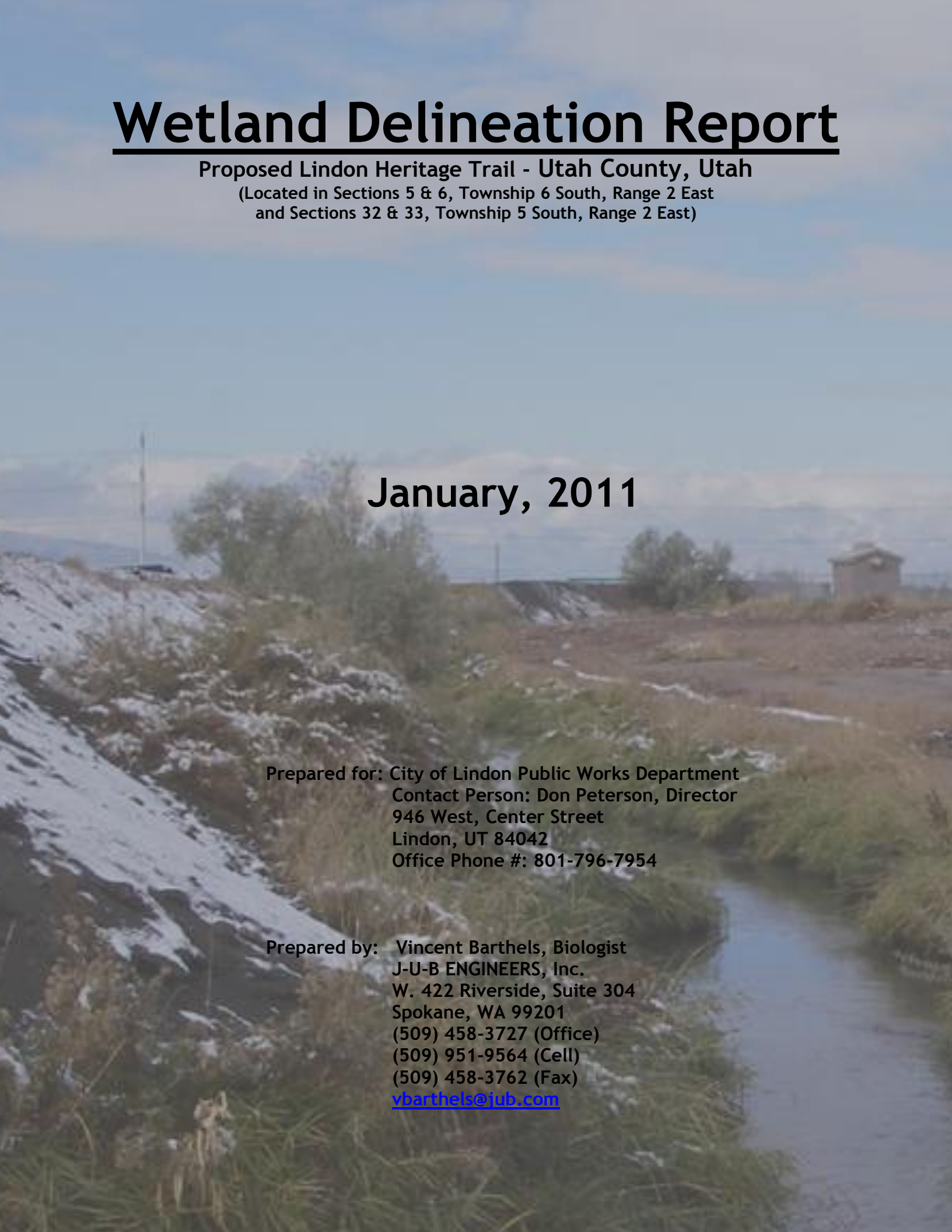
Thanks,

Chuck

APPENDIX D. Wetland and Water Resources

Wetland Delineation Report

Proposed Lindon Heritage Trail - Utah County, Utah
(Located in Sections 5 & 6, Township 6 South, Range 2 East and Sections 32 & 33, Township 5 South, Range 2 East)



January, 2011

Prepared for: City of Lindon Public Works Department
Contact Person: Don Peterson, Director
946 West, Center Street
Lindon, UT 84042
Office Phone #: 801-796-7954

Prepared by: Vincent Barthels, Biologist
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W. 422 Riverside, Suite 304
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(509) 458-3727 (Office)
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vbarthels@jub.com

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Appendix

Introduction

This wetland delineation was authorized by the City of Lindon in order to properly define the wetland boundaries within the proposed project study area (see wetland delineation maps in the appendix). The wetland delineation was prepared pursuant to the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual Technical Report Y-87-1 (1987 Manual) and the Arid West Regional Supplement (2008). The defined study area is linked to the proposed Lindon Heritage Trail project, located within Sections 32 and 33, Township 5 South, Range 2 East, and Sections 5 and 6, Township 6 South, Range 2 East (Salt Lake Base & Meridian), Utah County, Utah.

This investigation was performed to determine the presence or absence of wetland boundaries within the defined study area. The field investigations were conducted on October 27th, 2010. It should be noted that the field conditions were observed near the end of the growing season. The primary investigator was Vincent Barthels, Biologist for J-U-B ENGINEERS, Inc.

This report consists of a composite of past wetland delineation reports completed by others, which have identified and delineated wetland features situated within the proposed project study area. The findings, which have been verified by the USACE, associated with these past reports are incorporated into this "composite" report. Based on the recent USACE correspondence, it is understood that the wetland and creek features identified in this report are jurisdictional features and regulated under Section 404 of the Clean Water Act. The primary goal of this report is to identify and quantify jurisdictional features within the proposed project study area (see project summary exhibit in the appendix).

Project Purpose and Need:

The purpose of the proposed project is to provide a non-motorized multiuse trail through the west side of Lindon City. This project is needed to provide trail connectivity and to meet the goals of the Mountainland Association of Governments Long Range Plan.

This trail project is being developed to construct a multiuse trail to tie into an existing multiuse trail at 800 West and Lakeview Drive. The trail will parallel the east side of 800 West from Lakeview Drive to 200 South. The trail will parallel the south side of 200 South to Geneva Road. The trail will then cross Geneva Road at the existing stoplight at 200 South. Paralleling Geneva Road adjacent to existing railroad tracks, the trail will then continue south under the I-15 overpass. West of Geneva Road, the trail will follow an existing drainage channel (Lindon Hollow Creek) to Pioneer Lane. The trail continues west to 2000 West and then parallels 2000 West to 600 South. Paralleling 600 South to the west, the trail will tie in to the existing Lakeshore Trail, which is situated around Utah Lake.

General Project Description:

The proposed trail project extends from the existing trail at 800 West and Lakeview Drive to Pioneer Road. The project will consist of a 10-foot wide paved trail with curb and gutter where the trail is adjacent to the roadway (see proposed trail cross-sectional view in the appendix, sheets 6 & 7). The trail will cross Geneva Road at the existing stoplight at 200 South, and cross under I-15 adjacent to the existing railroad tracks. West of Geneva Road, the trail will follow an existing drainage channel (Lindon Hollow Creek) to Pioneer Road. The future build-out of this trail alignment yields two perpendicularly oriented crossings over Lindon Hollow Creek (see proposed creek crossing exhibit in the appendix). Noteworthy, at this time and based on funding constraints, the proposed trail alignment will be designed and constructed only between the established stationing of 172+00 and 66+00. Therefore, the current phase of this project will only involve implementing one stream crossing (i.e. at

station 103+50). The trail alignment west of 66+00 will be constructed as funding becomes available.

Directions to the Project Action Area:
From Provo, Utah travel north on I-15 for approximately 6.5 miles and then take exit 273, "1600 North" Head north on Lindon Parkway to 800 West and then turn left on 800 West. Travel on 800 West to Lakeview Rd. The intersection of Lakeview Road and 800 West is the northeast project limits for the proposed trail project (see the vicinity map located within wetland delineation map (sheet 1) in the appendix).

Methods

The wetland delineation was conducted using methodology described in the USACE Wetland Delineation Manual (1987 Manual) and the Arid West Regional Supplement (2008). Specific investigations were performed at four soil test pits (STPs), positioned along two established transects within the defined study area. STPs were established in order to identify the presence/absence of hydrophytic plant communities, wetland hydrology and hydric soils. The STPs were marked with wooden lath and pink flagging. Professional land surveying was performed by JUB Engineers, Inc. to capture the established STP markers and wetland boundaries set in the field using a Trimble R8 GNSS RTK (Real Time Kinematics) Global Positioning System (GPS) unit. This system has an accuracy of about +/- 10mm (0.03 feet) + 1ppm RMS Horizontal, and +/- 20mm (0.06 feet) + 1ppm vertical. The GPS points were downloaded into ACAD Civil 3D 2010 to convert established GPS waypoints into the developed Wetland Delineation Maps, which aided in the determination of wetland impacts within the study area. Photos were taken to properly document pertinent locations (see photo inventory in the appendix).

Sources of information used for this investigation included:

1) Lindon Hollow Creek Stormwater Project Wetland Delineation Technical Report, 2009 (Completed by Frontier Corporation USA, USACE Permit #SPK-2009-00702-UO);
2) Lakeside Power Plant Wetland Delineation Report, 2008 (Completed by Frontier Corporation USA, USACE Permit #SPK-2008-00133);
3) Lindon Hollow Jurisdictional Wetlands Delineation, 2001;
4) Utah County Soil Survey (USDA 1975) and Web Soil Survey (USDA/NRCS 2010) (see appendix – soil survey map);
5) Provo, Utah USGS 7.5 minute Quad Map;
6) National List of Plant Species that Occur in Wetlands (Resource Management Group, Inc. 1994);
7) Plant identification references (see references);
8) Orem and Pelican Point, Utah - National Wetland Inventory (NWI) Maps (see appendix);
9) Munsell soil chart (2000 Edition); and,
10) Hydric Soils Information (USDA/NRCS 2010).

Discussion

Wetlands within the proposed project study area have been previously delineated in association with Lindon Hollow (2001), the Lakeside Power Plant (2008), and the Lindon Hollow Creek Stormwater projects (2009). The extrapolated wetland boundary lines are illustrated on the "composite" wetland delineation maps (see appendix).

The Lakeside Power Plant is contained within an area west of Pioneer Road, south of 2000 North, east of Proctor Road, and north of Lindon Hollow Creek. The delineation associated with the Lakeside Power Plant identified five wetland cells. Of these, Wetland 1 and Wetland 4 are located within the study area linked to the Lindon Heritage Trail project. Wetland 1,

encompassing Lindon Hollow Creek channel, consists of 1.60 acres. Wetland 4 consists of 0.45 acres.

The Lindon Hollow Creek stormwater project wetland delineation examined the wetlands adjacent to, and associated with, the Lindon Hollow Creek floodplain. The project area consisted of lands generally east of Pioneer Road and north of Lindon Hollow Creek. The Lindon Hollow stormwater project delineation identified 12.89 acres and 1,560 linear feet of stream channel. Two wetland areas were identified: Wetland A=12.28 acres and 460 linear feet of stream channel, and Wetland B=0.61 acres and 1,100 linear feet of stream channel.

Plant communities

Plant communities within the study area primarily consisted of assorted herbaceous vegetation, such as grasses and annual weeds, and a few scattered shrubs or trees. Table 1 lists the dominant plant species that were encountered within the study area and reports the individual species' wetland indicator status.

Table 1 – Common vegetation encountered within the study area.

Common Name	Scientific Name	Wetland Indicator Status
Alkali sacaton	*Sporobolus airoides*	FAC
Baltic rush	*Juncus balticus*	FACW
Big sagebrush	*Artemisia tridentata*	FACU
Black greasewood	*Sarcobatus vermiculatus*	FACU
Bulbous bluegrass	*Poa bulbosa*	FACU
Bull thistle	*Cirsium vulgare*	FAC
Cattail	*Typha latifolia*	OBL
Cheat grass	*Bromus tectorum*	UPL
Clasping pepperweed	*Lepidium perfoliatum*	FACU
Climbing nightshade	*Solanum dulcamara*	OBL
Common reed	*Phragmites australis*	FACW
Curly dock	*Rumex crispus*	FACW
Currant	*Ribes spp.*	FAC
Field bindweed	*Convolvulus arvensis*	NI- Suspected FACU
Field sowthistle	*Sonchus arvensis*	FACU
Flixweed	*Descurainia sophia*	FACU
Foxtail barley	*Hordeum jubatum*	FAC
Hard stem bulrush	*Scirpus acutus*	OBL
Intermediate wheatgrass	*Thinopyrum intermedium*	NI- Suspected FACU
Kochia	*Kochia scoparia*	FACU
Narrow-leaf cottonwood	*Populus angustifolia*	FAC
Prickly lettuce	*Lactuca serriola*	FACU
Rabbit-foot	*Polypogon monspeliensis*	FACW
Redstem stork's bill	*Erodium cicutarium*	UPL
Reed canary grass	*Phalaris arundinacea*	OBL
Rubber rabbit brush	*Chrysothamnus nauseosus*	UPL
Russian olive	*Elaeagnus angustifolia*	FAC
Russian thistle	*Salsola pestifer*	FACU
Salt cedar	*Tamarix ramosissima*	FACW
Salt grass	*Distichlis spicata*	FAC
Showy milkweed	*Asclepias speciosa*	FACW
Three-square bulrush	*Scirpus pungens*	OBL
True water-cress	*Nasturtium officinale*	OBL
Western seepweed	*Suaeda occidentalis*	FACW
White goosefoot	*Chenopodium album*	FACU
White top	*Cardaria draba*	UPL
Wood's rose	*Rosa woodsii*	FACU

Topography
The topography of the study area is fairly flat (0-5% slopes), but generally sloped toward the west. Land use throughout the project area consists of a mix of residential, commercial and industrial uses. The elevation of the project action area falls within the range of 4,500 to 4560 feet above sea level.

Climate
The study area has an average annual temperature of 49-50 degrees Fahrenheit. The average annual rainfall is 13.50 inches; whereas, the average annual snowfall is 34.2 inches. The growing season typically falls between April 25th and October 11th, 170 days (USDA 1975).

Hydrology
The majority of the wetland hydrology within the study area is derived from municipal stormwater and seeps that flow through Lindon Hollow creek. Lindon Hollow Creek flows into Utah Lake, near the western terminus of the trail project.

Based on the connectivity to Utah Lake, Lindon Hollow Creek and that adjacent fringe wetland areas located in the defined study area are likely to be deemed jurisdictional. The jurisdictional authority stems to the USACE under Section 404.

Soils
The soils identified for the study area include: Beaches (BC); Bramwell silty clay loam (Br); Bramwell silty clay loam, drained (Bs); Jordan silt loam (Jo); Layton fine sandy loam, slowly permeable substratum, 0 to 1 percent slopes (LmA); Payson silty clay loam (Pd); Pits and dumps (PK); Preston fine sand, 1 to 10 percent slopes (PuD); Taylorsville silty clay loam, 1 to 3 percent slopes (TaB); Taylorsville silty clay loam, extended season, 3 to 6 percent slopes, eroded (TcC2), and Urban land (UL) (USDA 1975). Of these soil types, Br and Bs are the only mapped soil types listed as a partially hydric soil; the vast majority of the soils in the study area are considered to be non hydric or unknown hydric. General characteristics of the soils mapped within the defined study areas are described in the following table (Table 2).

Table 2 – Characteristics of mapped soil types within the project study area.

Soil Type	Drainage Class	Soil Coloration and Texture	Permeability	Run-off Potential
Beaches **(BC)**	N/A	Miscellaneous land type along shores of Utah Lake. Composed mainly of sandy and silty sediments. In places contains fine gravel and freshwater snails	N/A	N/A
Bramwell silty clay loam **(Br)**	Somewhat poorly drained	The surface layer is dark grayish-brown to brown silty clay loam, loam, or silt loam 3 to 12 inches thick. The subsoil is grayish-brown or dark grayish-brown silty clay loam or clay loam.	Slow	Slow
Bramwell silty clay loam, drained **(Bs)**	Somewhat poorly drained	The surface layer is dark grayish-brown to brown silty clay loam, loam, or silt loam 3 to 12 inches thick. The subsoil is grayish-brown or dark grayish-brown silty clay loam or clay loam.	Slow	Slow

Jordan silt loam **(Jo)**	Somewhat poorly drained	The surface layer is dark grayish-brown silt loam about 7 inches thick. The subsoil is brown, very strongly saline, very firm clay to silty clay loam about 16 inches thick. The substratum consists of brown, laminated, clayey sediments that are mottled to a depth of 40 inches.	Very slow	Very slow
Layton fine sandy loam, slowly permeable substratum, 0 to 1 percent slopes **(LmA)**	Moderately well drained	The surface layer is dark-brown or very dark grayish-brown fine sandy loam about 7 inches thick. Below this is brown or dark-brown loamy fine sand extending to a depth of about 39 inches. Below this is fine brown sand.	Slow	Slow
Payson silty clay loam **(Pd)**	Moderately well drained	The surface layer is very dark grayish-brown to dark-brown silt loam and silty clay loam about 9 inches thick. The subsoil is brown silty clay and clay about 20 inches thick. The substratum is brown to pale brown clay.	Slow	Slow
Pits and dumps **(PK)**	N/A	Miscellaneous land type consisting of areas of open pits and areas where material has been dumped in uneven piles along canals, railroad tracks, roads, and gravel pits.	N/A	N/A
Preston fine sand, 1 to 10 percent slopes **(PuD)**	Excessively drained	The surface layer is very dark grayish-brown fine sand about 17 inches thick. Below this brown, loose, fine sand extends to a depth of 60 inches.	Rapid	Very slow
Taylorsville silty clay loam, 1 to 3 percent slopes **(TaB)**	Well drained	The surface layer is dark grayish-brown silty clay loam to a depth of 13 inches. Below this is dark grayish-brown or grayish-brown silty clay loam. A distinct layer of lime is at a depth of 36 inches.	Slow	Slow
Taylorsville silty clay loam, extended season, 3 to 6 percent slopes, eroded **(TcC2)**	Well drained	The surface layer is dark grayish-brown silty clay loam to a about 7 inches thick. Below this is dark grayish-brown or grayish-brown silty clay loam. A distinct layer of lime is at a depth of 36 inches.	Slow	Medium
Urban land **(UL)**	N/A	Miscellaneous land type; no typical soil description available.	N/A	N/A

Wetland/Stream Classifications

The National Wetlands Inventory (NWI) Map classifies several pockets and channelized features as either **PEMC** (palustrine, emergent, seasonally flooded), **PEMF** (palustrine, emergent, semi permanently flooded), **PABF** (palustrine, aquatic bed, semi permanently flooded), or **PFOA** (palustrine, forested, temporarily flooded) systems throughout the study area (see NWI map in the appendix).

Findings

Field data forms reflect the conditions as assessed in the field and can be found in the appendix of this report. The following subsections summarize the findings at the individual STPs, how the wetland boundary was determined, and discusses the classification and functionality of the wetlands identified.

Field Investigations:

(STP # 1):

This data point is located immediately upstream of a planned crossing over Lindon Hollow Creek (see photo # 1, in the appendix). All three of the wetland parameters were fulfilled at STP # 1. Hydrophytic vegetation structure consisted of narrow-leaf cottonwood, Russian olive, reed canary grass, and common reed. The wetland hydrology was evidenced by the presence of saturation in the upper 12 inches of the STP, stemming from lateral seepage associated with Lindon Hollow Creek. Hydric soil conditions were indicated by redox concentrations throughout the matrix. This STP received a wetland designation.

(STP # 2):

This upland data point is paired with STP #1, along the established transect. None of the three wetland parameters were fulfilled at STP #2. Vegetative assemblages were characterized as a facultative upland (FACU) community. Wetland hydrology and hydric soils were lacking. The STP was completely dry to a depth of 32 inches.

(STP # 3):

This wetland data point is paired with STP #4, along an established transect located nearest trail alignment stationing 90+50. All three of the wetland parameters were fulfilled at STP #3. Hydrophytic vegetation structure is dominated by cattails, bulrush, salt grass, baltic rush, reed canary grass and common reed. The wetland hydrology was evidenced by the presence of surface water at STP. Hydric soils were indicated by redox concentrations.

(STP # 4):

This upland data point is paired with wetland data point (i.e. STP #3), along the established transect. None of the three wetland parameters were fulfilled at STP #4. Vegetative assemblages were characterized as a FACU community. Wetland hydrology and hydric soils were lacking. The STP was completely dry to a depth of 20 inches.

How the wetland and/or creek boundaries were chosen:

The wetland boundary was determined primarily by the distinct vegetation and topography shifts. Vegetation shifts were linked between the aforementioned hydrophytic species and upland and/or transitional species, such as intermediate wheatgrass, kochia, marsh elder, gumweed, and flix-weed. Hydric soil indicators and wetland hydrology further substantiated the delineated boundaries.

The Ordinary High Water Mark (OHWM) of Lindon Hollow Creek was delineated and surveyed based on the field indicators, in accordance with 33 CFR 328.3. By definition, the term OHWM refers to the line on the shore established by the fluctuations of water and indicated by

physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Wetland identification, classification and functionality:
The wetland features located within the defined study area and identified on the wetland delineation maps are classified as emergent/forested, riverine wetlands linked to waters originating from Lindon Hollow Creek (see wetland delineation maps (sheets 2 through 5) in the appendix, for the precise location of these features within the defined study area).

Based on Cowardin's (1979) wetland classification system, this complex of wetland features are field verified to be PEMC, PEMF, PABF, and PFOA which is consistent with the NWI Map designation.

The wetlands identified in this report share several important functions and values that include: the ability to protect and improve water quality; flood storage; ground water recharge; and, provide seasonal wildlife habitat. These wetlands generally act as very gently sloped catch basins by intercepting flood irrigated (gravity fed) waters from adjacent higher elevations. These wetlands filter the water by degrading or breaking down pollutants.

Summary of impacts to the Critical Areas identified within the study area
The construction of the proposed project would cause some unavoidable minor impacts to riverine wetlands associated with the Lindon Hollow Creek channel. Minimization measures (e.g. limiting fill and cut slopes) have been incorporated into the anticipated trail designs. Table 3 summarizes the anticipated wetland and stream impacts.

Table 3: Summary of project related aquatic resource impacts linked to the established trail stationing.

Nearest Proposed Trail Stations	Feature Impacted (wetland and open stream channel)	Permanent or Temporary Impact	Quantity (area [square foot] of wetland or linear feet of stream channel) of anticipated critical area to be impacted
103+40	Riverine Wetland and Lindon Hollow Creek Channel (NWI Map classification = PFOA)	Permanent	Approximately 2,000 square feet of wetland area or 60 linear feet of stream channel.
53+65	Riverine Wetland and Lindon Hollow Creek Channel (NWI Map classification = PEMF)	Permanent	Approximately 1,000 square feet of wetland area or 60 linear feet of stream channel. Note: this crossing is still yet to be designed.

Cumulatively, this trail project should yield approximately 3,000 square feet of wetland impacts or approximately 120 linear feet of impacts to stream channel segments (i.e. Lindon Hollow Creek) related to the two proposed trail-stream crossings.

Proposed project implications to the identified critical areas

Consistent with the quantities depicted in Table 3, the proposed trail project is anticipated to permanently impact 0.07 acres of riverine wetland area or 120 linear feet of stream channel, linked to the two proposed crossings. The wetland areas anticipated to be impacted should be mitigated through a methodology accepted by the USACE. Best Management Practices associated with the design of this project should yield installing hydraulically sized water conveyance structures, capable of passing a 10-year flow event or 208 CFS (JUB 2009).

Conclusion

Within and immediately adjacent to the anticipated Lindon Heritage Trail Project, stream channel and riverine wetlands have been identified. The enclosed wetland delineation maps (see appendix) illustrate the delineated features located within the defined proposed project study area. Based on the nature and scope of this project, consultation with the USACE is warranted. It is recommended that this wetland delineation report should be sent to the USACE for a concurrence request and a preliminary jurisdictional determination in regard to the wetlands identified in this report. It should be noted, however, that final authority rests with the appropriate regulatory agencies.

Respectfully submitted by:

1-25-11

Vincent J. Barthels, Biologist
J-U-B ENGINEERS, Inc.

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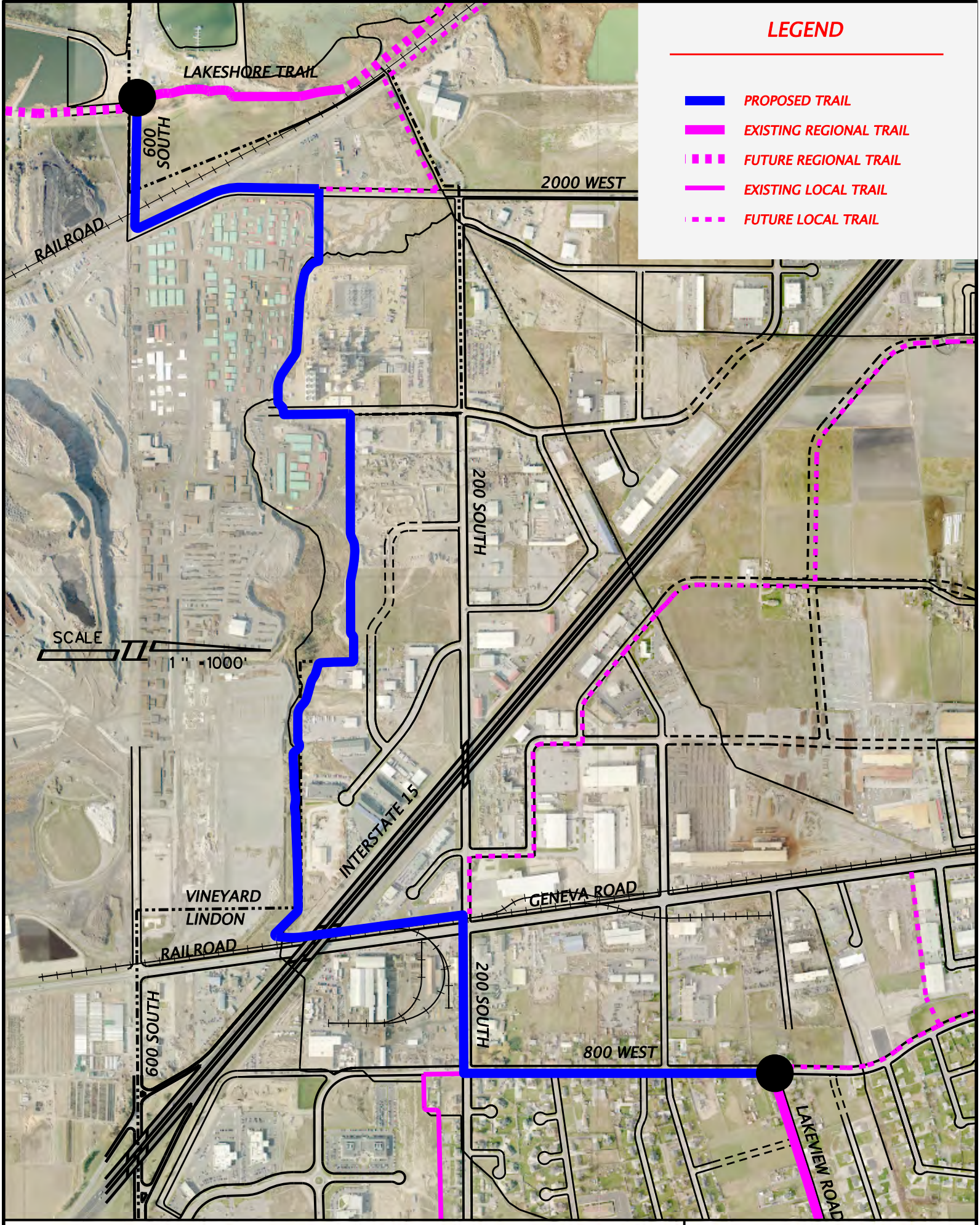
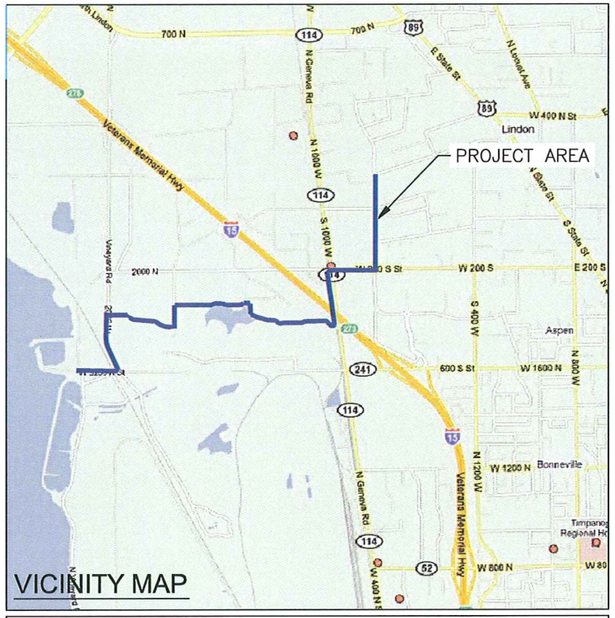
APPENDIX



LINDON HERITAGE TRAIL
WEST PHASE

EXHIBIT 1



LEGEND

PROPOSED LINDON HERITAGE TRAIL ALIGNMENT

PROJECT STUDY AREA BOUNDARY (54 AC)

NOT TO SCALE

INTERSTATE 15

N GENEVA RD

SHEET 2

SHEET 3

SHEET 4

SHEET 5

W 200 S

W 1600 N

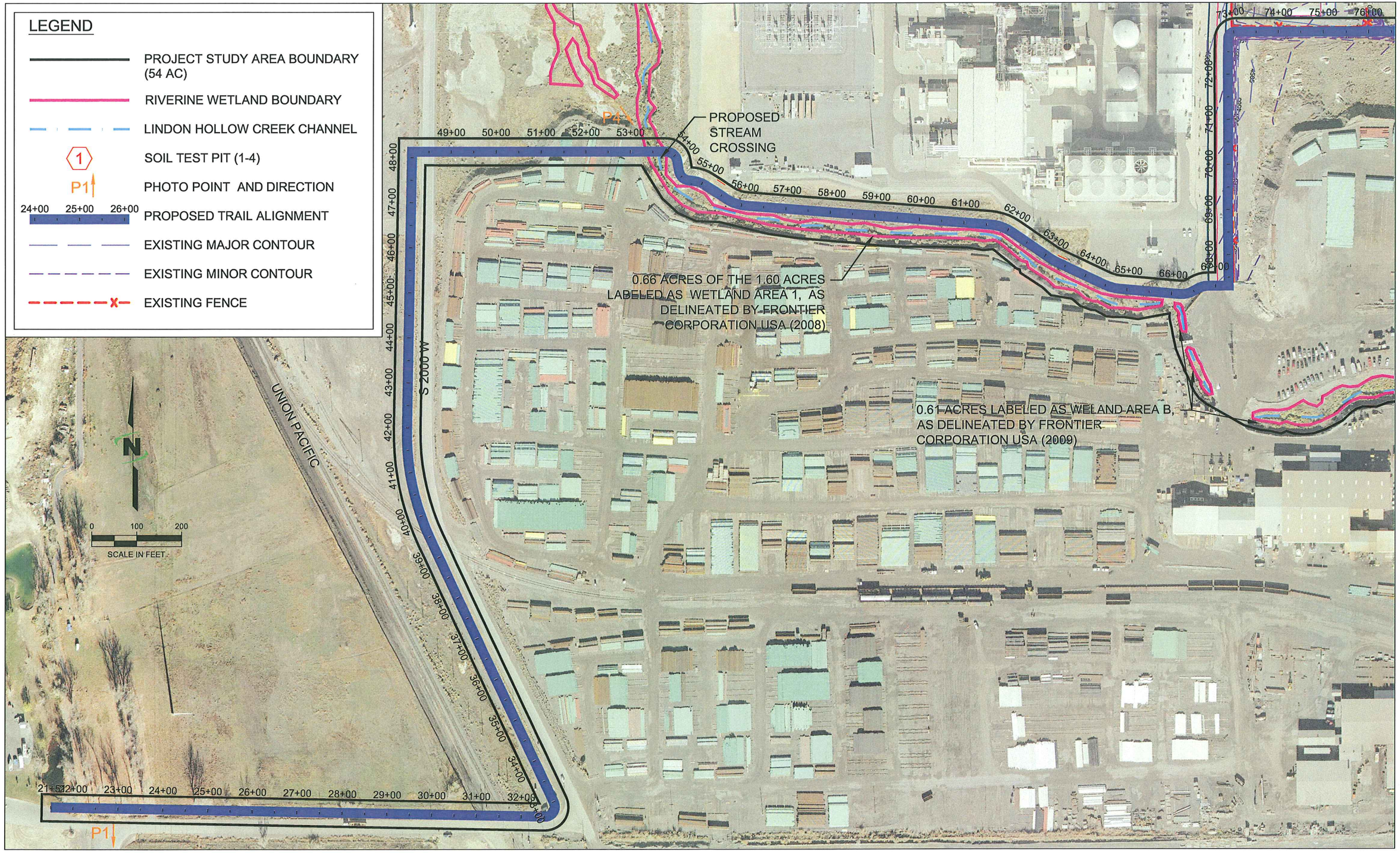
J·U·B Environmental Group

CAD FILE: 50-10-047_E-101X

LINDON HERITAGE TRAIL
Sheet Index for Wetland Delineation Maps
Sheet 1

LEGEND

- PROJECT STUDY AREA BOUNDARY (54 AC)
- RIVERINE WETLAND BOUNDARY
- LINDON HOLLOW CREEK CHANNEL
- 1 — SOIL TEST PIT (1-4)
- P1 — PHOTO POINT AND DIRECTION
- 24+00 25+00 26+00 — PROPOSED TRAIL ALIGNMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING FENCE



J·U·B Environmental Group

CAD FILE: 50-10-047_E-101X

LINDON HERITAGE TRAIL
Wetland Delineation Map
Sheet 2

W 300 S

S 1250 W

E 1750 N

PROPOSED STREAM CROSSING

1.65 ACRES WETLAND AREA AS DELINEATED BY J-U-B ENGINEERS, INC. (2010)

0.61 ACERS LABELED AS WETLAND AREA B, AS DELINEATED BY FRONTIER CORPORATION USA (2009)

12.28 ACRES LABELED AS WETLAND AREA A, AS DELINEATED BY FRONTIER CORPORATION USA (2009)

N

0 100 200

SCALE IN FEET

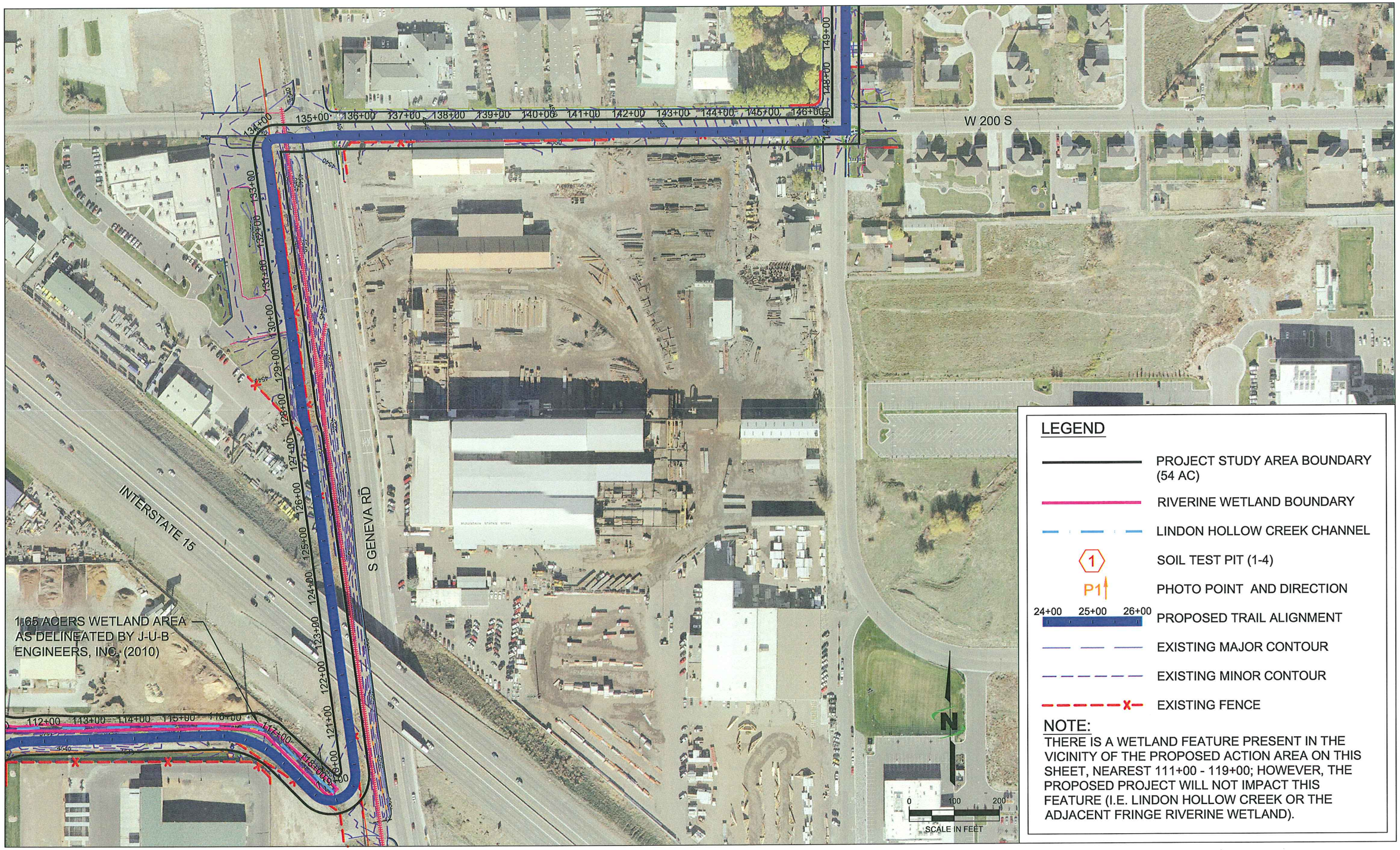
LEGEND

- PROJECT STUDY AREA BOUNDARY (54 AC)
- RIVERINE WETLAND BOUNDARY
- LINDON HOLLOW CREEK CHANNEL
- 1 SOIL TEST PIT (1-4)
- P1 PHOTO POINT AND DIRECTION
- 24+00 25+00 26+00 PROPOSED TRAIL ALIGNMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING FENCE

J-U-B Environmental Group

CAD FILE: 50-10-047_E-101X

LINDON HERITAGE TRAIL
Wetland Delineation Map
Sheet 3



LEGEND

- PROJECT STUDY AREA BOUNDARY (54 AC)
- RIVERINE WETLAND BOUNDARY
- LINDON HOLLOW CREEK CHANNEL
- 1 — SOIL TEST PIT (1-4)
- P1 — PHOTO POINT AND DIRECTION
- 24+00 25+00 26+00 — PROPOSED TRAIL ALIGNMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING FENCE

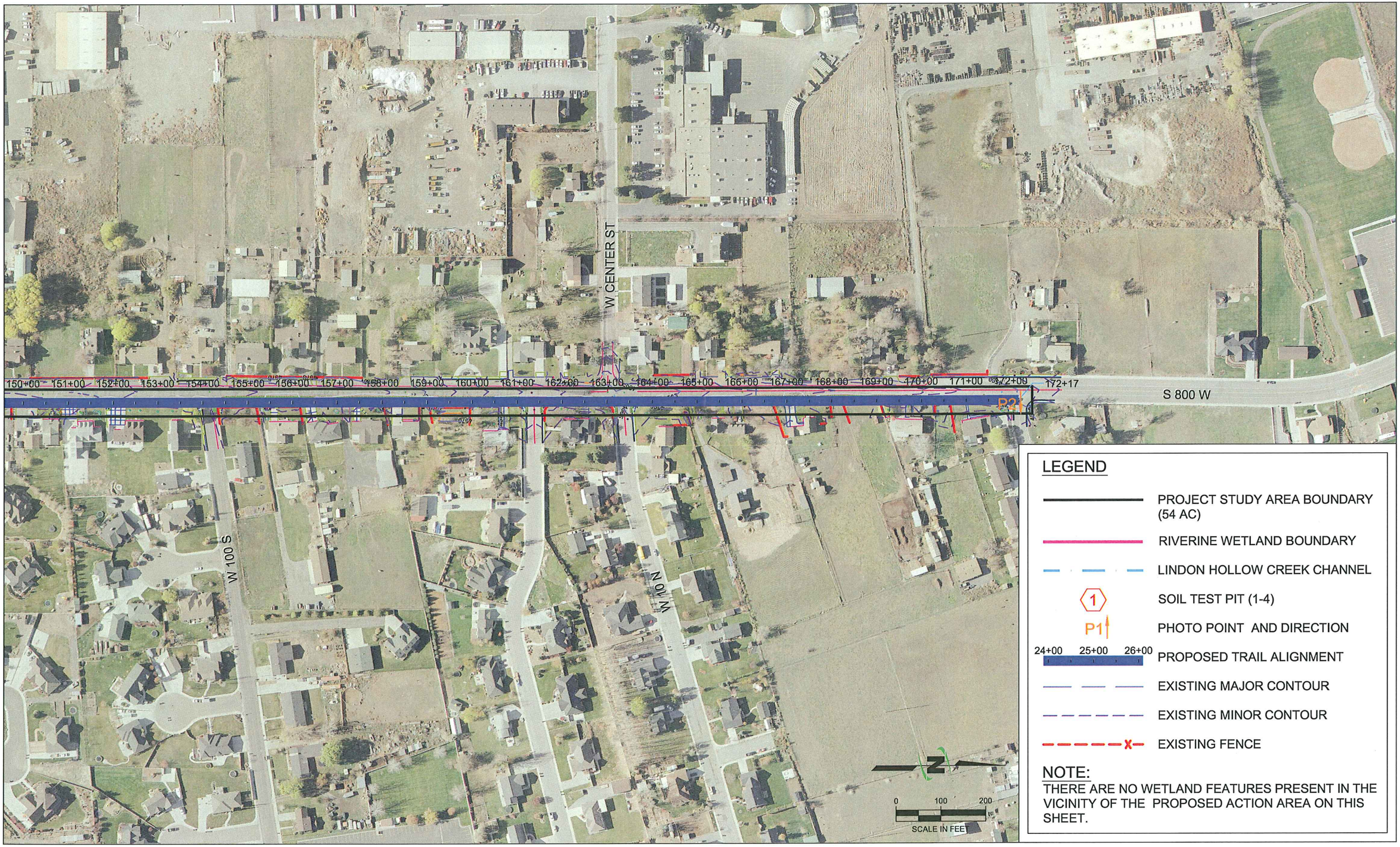
NOTE:

THERE IS A WETLAND FEATURE PRESENT IN THE VICINITY OF THE PROPOSED ACTION AREA ON THIS SHEET, NEAREST 111+00 - 119+00; HOWEVER, THE PROPOSED PROJECT WILL NOT IMPACT THIS FEATURE (I.E. LINDON HOLLOW CREEK OR THE ADJACENT FRINGE RIVERINE WETLAND).

J-U-B Environmental Group

CAD FILE: 50-10-047_E-101X

LINDON HERITAGE TRAIL
Wetland Delineation Map
Sheet 4



LEGEND

- PROJECT STUDY AREA BOUNDARY (54 AC)
- RIVERINE WETLAND BOUNDARY
- LINDON HOLLOW CREEK CHANNEL
- 1 — SOIL TEST PIT (1-4)
- P1 — PHOTO POINT AND DIRECTION
- 24+00 25+00 26+00 — PROPOSED TRAIL ALIGNMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING FENCE

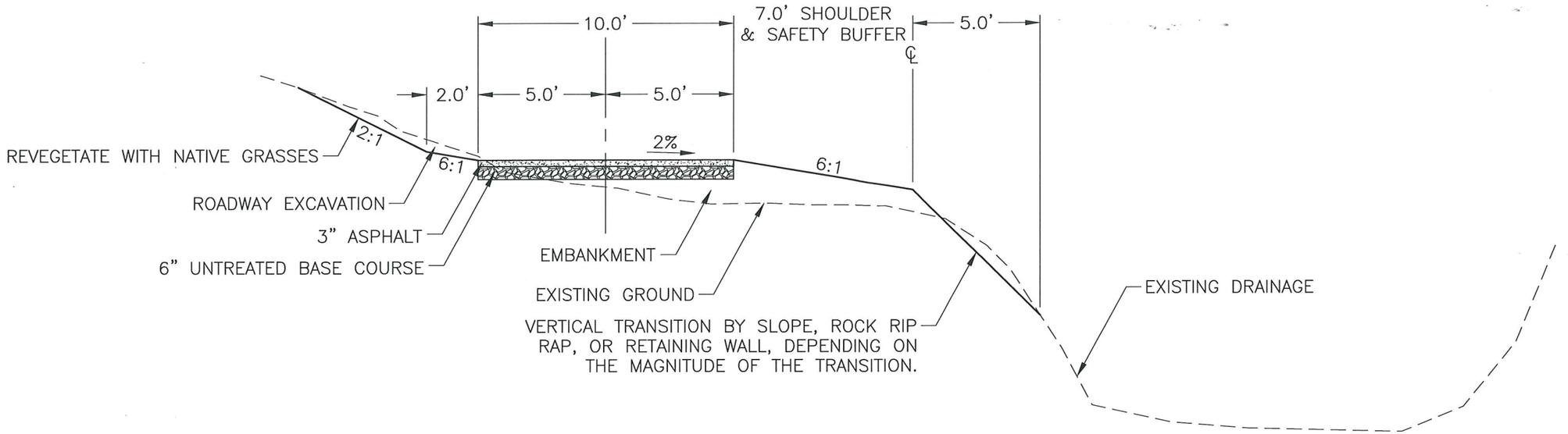
NOTE:

THERE ARE NO WETLAND FEATURES PRESENT IN THE VICINITY OF THE PROPOSED ACTION AREA ON THIS SHEET.

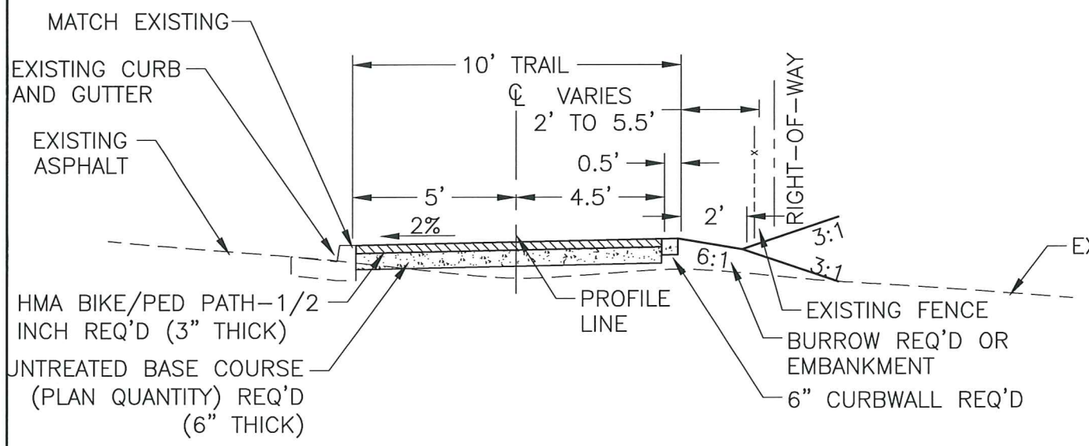
J·U·B Environmental Group

CAD FILE: 50-10-047_E-101X

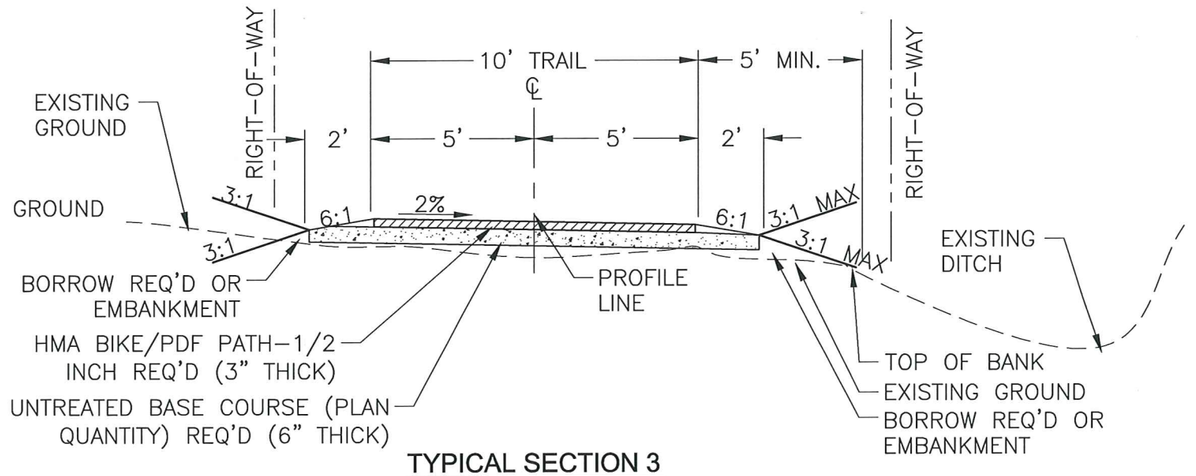
LINDON HERITAGE TRAIL
Wetland Delineation Map
Sheet 5



TYPICAL SECTION 1
LINDON HERITAGE TRAIL
STA. 54+00 TO STA. 66+00



TYPICAL SECTION 2
LINDON HERITAGE TRAIL
STA. 67+37.07 TO STA. 72+86.12

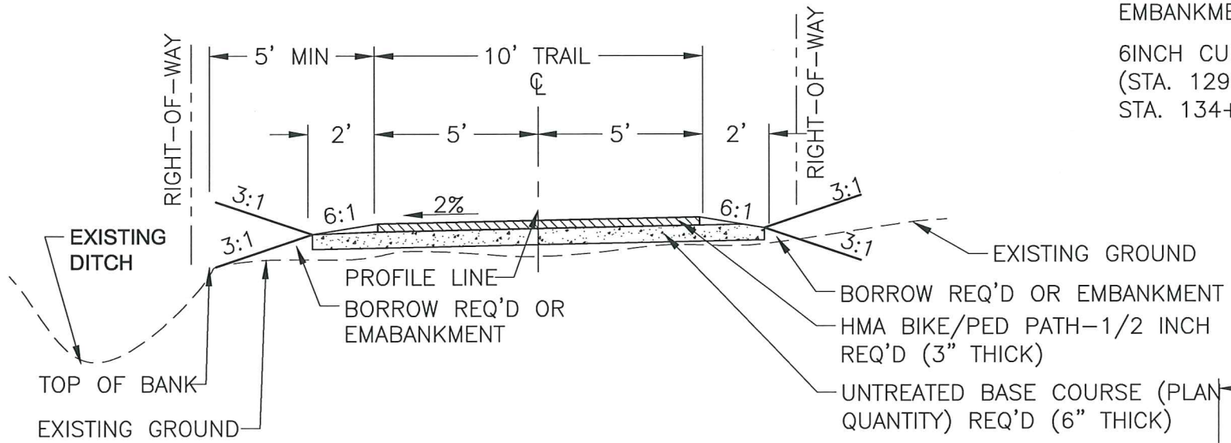


TYPICAL SECTION 3
LINDON HERITAGE TRAIL
STA. 73+09.47 TO STA. 103+68.26

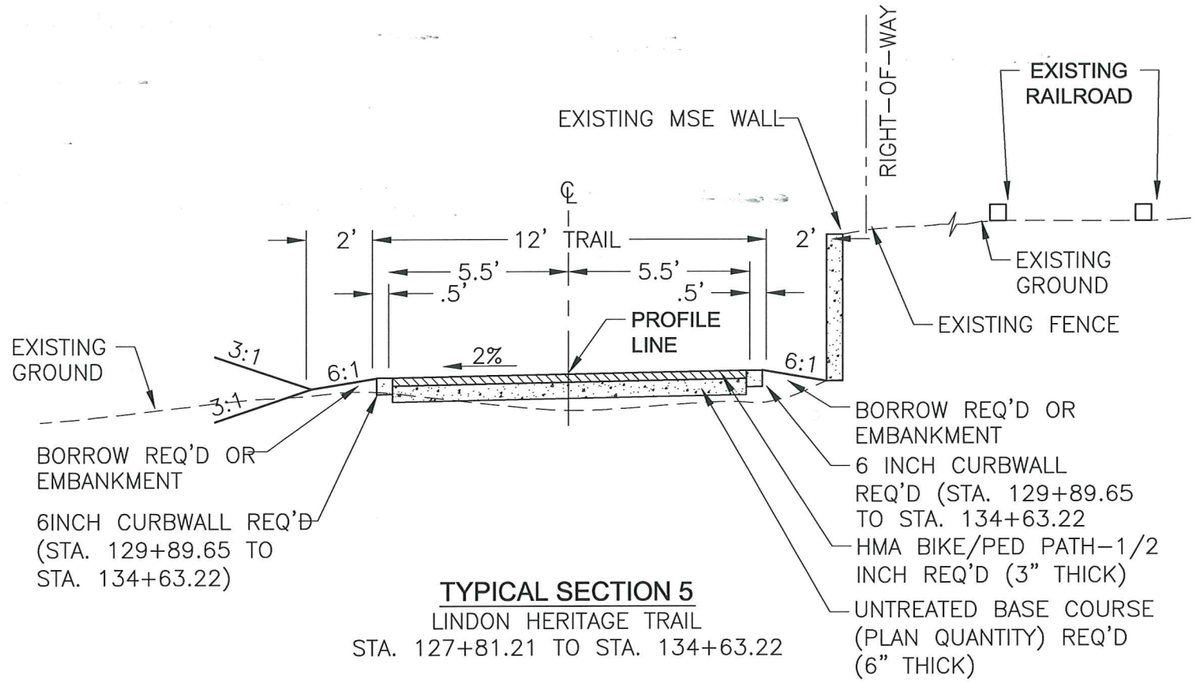
JUB Environmental Group

CAD FILE: 50-10-047_E-101X

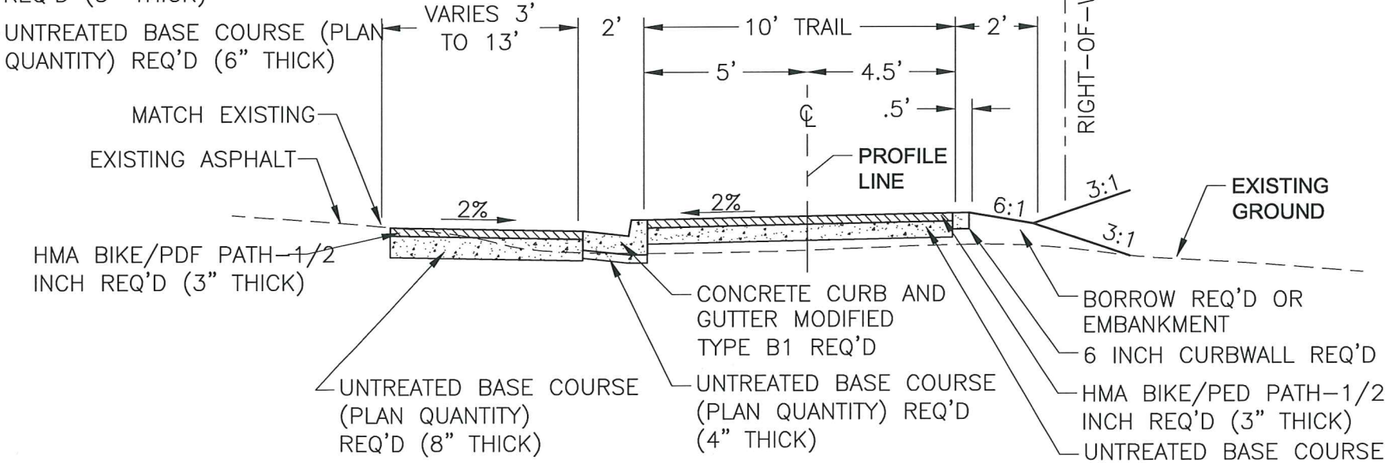
LINDON HERITAGE TRAIL
Typical Sections
Sheet 6



TYPICAL SECTION 4
LINDON HERITAGE TRAIL
STA. 104+03.53 TO STA. 127+81.21



TYPICAL SECTION 5
LINDON HERITAGE TRAIL
STA. 127+81.21 TO STA. 134+63.22



TYPICAL SECTION 6
LINDON HERITAGE TRAIL
STA. 135+90.32 TO STA. 146+28.47
STA. 147+76.46 TO STA. 171+95.25

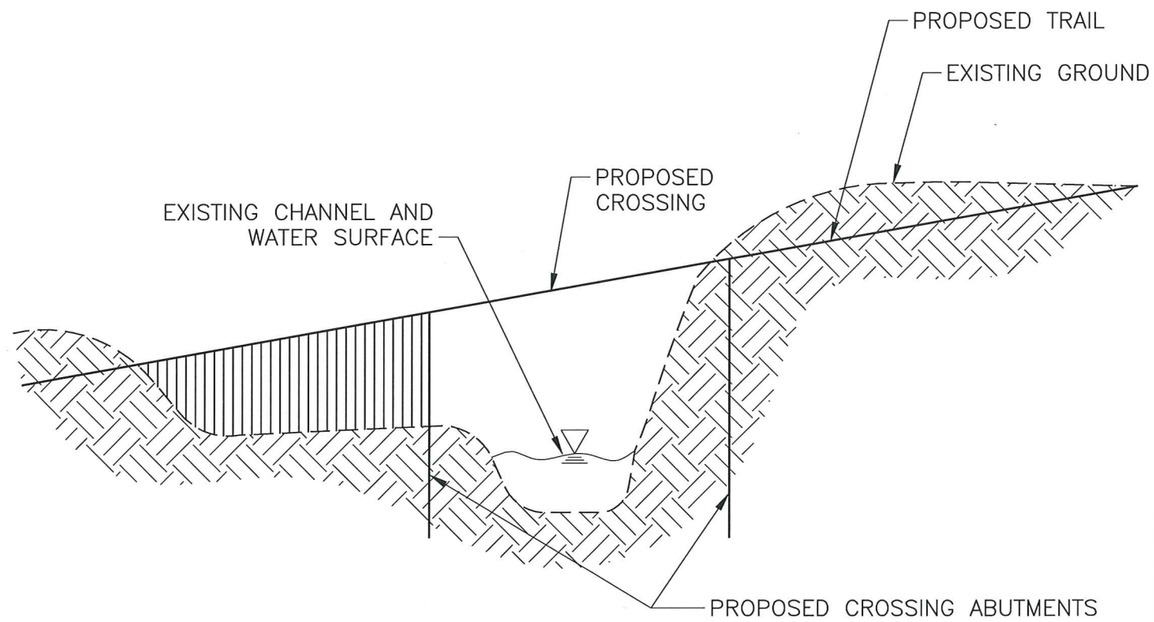
JUB Environmental Group

CAD FILE: 50-10-047_E-101X

LINDON HERITAGE TRAIL
Typical Sections
Sheet 7

5903 (JUB-BI-PIC-ENV)

TO BE DEVELOPED IN
CONJUNCTION WITH A FUTURE
PHASE OF THIS PROJECT



CROSSING DETAIL 1
LINDON HERITAGE TRAIL
STA. 53+40 TO STA. 53+90

CROSSING DETAIL 2
LINDON HERITAGE TRAIL
STA. 103+00 TO STA. 104+00

J·U·B
Environmental Group

CAD FILE: 50-10-047_E-101X

LINDON HERITAGE TRAIL
Typical Channel Crossings
Sheet 8

Soil Map—Utah County, Utah - Central Part
(Lindon Heritage Trail Project)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities
- PLSS Township and Range
- PLSS Section

Water Features
- Oceans
- Streams and Canals

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

MAP INFORMATION

Map Scale: 1:13,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 12N NAD83

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

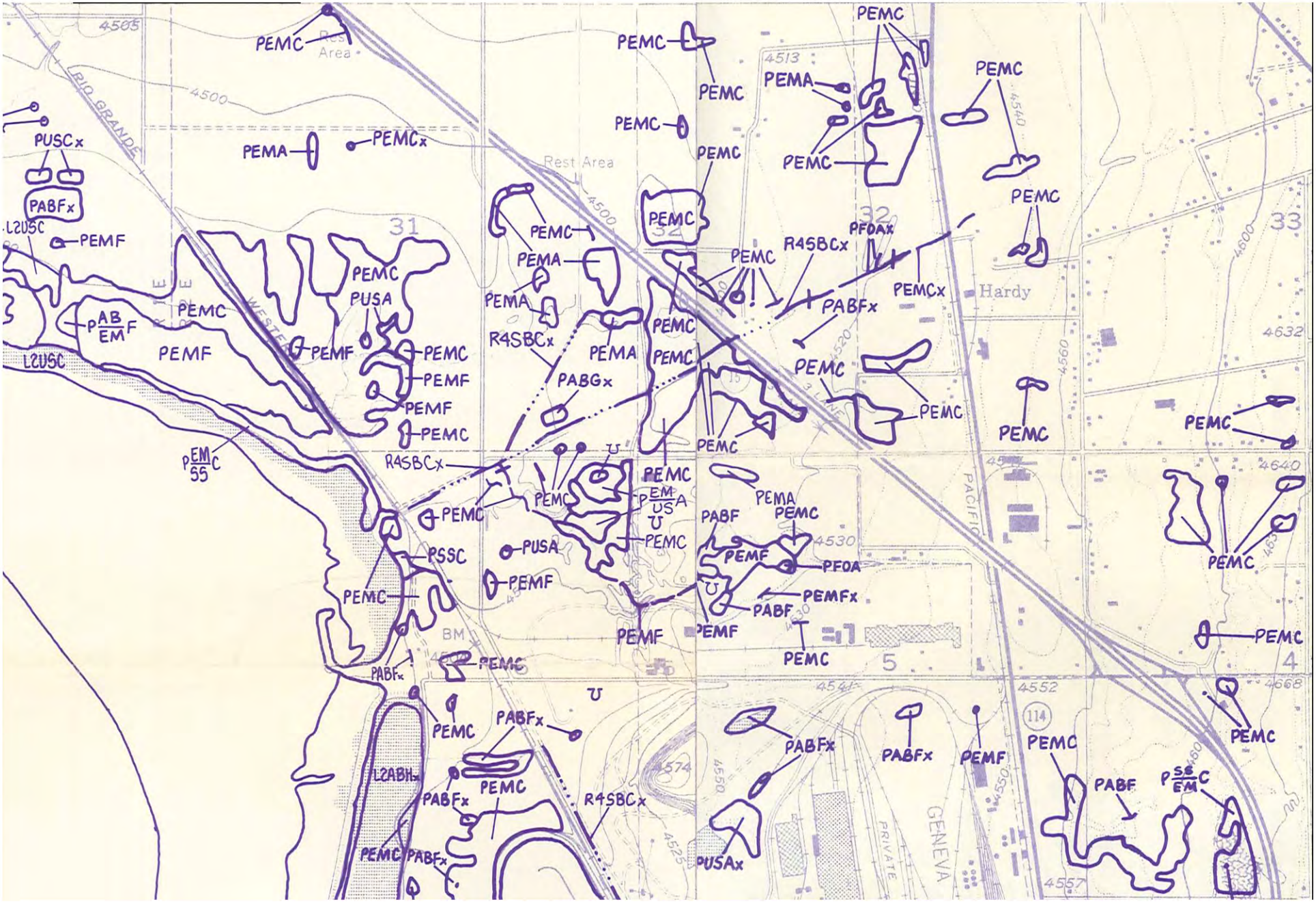
Soil Survey Area: Utah County, Utah - Central Part
Survey Area Data: Version 5, Sep 4, 2009

Date(s) aerial images were photographed: 9/12/1997

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

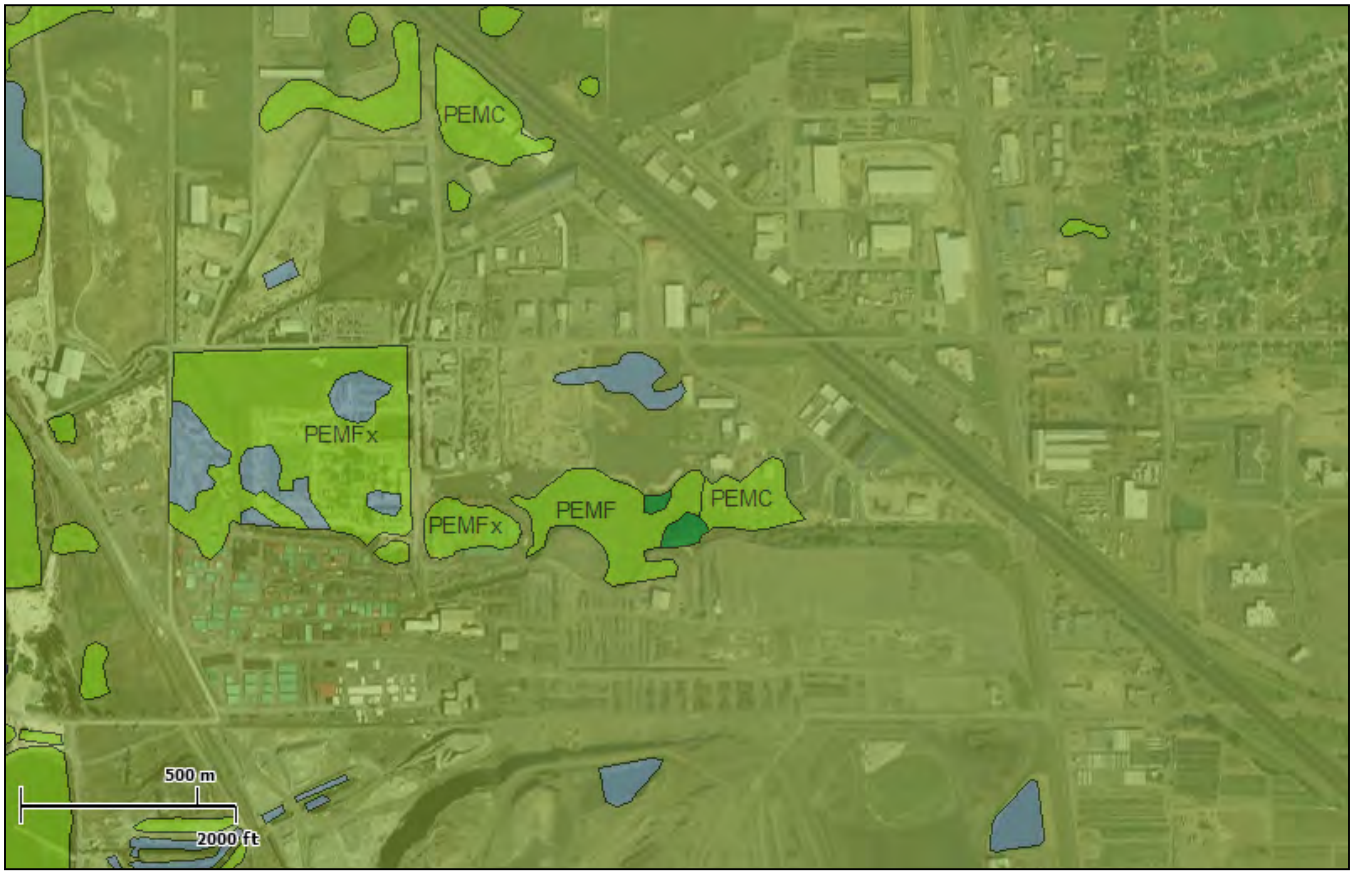
Map Unit Legend

Utah County, Utah - Central Part (UT621)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BC	Beaches	1.0	0.9%
Br	Bramwell silty clay loam	5.8	5.5%
Bs	Bramwell silty clay loam, drained	33.3	31.9%
Jo	Jordan silt loam	24.7	23.6%
LmA	Layton fine sandy loam, slowly permeable substratum, 0 to 1 percent slopes	4.6	4.4%
Pd	Payson silty clay loam	3.5	3.4%
PK	Pits and dumps	6.3	6.0%
PuD	Preston fine sand, 1 to 10 percent slopes	6.5	6.2%
TaB	Taylorsville silty clay loam, 1 to 3 percent slopes	4.8	4.6%
TcC2	Taylorsville silty clay loam, extended season, 3 to 6 percent slopes, eroded	2.1	2.0%
UL	Urban land	12.0	11.5%
Totals for Area of Interest		**104.6**	**100.0%**


PEMC
PEMA
PEMCx
PUSCx
PABFx
L2USC
PEMF
PABGx
R4SBCx
PFOAx
PEMCx
PUSA
PSSC
PEMFx
PABF
L2ABHx
PUSAx
Rest Area
Hardy
GENEVA
PRIVATE
RIO GRANDE
WESTERN
PACIFIC
31
32
33
5
4
114
4500
4513
4540
4560
4600
4632
4640
4668
4530
4552
4574
4550
4525
4557

U.S. Fish and Wildlife Service
National Wetlands Inventory

Oct 24, 2010



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deetwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Status

- Digital
- Scan
- Non-Digital
- No Data

User Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lindon Heritage Trail City/County: Utah Sampling Date: 10/27/10

Applicant/Owner: City of Lindon State: UT Sampling Point: STP #1(Wetland)

Investigator(s): Vince Barthels, J-U-B ENGINEERS, Inc. Section, Township, Range: S. 5 T.6 S, R. 2 E

Landform (hillslope, terrace, etc): Flat , low terrace Local relief (concave, convex, none): Concave Slope (%): Less than 3%

Subregion (LRR): E Lat: 40° 19' 47'' N Long: 111° 44' 38.4'' W Datum: NAD 1927

Soil Map Unit Name: Bramwell silty clay loam, drained (Bs) NWI classification: PEMC

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

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

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain answers in Remarks.)

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

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

Remarks:
STP#1 paired along transect with STP#2. Transect is located immediately upstream of the proposed crossing. Wetland boundary is located 6 inches above base elevation of STP#1.

VEGEGATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus angustifolia*	30	Yes	FAC
2. *Elaeagnus angustifolia*	25	Yes	FAC
Total Cover:	55		
Sampling/Shrub Stratum			
1. ___	___	___	___
2. ___	___	___	___
3. ___	___	___	___
Total Cover:	___		
Herb Stratum			
1. *Phalaris arundinacea*	10	Yes	OBL
2. *Phragmites australis*	10	Yes	FACW
3. ___	___	___	___
4. ___	___	___	___
5. ___	___	___	___
6. ___	___	___	___
7. ___	___	___	___
8. ___	___	___	___
9. ___	___	___	___
10. ___	___	___	___
Total Cover:	20		
Woody Vine Stratum			
1. ___	___	___	___
2. ___	___	___	___
Total Cover:	0		

% Open Water in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	___	x 1 = ___
FACW species	___	x 2 = ___
FAC species	___	x 3 = ___
FACU species	___	x 4 = ___
UPL species	___	x 5 = ___
Column Totals:	___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptions[1] (Provide supporting data in remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks:

Compared to upland site (STP#2), this vegetation is far more hydrophytic. Vegetation parameter fulfilled.

SOIL Sampling Point: STP #1 (Wetland)

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

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-17	2.5Y 4/2	90	2.5Y 5/4	10	C	PL	Fine sand	
17-29	2.5Y 3/1	85	2.5Y 5/6	15	C	PL	fine sand	10% organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators of Problematic Hydric Soils[2].

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
Type: N/A
Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:
Prominent mottling features present throughout the observed STP.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine)**
- ___ Drift Deposits (B3) (**Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches) ___

Water Table Present? Yes X No ___ Depth (inches) 13

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches) 10

Wetland Hydrology Present? **Yes** **X** No ___

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

Remarks:
Lateral seepage from Lindon Hollow Creek provides wetland hydrology at this location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lindon Heritage Trail City/County: Utah Sampling Date: 10/27/10

Applicant/Owner: City of Lindon State: UT Sampling Point: STP #2(Upland)

Investigator(s): Vince Barthels, J-U-B ENGINEERS, Inc. Section, Township, Range: S. 31 T.10 N., R. 2 W

Landform (hillslope, terrace, etc): Flat , low terrace Local relief (concave, convex, none): Convex Slope (%): Less than 3%

Subregion (LRR): E Lat: 40° 19' 47'' N Long: 111° 44' 38.4'' W Datum: NAD 1927

Soil Map Unit Name: Urban Land (UL) NWI classification: N/A

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

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

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain answers in Remarks.)

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

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

Remarks:
Paired along the transect with STP#1. South of Lindon Hollow Creek the adjacent property has been filled and graded, and prepped for light industrial development.

VEGEGATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. ___	___	___	___
2. ___	___	___	___
Total Cover: ___			
Sampling/Shrub Stratum			
1. *Rosa woodsii*	10	Yes	FAC
2. *Ribes aureum*	5	No	FACW
3. ___	___	___	___
Total Cover: 15			
Herb Stratum			
1. *Cirsium vulgare*	20	Yes	FAC
2. *Salsola pestifer*	20	Yes	FACU
3. *Thinopyrum intermedium*	15	No	FACU
4. *Bromus tectorum*	10	No	FACU
5. *Descurainia sophia*	10	No	FACU
6. *Kochia scoparia*	10	No	FACU
7. ___	___	___	___
8. ___	___	___	___
9. ___	___	___	___
10. ___	___	___	___
Total Cover: 85			
Total Cover: ___			
Woody Vine Stratum			
1. ___	___	___	___
2. ___	___	___	___
Total Cover: 0			

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	___	x 1 = ___
FACW species	5	x 2 = 10
FAC species	30	x 3 = 90
FACU species	65	x 4 = 260
UPL species	___	x 5 = ___
Column Totals:	100 (A)	360 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptions[1] (Provide supporting data in remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks:
Based on the prevalence index, this site is characterized as a FACU community. This parameter is not fulfilled.

SOIL Sampling Point: STP #2 (Upland)

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

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-7	10YR 3/2	100	___	___	___	___	Imported fill	20% gravels and cobbles
7-20	10YR 5/4	100	___	___	___	___	Fine sand	___
20-32	10YR 6/3	90	10YR 5/6	10	RM	C	Sandy clay	___
___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators of Problematic Hydric Soils[2].

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
Type: N/A
Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
No redox features present in upper 20 inches of soil profile; Non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine)**
- ___ Drift Deposits (B3) (**Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches) ___
Water Table Present? Yes ___ No X Depth (inches) ___
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches) ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No saturation within the upper 32 inches at this STP. STP completely dry.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lindon Heritage Trail City/County: Utah Sampling Date: 10/27/10

Applicant/Owner: City of Lindon State: UT Sampling Point: STP #3(Wetland)

Investigator(s): Vince Barthels, J-U-B ENGINEERS, Inc. Section, Township, Range: S. 31 T.10 N., R. 2 W

Landform (hillslope, terrace, etc): Flat , low terrace Local relief (concave, convex, none): none Slope (%): Less than 3%

Subregion (LRR): E Lat: 40° 19' 51''N Long: 111° 44' 49.6'' W Datum: NAD 1927

Soil Map Unit Name: Bramwell silty clay loam (Br) NWI classification: N/A

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

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

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain answers in Remarks.)

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

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

Remarks:
This STP is paired along a transect with STP#4. Riverine wetland associated with a low gradient section of Lindon Hollow Creek present.

VEGEGATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus angustifolia*	10	Yes	FAC
2. ___	___	___	___
Total Cover: 10			
Sampling/Shrub Stratum			
1. ___	___	___	___
2. ___	___	___	___
3. ___	___	___	___
Total Cover: ___			
Herb Stratum			
1. *Typha latifolia*	40	Yes	OBL
2. *Distichlis spicata*	15	No	FAC
3. *Scirpus acutus*	15	No	OBL
4. *Juncus balticus*	10	No	FACW
5. Phragmites australis	10	No	FACW
6. *Phalaris arundinacea*	5	No	OBL
7. *Solanum dulcamara*	<1	No	OBL
8. ___	___	___	___
9. ___	___	___	___
10. ___	___	___	___
Total Cover: 95			
Total Cover: ___			
Woody Vine Stratum			
1. ___	___	___	___
2. ___	___	___	___
Total Cover: 0			

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test Worksheet

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x 1 = ___
FACW species ___	x 2 = ___
FAC species ___	x 3 = ___
FACU species ___	x 4 = ___
UPL species ___	x 5 = ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤ 3.0[1]

___ Morphological Adaptions[1] (Provide supporting data in remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes X No ___**

Remarks:

FACW-OBL vegetative structure; parameter fulfilled.

SOIL Sampling Point: STP #3 (Wetland)

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

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-6	10YR 4/2	60	10YR 4/6	10	C	RC	Fine sandy loam	Dual matrix
0-6	3N 3/	30	___	___	___	___	Fine sandy loam	Dual matrix
6-16	10YR 5/3	90	10YR 6/8	10	C	PL	___	___
___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators of Problematic Hydric Soils[2].

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
Type: N/A
Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:
Prominent mottling features present, throughout the profile observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine)**
- ___ Drift Deposits (B3) (**Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches) 1
Water Table Present? Yes X No ___ Depth (inches) ___
Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches) ___

Wetland Hydrology Present? **Yes** **X** No ___

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

Remarks:
Surface water present; parameter fulfilled.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lindon Heritage Trail City/County: Utah Sampling Date: 10/27/10

Applicant/Owner: City of Lindon State: UT Sampling Point: STP #4(Upland)

Investigator(s): Vince Barthels, J-U-B ENGINEERS, Inc. Section, Township, Range: S. 31 T.10 N., R. 2 W

Landform (hillslope, terrace, etc): Flat , low terrace Local relief (concave, convex, none): Concave Slope (%): Less than 3%

Subregion (LRR): E Lat: 40° 19' 51''N Long: 111° 44' 49.6'' W Datum: NAD 1927

Soil Map Unit Name: Payson silty clay loam (Pd) NWI classification: N/A

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

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

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain answers in Remarks.)

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

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

Remarks:
This STP is paired along a transect with wetland site (STP#3). Upland site present.

VEGEGATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. ___	___	___	___
2. ___	___	___	___
Total Cover: ___			
Sampling/Shrub Stratum			
1. *Sarcobatus vermiculatus*	20	Yes	FACU
2. *Artemisia tridentata*	5	No	FACU
3. ___	___	___	___
Total Cover: 25			
Herb Stratum			
1. *Bromus tectorum*	70	Yes	FACU
2. *Salsola pestifer*	15	No	FACU
3. Thinopyrum intermedium	5	No	FACU
4. ___	___	___	___
5. ___	___	___	___
6. ___	___	___	___
7. ___	___	___	___
8. ___	___	___	___
9. ___	___	___	___
10. ___	___	___	___
Total Cover: 90			
Total Cover: ___			
Woody Vine Stratum			
1. ___	___	___	___
2. ___	___	___	___
Total Cover: 0			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x 1 = ___
FACW species ___	x 2 = ___
FAC species ___	x 3 = ___
FACU species ___	x 4 = ___
UPL species ___	x 5 = ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%
___ Prevalence Index is ≤ 3.0[1]
___ Morphological Adaptions[1] (Provide supporting data in remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks:
FACU vegetative community; parameter not fulfilled.

SOIL Sampling Point: STP #4 (Upland)

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

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-8	10YR 3/2						Sandy loam	
8-16	10YR 5/3						Sandy loam	
16-20	10YR 5/3						Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators of Problematic Hydric Soils[2].

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
Type: N/A
Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
No redox features present; Non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine)**
- ___ Drift Deposits (B3) (**Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches) ___

Water Table Present? Yes ___ No X Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches) ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No saturation within the upper 20 inches at this STP. STP completely dry.

Photo Inventory

The following six photos were taken on October 27, 2010.

Photo 1: Looking south from the point where the Lindon Heritage Trail will tie into the Lakeshore Trail near on 600 South Street (near the Lindon Boat Harbor), at the west end of the project area.

Photo 2: Lookiong east from the point where the Lindon Heritage Trail will tie into the existing multiuse trail. This photo was taken at the intersection of 800 West and Lakeview Road, at the east end of the project area.

Photo 3: View looking east at the entrenched Lindon Hollow Creek, West of Geneva Road. The area south of the creek channel consists of fill materials, which have been graded. The area has recruited several annual weedy species.

Photo 4: View looking east at Lindon Hollow Creek, from Geneva Steel facility east of Proctor Road (250 West) and near the established trail station # 54+00. The trail alignment would be situated landward of the remnant waddles (left side of photo) and the proposed crossing would tie into the upper left terrace (fill) of Lindon Hollow Creek near this vantage point.

Photo 5: This photo illustrates the representative riparian vegetation along Lindon Hollow Creek, near Station #103+50. Cottonwoods and Russian olives dominate the forested overstory, whereas reed canary grass and common reed provides herbaceous cover along the creek's edge.

Photo 6: Looking south toward the established transect that contains both a wetland data point (STP#3) and an upland data point (STP#4). The upland area is dominated by sagebrush and cheatgrass. The transition from the upland to wetland is marked by the distinct topography and vegetative shifts, in a zone dominated by saltgrass. The vegetative community within the riverine wetland consists of cattail, hardstem bulrush, reed canary grass, baltic rush, common reed, and scattered cottonwoods.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM
Sacramento District

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Regulatory Branch: **Nevada-Utah** File/ORM #: **SPK-2011-00091-UO** PJD Date: **February 9, 2011**

State: **UT** City/County: **Lindon, Utah County**
Nearest Waterbody: **Lindon Hollow Creek, Utah Lake**

Location (Lat/Long): **40.331636981178°, -111.744861225747°**

Size of Review Area: **54** acres

Name/Address Of Property Owner/ Potential Applicant: **Don Peterson, Lindon City, 946 West Center Street, Lindon, Utah 84042**

Identify (Estimate) Amount of Waters in the Review Area
Non-Wetland Waters:

	Stream Flow
Approx 6,000 linear feet **Perennial**	**10-20** ft wide **N/A** acres

Wetlands: **16.14** acre(s) Cowardin Class: **Palustrine, emergent**

Name of any Water Bodies on the site identifies as Section 10 Waters: Tidal: **N/A** Non-Tidal: **N/A**

☐ Office (Desk) Determination
☒ Field Determination:
Date(s) of Site Visit(s): **February 2, 2011**

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply – checked items should be included in case file and, where checked and requested, appropriately reference sources below)

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Wetland Delineation Report J-U-B January 2011**
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Data sheets prepared by the Corps.
☐ Corps navigable waters' study.
☐ U.S. Geological Survey Hydrologic Atlas:
  ☐ USGS NHD data.
  ☐ USGS HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; UT-PELICAN POINT**
☒ USDA Natural Resources Conservation Service Soil Survey.
☒ National wetlands inventory map(s).
☐ State/Local wetland inventory map(s).
☒ FEMA/FIRM maps.
☐ 100-year Floodplain Elevation (if known):
☒ Photographs: ☒ Aerial ☐ Other
☒ Previous determination(s). File no. and date of response letter: **SPK-2009-00702, SPK2008-00133**
☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

2/9/10
Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:
1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

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

REPLY TO
ATTENTION OF

February 9, 2011

Regulatory Division (SPK-2011-00091-UO)

Don Peterson
Lindon City
946 West Center Street
Lindon, Utah 84042

Dear Mr. Peterson:

We are responding to your January 27, 2011 request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Lindon Heritage Trail site. The approximately 54-acre site is located on or near , Section 6, Township 6 South, Range 2 East, Salt Lake Meridian, Latitude 40.3316°, Longitude -111.7448°, Lindon, Utah County, Utah.

Based on available information, we concur with the estimate of potential waters of the United States, as depicted on the February 7, 2011, Sheets 1 through 5, Lindon Heritage Trail Wetland Delineation Maps prepared by J-U-B- Engineers, Inc. The approximately 16.14-acres of wetlands or other water bodies present within the survey area may be jurisdictional waters of the United States. These waters may be regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed. Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal (RFA) form is enclosed to notify you of your options with this determination. This determination may not be valid for the wetland conservation provisions of the Food Security Act

of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website by clicking on the green, *Please take our customer service survey,* bar at *www.spk.usace.army.mil/regulatory.html.*

Please refer to identification number SPK-2011-00091-UO in any correspondence concerning this project. If you have any questions, please contact Tim Witman by telephone at 801-295-8380, ext. 17, by email at *Timothy.R.Witman@usace.army.mil*, or by mail at the Utah Regulatory Office, 533 West 2600 South, Suite 150, Bountiful, Utah 84010.

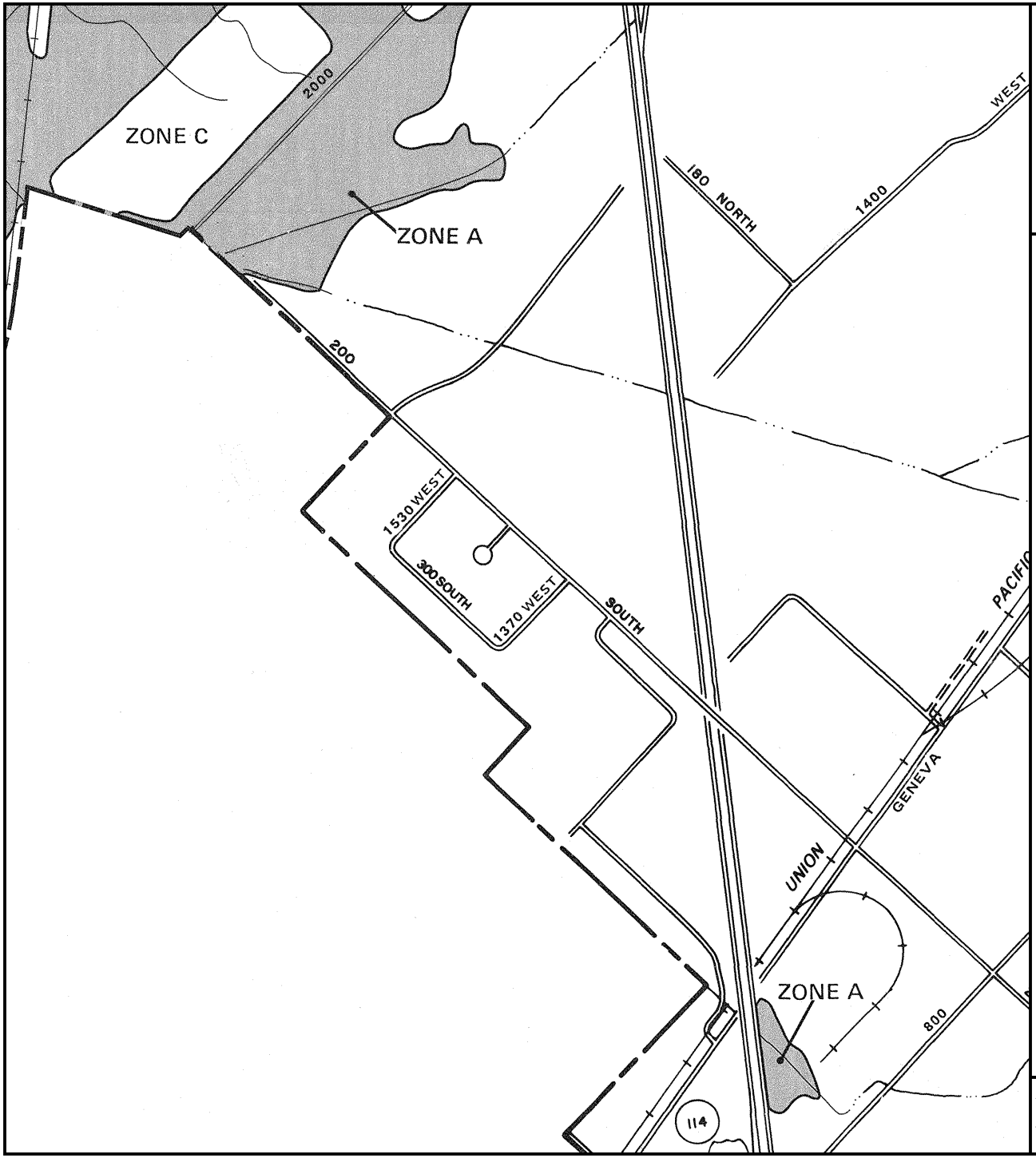
Sincerely,

John Urbanic
Chief, Utah Regulatory Office

Enclosures

Copy furnished without enclosures

Vincent Barthels, J-U-B Engineers, Inc., W 422 Riverside, Suite 304, Spokane, WA 99201



APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
LINDON,
UTAH
UTAH COUNTY

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
490210 0005 C

EFFECTIVE DATE:
FEBRUARY 19, 1986

Federal Emergency Management Agency

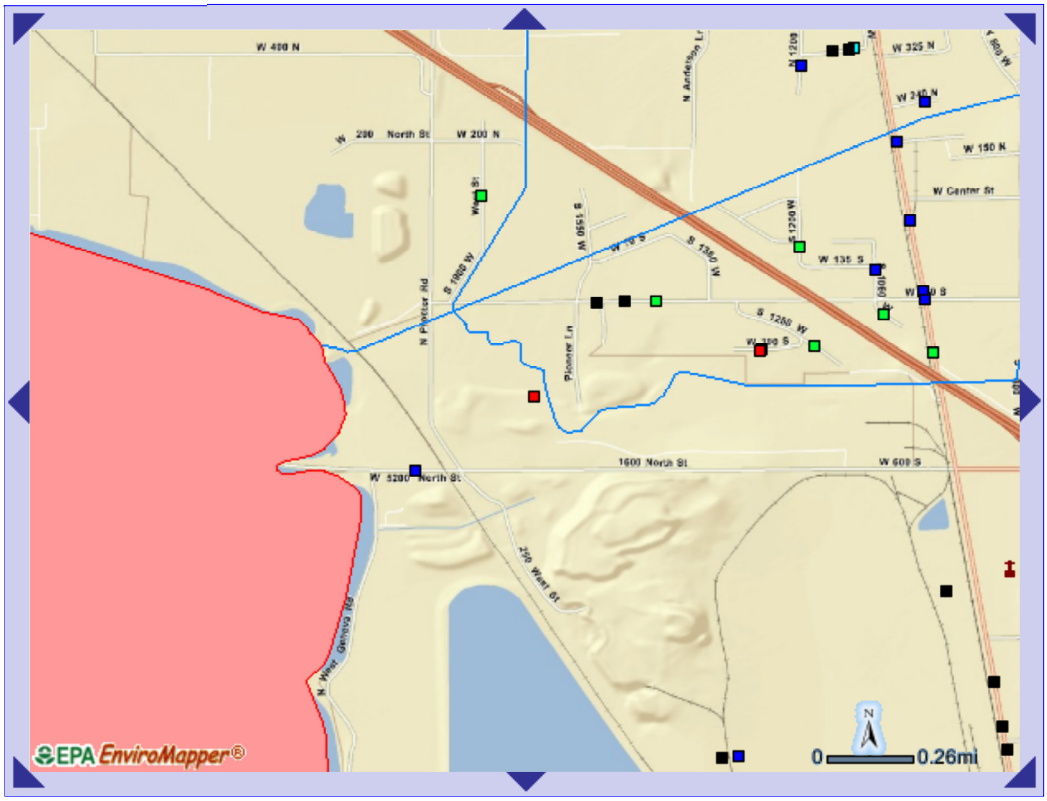
APPENDIX E. Hazardous Materials Supporting Documentation

U.S. ENVIRONMENTAL PROTECTION AGENCY

EnviroMapper for Envirofacts

Contact Us

EPA Home > EnviroMapper > EnviroMapper for Envirofacts > Mapping Result



Features | Legend | Facilities

Map Features

Regulated sites
- Multi-activities
- Superfund
- Toxic releases
- Water dischargers
- Air emissions
- Hazardous waste

Water features
- Impaired water bodies
- Impaired streams
- Streams

Places EXIT EPA
- Schools
- Churches
- Hospitals

Shaded Relief EXIT EPA

Redraw Map

Zoom In | Zoom Out | Change background: Atlas map | Locator Map

Click map to: Recenter | Show Site Info | Identify - Select - | Goto WME

Last updated on Friday, March 06, 2009
URL: http://134.67.99.122/enviro/emef.asp

State of Utah

GARY HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF SOLID AND
HAZARDOUS WASTE
Dennis R. Downs
Director

October 20, 2009

Adam Cowie, Director
Lindon City Planning & Development
100 North State Street
Lindon, UT 84042

Subject: Relocation of the Lindon Hollow Creek out of the Slag Pile Area at the former Geneva Steel Facility

Dear Mr. Cowie:

As a follow-up to your communications with this office, the Division has no objection to the proposed relocation of the Lindon Hollow Creek.

As a water quality project and based upon documented evidence by URS Consulting of the presence of some contaminants at levels acceptable for industrial land use, the relocation of the channel in order to avoid flow in contaminated areas seems logical and appropriate.

The Division encourages Lindon City to seek concurrence of the US Army Corps of Engineers and the Utah Department of Natural Resources.

Sincerely,

Dennis R. Downs, Director
Utah Division of Solid and Hazardous Waste

DRD/EB/kl

c : Joseph K. Miner, M.D., MSPH, Executive Director, Utah County Health

File : Anderson Geneva
F:\WP\Adam Cowie LHC.doc

TN200901050.DOC

288 North 1460 West • Salt Lake City, UT
Mailing Address: P.O. Box 144880 • Salt Lake City, UT 84114-4880
Telephone (801) 538-6170 • Fax (801) 538-6715 • T.D.D. (801) 536-4414
www.deq.utah.gov

State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

Department of
Environmental Quality

William J. Sinclair
Acting Executive Director

DIVISION OF SOLID AND
HAZARDOUS WASTE
Dennis R. Downs
Director

December 17, 2008

Adam Cowie, Director
Lindon City Planning and Development
100 North State Street
Lindon, Utah 84042-1808

Re: Risk Evaluation of Lindon Hollow Creek by Anderson Geneva

Dear Mr. Cowie:

The Division of Solid and Hazardous Waste has received from Anderson Geneva Development a risk evaluation for construction workers and an evaluation of potential ecological risks associated with the proposed diversion of Lindon Hollow Creek. These issues were raised by the Division in a letter dated December 8, 2008 to you and representatives of USS and Anderson Geneva. With the submittal of the documents dated December 12, 2008, the Division concurs that the proposed storm water retention basin as outlined does not violate the SMP.

The Division reiterates that the Corp of Engineers and Department of Natural Resources should be consulted for their concurrence regarding the Lindon Hollow Creek diversion and impacts to wet lands.

If you have any questions, please call Allan Moore of my staff at (801) 538-6824.

Sincerely,

Dennis R. Downs, Director
Division of Solid and Hazardous Waste

DRD/TAM/kl

c: Dennis Astill, Anderson Geneva Development
Mark Rupnow, USS
Bret Mustoe, URS

TN200801202

288 North 1460 West • Salt Lake City, UT
Mailing Address: P.O. Box 144880 • Salt Lake City, UT 84114-4880
Telephone (801) 538-6170 • Fax (801) 538-6715 • T.D.D. (801) 536-4414
www.deq.utah.gov

Anderson Geneva Development Inc.

99 N. Geneva Road
Vineyard, UT 84057
Telephone (801) 225-2031
(801)990-4930
Facsimile: (801) 990-4931

December 12, 2008

Dennis R. Downs
Utah Div of Solid & Hazardous Waste
Dept of Environmental Quality
P.O. Box 144880
Salt Lake City, UT 84114-4880

RE: Request for Concurrence – Lindon Hollow Drainage
Orem & Lindon Storm Water Retention Project

Dear Mr. Downs:

This letter confirms our discussion of December 10, 2008, and again with staff (Allan Moore, Rocky Stonestreet and Eric Baidin) with regard to the above project. Anderson Geneva, United States Steel Corporation ("USS"), Lindon City ("Lindon") and Orem City ("Orem") have each received letters dated December 8, 2008, describing the requirements of the Division with respect to the project. The proposed project was intended to create a slight modification to the Lindon Hollow creek/ditch area, which is shown on the attached maps (Attachment A and B). This is primarily a riparian area which is included within the Pipe Mill Site Management Plan ("SMP") and is identified therein as the Lindon Hollow Creek Area.

As we discussed in each meeting, the area shown where the work would be performed was not part of any SMWU within the Pipe Mill area, and therefore, no risk assessment was necessary or performed with regard to use of land or work activities outside of the SWMU areas. We were concerned when we receive a request to perform a risk assessment for work activities outside of a SWMU. The confusion may result from the use of the word Site in the SMP where it is a defined term referring to the SWMU areas only, and not the entire Pipe Mill area.

After discussion, it was explained to us that one reason for the request for the risk assessment was that the work plan submitted by Lindon/Orem appeared to describe fill work in the ditch area at the southwest end of the Lindon Hollow Creek Area. This fill work is not part of the Lindon-Orem project, and thus no work is being performed within any Site/ SMWU area. Attachment C reflects that the fill work being performed in the existing ditch is part of a later project by Anderson Geneva, not a Lindon/Orem project. It appears therefore, that no risk assessment for construction workers would be necessary.

Notwithstanding this, we are submitting to the Division with this letter a risk assessment using previous data that will show no risk to construction workers. This is submitted out of an

abundance of caution and to satisfy any future SWMU area worker concerns. We see no reason to amend the SMP for this.

The second requirement of the Division as stated in the December 8th letter, was to require an amendment of the final Ecological Risk Assessment (ERA) according to Section 8.1(c)(b) of the SMP (Allan Moore pointed out that this should have referred to the Environmental Covenant or to Paragraph 12 of the SMP). The Division requirement was that the areas of change be clearly shown after the project is completed. We concur and will provide an update to the ERA to show the final Lindon Hollow Creek Area based upon the changes.

The letter then goes on to require that an additional determination must be made pursuant to an amendment to the ERA and a finding must be made that the change is insignificant.

During the meeting it was self-evident to all present that the change was insignificant and probably beneficial. The concern with the request was that the Division seemed to reserve judgment on the insignificance of the change until after the project was completed. This was unacceptable to Lindon/Orem and Anderson Geneva. Although the insignificance of the change is self-evident, we are submitting with this letter a letter from URS stating that the change as planned will have an insignificant effect on the size, configuration or ecology of the Lindon Hollow Creek Area. After the project is complete, Anderson Geneva will provide a final map reflecting the resulting Lindon Hollow Creek Area.

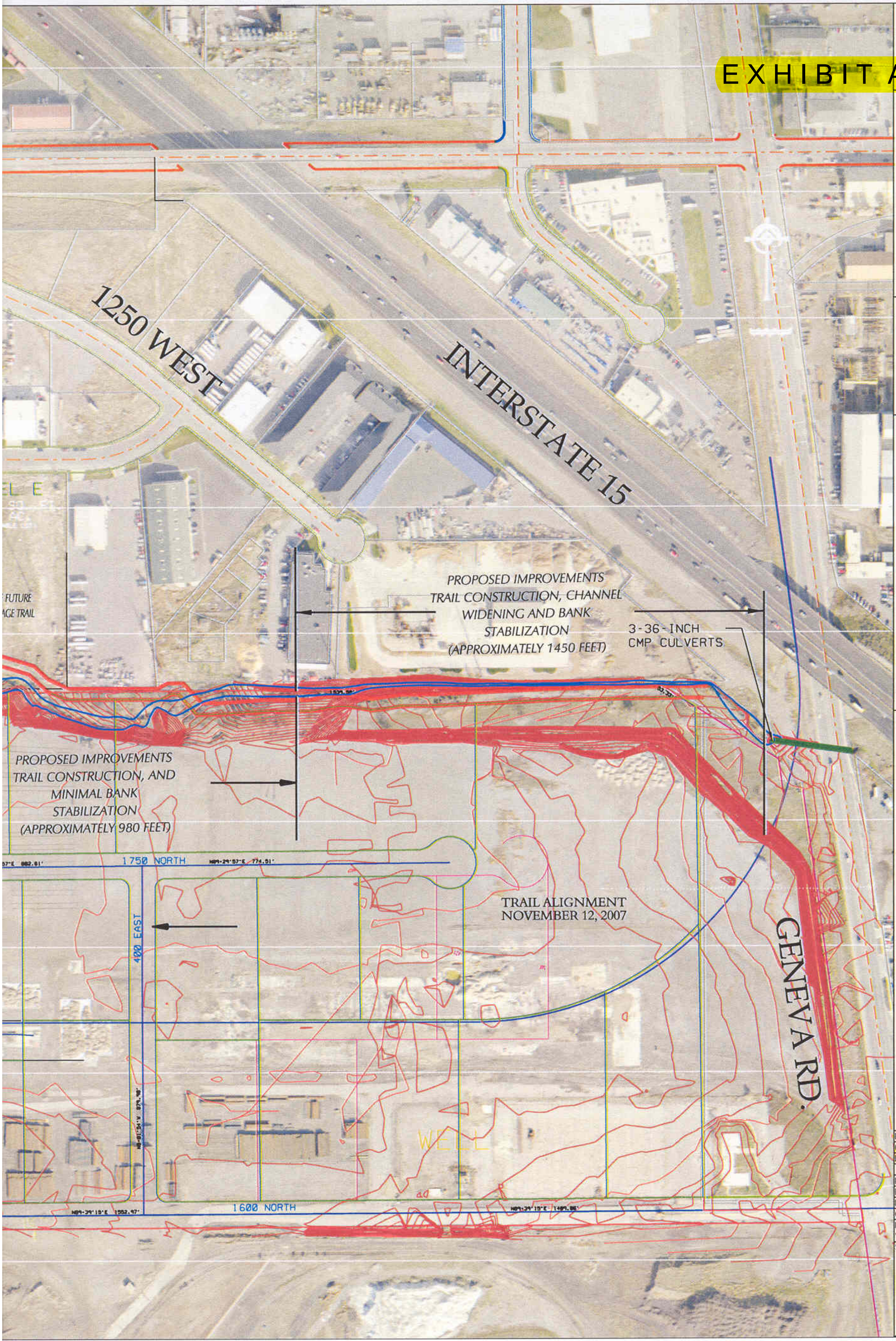
As we discussed at our meeting on December 11th, this project and land acquisition goes to the City Council of Lindon City for approval on December 16th and the closing of the land acquisition occurs on December 17th. It has already been approved by Orem City and Vineyard Town, subject to resolution of these environmental concerns.

Anderson Geneva, Lindon and Orem are requesting that the Division provide a concurrence letter that the Executive Secretary's concerns are satisfied and that the project will not violate the SMP or Environmental Covenants on or before December 17, 2008.

Sincerely,

Dennis M. Astill,
Project Manager

DMA\ss
cc: Adam Cowie
Brett Mustoe
William J. McKim
Mark Rupnow
Russell L. Christensen



J-U-B

Engineers · Surveyors · Planners

J-U-B ENGINEERS, Inc.

Orem, UT (801)226-0393 · Boise, ID (208)376-7330 · Kennewick, WA (509)783-2144

Kaysville, UT (801)547-0393 · Twin Falls, ID (208)733-2414 · Spokane, WA (509)458-3727

Pocatello, ID (208)232-1313 · Couer d' Alene, ID (208)667-1574 · Nampa, ID (208)467-5252

REVISION

NO.	DESCRIPTION	BY	APR.	DATE
△				
△				
△				
△				

LINDON HOLLOW DITCH/WETLANDS PROPOSED IMPROVEMENTS

CONCEPT PLAN
LINDON AND OREM, UTAH

PLOT DATE: 11/11/2008
[illegible]Wetland11-17.dgn
PLOT SCALE: 1" = 300'
0 ½INCH
DATE: 11/06/08
DRAWN BY:
DESIGN BY: DCT
CHECKED BY:
HOR SCALE: 1" = 300'
VER SCALE:
SHEET 1 OF 1

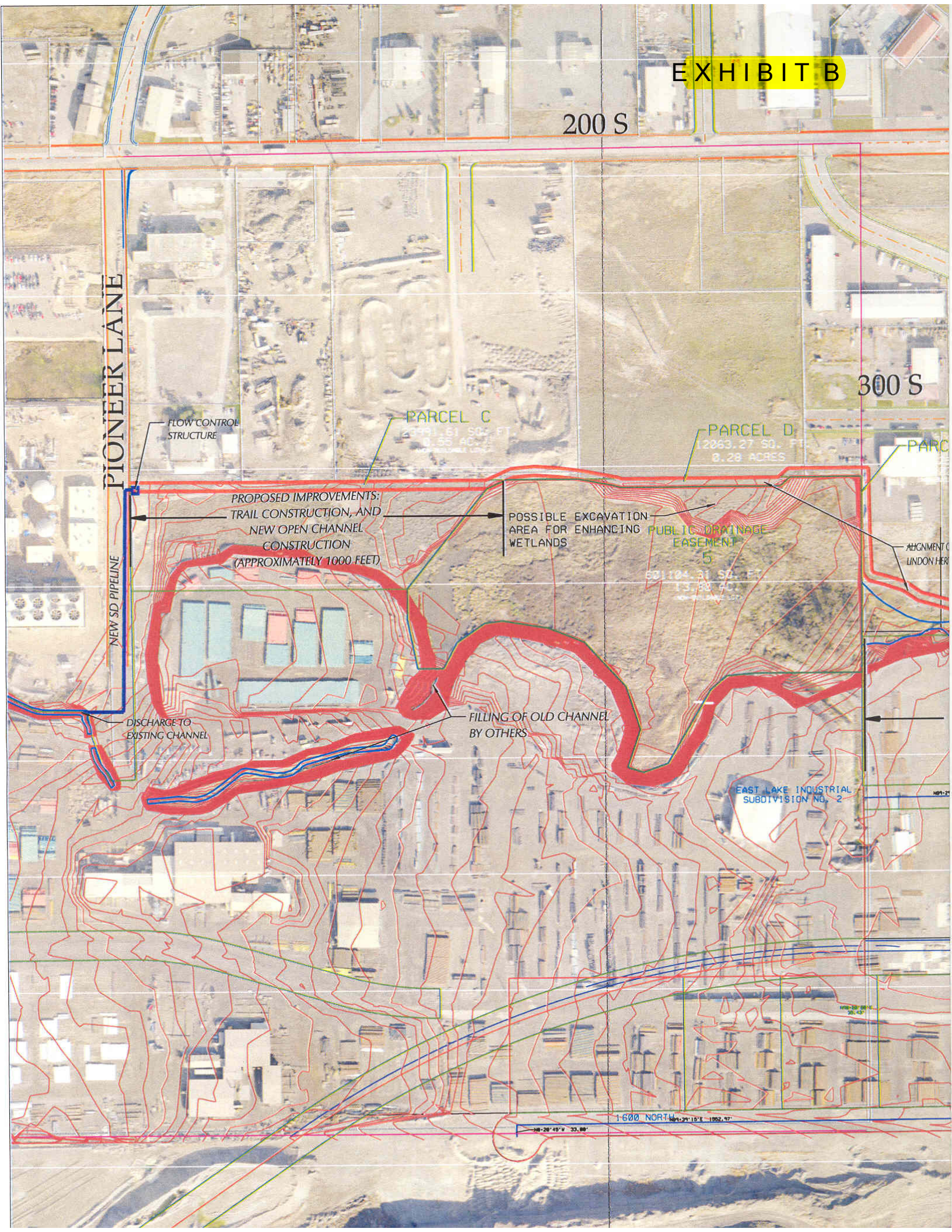


EXHIBIT B
200 S
300 S
PIONEER LANE
FLOW CONTROL STRUCTURE
PARCEL C
PARCEL D
12063.27 SQ. FT.
0.28 ACRES
PROPOSED IMPROVEMENTS: TRAIL CONSTRUCTION, AND NEW OPEN CHANNEL CONSTRUCTION (APPROXIMATELY 1000 FEET)
POSSIBLE EXCAVATION AREA FOR ENHANCING WETLANDS
PUBLIC DRAINAGE EASEMENT
5
NEW SD PIPELINE
DISCHARGE TO EXISTING CHANNEL
FILLING OF OLD CHANNEL BY OTHERS
EAST LAKE INDUSTRIAL SUBDIVISION NO. 2
1600 NORTH


EXHIBIT C
200 S
300 S
PIONEER LANE
FLOW CONTROL STRUCTURE
PARCEL C
PARCEL D
PROPOSED IMPROVEMENTS:
TRAIL CONSTRUCTION, AND
NEW OPEN CHANNEL
CONSTRUCTION
(APPROXIMATELY 1000 FEET)
POSSIBLE EXCAVATION
AREA FOR ENHANCING
WETLANDS
PUBLIC DRAINAGE
EASEMENT
NEW SD PIPELINE
DISCHARGE TO
EXISTING CHANNEL
FILLING OF OLD CHANNEL
BY OTHERS
EAST LAKE INDUSTRIAL
SUBDIVISION NO. 2
Future
Work of
Andersen Geneva

URS

December 12, 2008

Mr. Mark R. Rupnow
U.S. Steel Corporation
Gary Works – M.S. HB5
One North Broadway
Gary, IN 46402-3199

Mr. Russell L. Christensen
Anderson Geneva Development, Inc.
99 North Geneva Road
Vineyard, UT 84057

Subject: **Review of Ecological Significance of Lindon Hollow Drainage Modifications Per UDEQ Letter Dated December 8, 2008**

Dear Mr. Rupnow and Mr. Christensen:

URS Corporation reviewed the December 8, 2008 Utah Department of Environmental Quality (UDEQ) letter regarding modifications to the Lindon Hollow creek/ditch as proposed by Orem and Lindon. This is primarily a riparian area which is included within the Pipe Mill Site Management Plan ("SMP") and is identified therein as the Lindon Hollow Creek Area.

The proposed changes to the drainage are shown on the attached map (Figure 1). The modifications will initially re-route the stream north out of the riparian area through an open channel to be constructed along Parcel C and the north nine feet of Lot 4 of the Eastlake at Geneva Industrial Subdivision, Phase 2. Near the west end of Parcel C, the flow will enter a pipe and flow south along Pioneer Lane, then west to discharge back into the existing Lindon Hollow channel. After the new flow has been established, the current existing channel will be bypassed.

Based upon our review of the proposed modifications, changes to ecological risks, if any, are expected to be insignificant. In fact, the potential is for the proposed modifications to improve beneficially the ecological conditions in Lindon Hollow Creek Area as discussed in our meetings with UDEQ. Therefore, no changes are anticipated for the existing Tier 2 Ecological Risk Assessment. Upon completion of the new channel and establishment of the new flow, an "as-built" map showing the changes will be produced and submitted to UDEQ.

Sincerely,
URS Corporation

N. Brett Mustoe, PG
Principal Geologist

Enclosure

URS Corporation
756 East Winchester Street
Suite 400
Salt Lake City, Utah 84107
Tel: 801.904.4000
Fax: 801.904.4100
www.urscorp.com

ALHC-007 Sediment and Surface Water Sample Location

LHC-03 Former Sediment Sample Location

LHC-04 Former Surface Water Sample Location

Lindon Hollow Parcel

Municipality Boundary (2005)

N W E S

250 0 250 500

Feet

Figure 1
Proposed Channel Modification and Sediment Sample Locations
Lindon Hollow Creek Ecological Risk Assessment

Former Geneva Steel Facility
Vineyard, Utah

URS

APPENDIX F. Public Involvement Report

Lindon Heritage Trail Public Involvement Report

Public Involvement Activities

Muriel Xochimitl and Siobhan Locke of The Langdon Group met with residents and businesses along the proposed alignment potentially impacted by this phase of the trail. These onsite visits were conducted in person between October 2010 and January 2011. A summary report of all stakeholder visits and interactions during this time has been created and included with this report.

Additionally, a public open house was held on November 30, 2010 at Lindon City Hall. This open house was advertised to the public in two local newspapers and via the Lindon City website. A flyer was left at the homes and businesses of immediately impacted stakeholders approximately a week prior to the event as a reminder to attend and provide comment. The open house was designed to provide basic project information to the public and to allow an opportunity for them to submit comments. Thirty-four stakeholders signed in at the event. Two official comments were submitted at the event and one was submitted after via email. All open house collateral, including a report outlining the comments submitted during the official comment period and the project team's responses to them are included in this report.
Project updates were provided to the City Councils in Lindon City and Vineyard in November 2010. No major concerns were raised by either council though the Lindon council was interested to hear the early feedback the team had been hearing from residents. Siobhan Locke shared some basic feedback from the residents along the alignment.

Stakeholder Feedback

The Langdon Group Team identified questions and concerns through their communications with stakeholders at the open house and during in-person visits. Stakeholders were mostly concerned about how the project would affect their individual properties; driveways, yards, and affect drainage and irrigation usage were most often mentioned. Other concerns included issues such as project funding, safety for trail users and who will be responsible for the removal of snow and horse excrement. The Langdon Group answered many of these questions from stakeholders directly during the visits while other questions were subsequently addressed after consulting with project team members.

As the project progresses, The Langdon Group will continue to serve as communications liaison between the public and project team. Residents and property owners may contact the public information team via the contact information provided to each stakeholder on the project contact cards and that is also posted on the Lindon City website. The Langdon Group will continue to maintain a project database and apprise the project team of stakeholder questions, comments and concerns. The Langdon Group will also continue to assess the project's public involvement needs and consult with the project team on ways to address those needs.

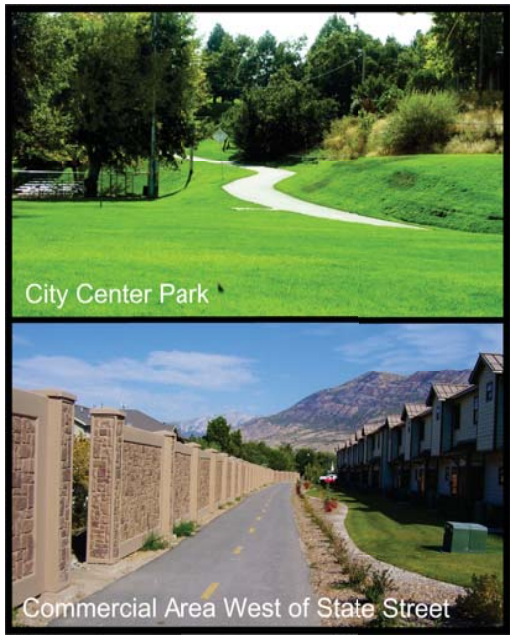
Welcome

Lindon Heritage Trail

800 West toward Utah Lake

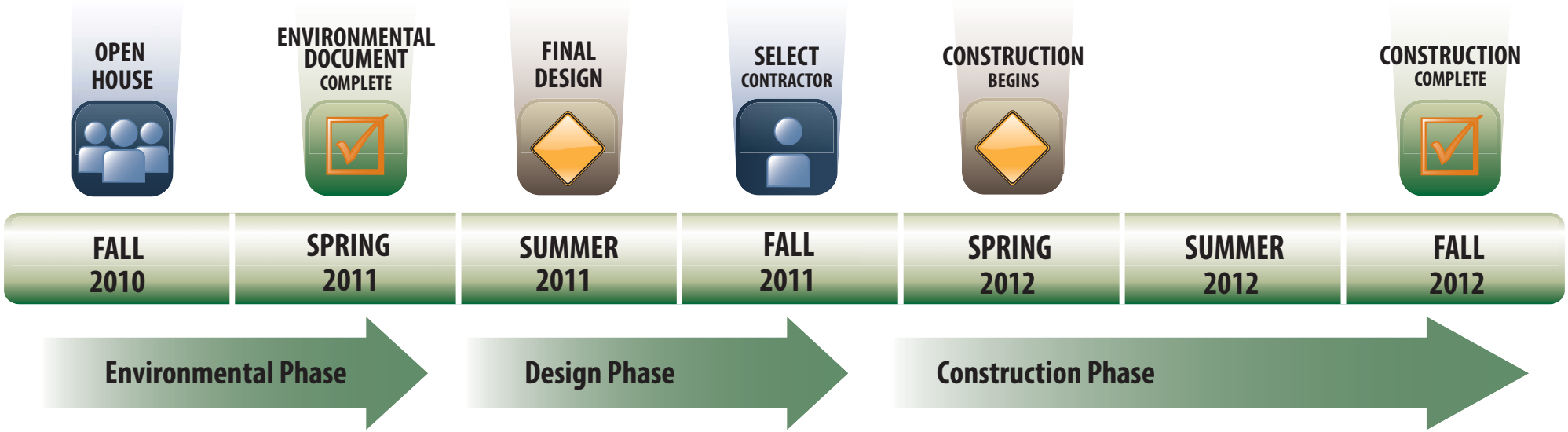
Project History

- The trail is part of Lindon City's General Plan and Mountainland Association of Government's (MAG) Long Range Transportation Plan.
- The first phase was constructed in 2008 and extends from Canal Drive, under State Street and continues to Lakeview Dr. & 800 W.

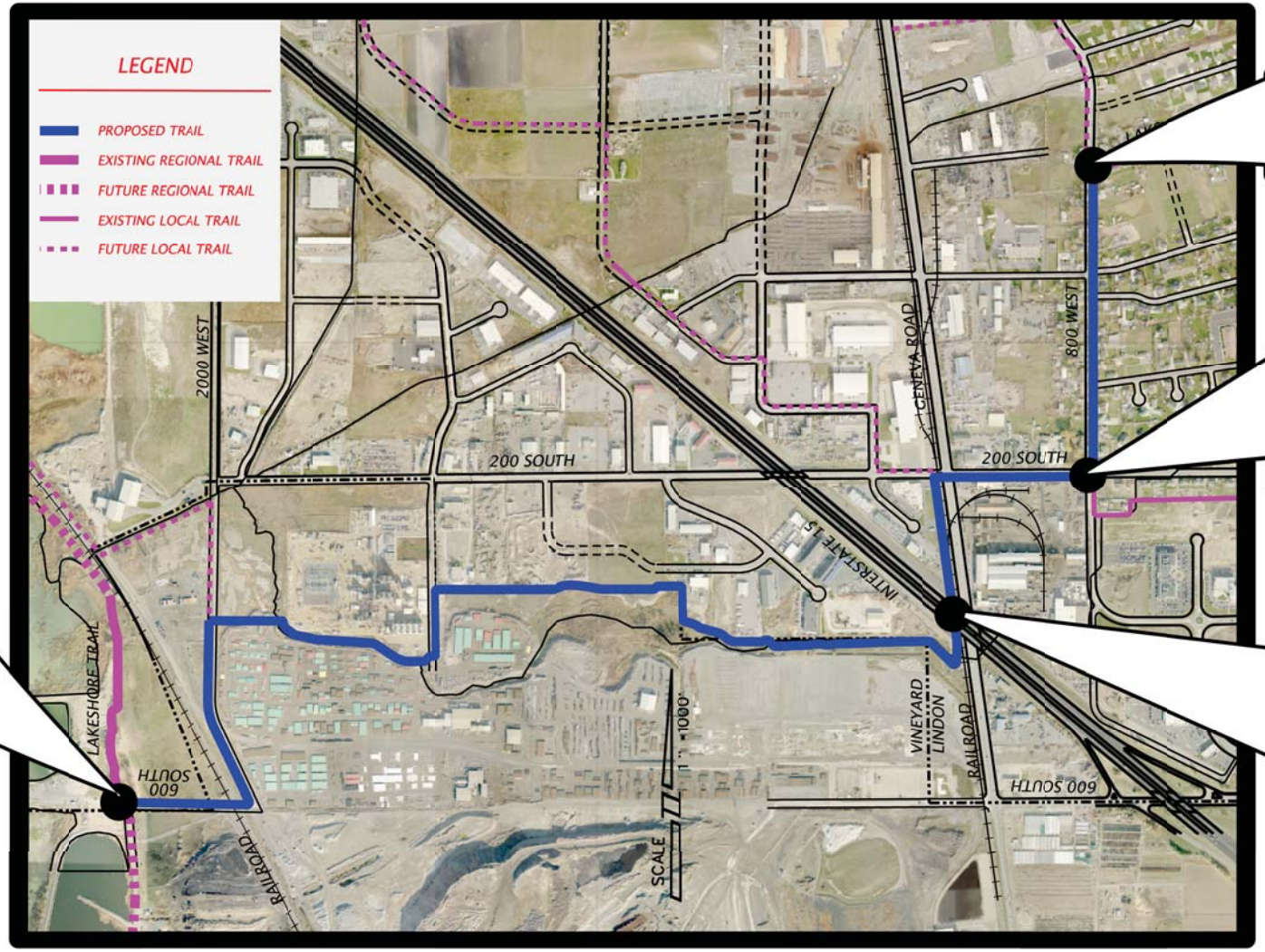


- When complete, the trail will be a connection between the Bonneville Shoreline Trail and the Lake Shore Trail.
- Lindon City received over $3 million in federal funds for the first phase and has been granted an additional $3 million in federal funds for the second phase.

Timeline


OPEN HOUSE
ENVIRONMENTAL DOCUMENT COMPLETE
FINAL DESIGN
SELECT CONTRACTOR
CONSTRUCTION BEGINS
CONSTRUCTION COMPLETE
FALL 2010
SPRING 2011
SUMMER 2011
FALL 2011
SPRING 2012
SUMMER 2012
FALL 2012
Environmental Phase
Design Phase
Construction Phase

Preliminary Design



The existing trail ends at Lakeview Dr. & 800 W.

The proposed trail will run along the east side of 800 W. & the south side of 200 S.

The proposed trail will go as far as current funding allows. The goal is to eventually connect to Lakeshore Trail.

The bridge at Geneva Rd. is being rebuilt by current construction on I-15 and space is being created for the trail to pass safely underneath.

Stay Connected

The project team is committed to working closely with the public as the project progresses. Please contact us with any questions or concerns.

call

801.372.0469

email

lindontrailinfo@langdongroupinc.com

web

www.lindoncity.org

PROOF Of PUBLICATION

from

The Daily Herald

STATE OF UTAH } SS.
Utah County }

I, Morgan Bassett, being first duly sworn depose and say that I am the Legal Billing Clerk of the Daily Herald, a newspaper of general circulation, published seven times each week at Provo, Utah, County of Utah; that the notice attached hereto, 365985-NOTICE OF PUBLIC OPEN H, and which is a copy, was published in said newspaper, the first publication having been made on the 15th day of November, 2010, and the last on the 28th day of November, 2010; that said notice was published in the regular and entire issue of every number of the paper during the period and times of publication, and the same was published in the newspaper proper and not in the supplement.

Same was also published online at utahlegals.com, according to Section 45-1-101, Utah Code Annotated beginning on the first date of publication and for 30 days thereafter.

Morgan Bassett

Subscribed and sworn before me this 28th day of November, 2010.

Debbie L Chandler Notary Public

Residence: Spanish Fork, Utah

My commission expires 06/05/2013

NOTICE OF PUBLIC OPEN HOUSE
LINDON HERITAGE TRAIL, PHASE II

Lindon City, in cooperation with the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT), will be holding a public open house to discuss plans to design and construct the second phase of the Lindon Heritage Trail from 800 W. toward Utah Lake. There will be an opportunity to provide public comment regarding the proposed project. The open house will be held at:

Lindon City Hall
100 North State Street
6:30-8:00pm
Tuesday, November 30, 2010

The Lindon Heritage Trail is a part of the MAG Long Range Plan and the Lindon General Plan. At completion, the Lindon Heritage Trail will provide safe access from the Bonneville Shoreline Trail at the foothills of Mt. Timpanogos to the Lake Shore Trail near Utah Lake. Comments submitted by mail regarding the proposed project must be received no later than December 14, 2010, please call for the mailing address. For questions or additional information on the project, please contact Siobhan Locke or Muriel Xochimitl with the Lindon Heritage Trail Public Information Team at (801) 372-0469 or lindontrailinfo@langdongroupinc.com. Project information can also be accessed through Lindon City's website at www.lindoncity.org.

Legal Notice 365985 Published in The Daily Herald November 15, 28, 2010.

Notary Public
DEBBIE L CHANDLER
Commission Number 579021
My Commission Expires
June 5, 2013
State of Utah

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The Langdon Group
Muriel Xochimitl
2875 S. Decker Lake Drive, Ste 575
SALT LAKE CITY , UT 84119

Acct#: 00068722
Ad#: 00365985
Phone: (801)886-9052
Date: 11/08/2010

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Lindon City, in cooperation with the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT), will be holding a public open house to discuss plans to design and construct the second phase of the Lindon Heritage Trail

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Prepaid: -195.15

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LANGDON GROUP, THE,

8018869052	0000636999 / I00636999-11152010

Start 11/15/2010 End 11/28/2010

J HERITAGE TRAIL, PHASE II Lindon City, in cooperation with the Federa

30	Lines	2.00	COLUMN
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NOTICE OF PUBLIC OPEN HOUSE
LINDON HERITAGE TRAIL, PHASE II

Lindon City, in cooperation with the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT), will be holding a public open house to discuss plans to design and construct the [illegible] phase of the Lindon Heritage Trail from 800 W. forward Utah Lake. There will be an opportunity to provide public comment regarding the proposed project. The open house will be held at:

Lindon City Hall
100 North State Street
6:30-8:00pm
Tuesday, November 30, 2010

The Lindon Heritage Trail is a part of the MAG Long Range Plan and the Lindon General Plan. At completion, the Lindon Heritage Trail will provide safe access from the Bonneville Shoreline Trail at the foothills of Mt. Timpanogos to the Lake Shore Trail near Utah Lake. Comments submitted by mail regarding the proposed project must be received no later than December 14, 2010, please call for the meeting address. For questions or additional information on the project, please contact Siobhan Lacke or Muriel Xochimitl with the Lindon Heritage Trail Public Involvement Team at (801) 372-0469 or lindontrailinfo@langdongroupinc.com. Project information can also be accessed through Lindon City's website at www.lindoncity.org.
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AS NEWSPAPER AGENCY CORPORATION LEGAL BOOKER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF **NOTICE OF PUBLIC OPEN HOUSE LINDON HERITAGE TRAIL, PHASE II Lindon City, in cooperation with the Federal Highway Administration (FHWA) and the Utah Department** FOR **LANGDON GROUP, THE,** WAS PUBLISHED BY THE NEWSPAPER AGENCY CORPORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH. NOTICE IS ALSO POSTED ON UTAHLEGALS.COM ON THE SAME DAY AS THE FIRST NEWSPAPER PUBLICATION DATE AND REMAINS ON UTAHLEGALS.COM INDEFINATELY.

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Commission # 581469
My Commission Expires
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NOTICE OF PUBLIC OPEN HOUSE
LINDON HERITAGE TRAIL, PHASE II

Lindon City, in cooperation with the Federal Highway Administration (FHWA) and the Utah Department of Transportation (UDOT), will be holding a public open house to discuss plans to design and construct the second phase of the Lindon Heritage Trail from 800 W. toward Utah Lake. There will be an opportunity to provide public comment regarding the proposed project. The open house will be held at:

Lindon City Hall
100 North State Street
6:30-8:00pm
Tuesday, November 30, 2010

The Lindon Heritage Trail is a part of the MAG Long Range Plan and the Lindon General Plan. At completion, the Lindon Heritage Trail will provide safe access from the Bonneville Shoreline Trail at the foothills of Mt. Timpanogos to the Lake Shore Trail near Utah Lake. Comments submitted by mail regarding the proposed project must be received no later than December 14, 2010, please call for the mailing address. For questions or additional information on the project, please contact Stephen Lacke or Hurtel Jackman with the Lindon Heritage Trail Public Information Team at (801) 372-0469 or lindontrailinfo@langdongroupinc.com. Project information can also be accessed through Lindon City's website at www.lindoncity.org.

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